

CALL in CONTEXT

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Foreword

It is my pleasure to welcome you to the XVIIIth International CALL Research Conference at the University of California at Berkeley. Almost 100 participants from more than 20 countries have submitted papers which all focus on the conference theme "CALL in Context".

The international CALL Research Conferences focus on the role of technology in the language learning, teaching and testing process. Our 2017 conference focuses on the role of the local context of the learner:

- How does the local context shape the design of our learning environment?
- How to determine the role and shape of the most appropriate technologies for our context?
- To what extent can general theories such as Constructivism, Social Semiotics, Dynamic Complex Systems and Self-Determination Theory be applied to our local context?
- How generalizable are the findings from experimental research in our context?
- How can/should we detect and formulate to what extent learners and teachers are different?
- To what extent do technologies afford context-dependent enrichment and personalization of the learning process? What are the routines and models for doing so?
- What is the impact of context-dependency on the development and use of Open Educational Resources?
- How do publishers deal with adaptation of their content to various CALL contexts?
- To what extent can technology contribute to contextualization of the learning process?

The context is also being discussed in connection with other current topics such as:

- MOOCS
- Telecollaboration
- Flipped Classrooms
- Corpora
- Speech technology
- Fonts
- Cultural differences
- Tracking and logging; learning analytics
- Language testing
- Open Data
- Semantic Web
- Specialized Domains
- Digital literacies/multiliteracies
- Augmented reality; ambient intelligence

I wish to thank my associate editors, the members of our editorial board, the local organizers Rick Kern and Mark Kaiser at the Language Center of the University of California Berkeley, our keynote speakers Phil Hubbard and Dorothy Chun, conference manager Ann Aerts, and all the participants.

The International CALL Research Conferences were initiated by Keith Cameron, the founding editor of *Computer Assisted Language Learning*, at Exeter University. In 2002, I was asked

to take over both the editorship of the journal and the organization of the conferences. Since then, the following have been organized:

Xth edition: "CALL Professionals and the future of CALL Research" (Antwerp, 2002)

XIth edition: "CALL and Research Methodologies" (Antwerp, 2004)

XIIth edition: "How are we Doing? CALL and Monitoring the Learner" (Antwerp, 2006)

XIIIth edition: "Practice-Based & Practice-Oriented CALL Research" (Antwerp, 2008)

XIVth edition: "Motivation and Beyond" (Antwerp, 2010)

XVth edition: "The Medium Matters" (Taichung, 2012)

XVIth edition: "Research Challenges in CALL" (Antwerp, 2014)

XVIIth edition: "Task design and CALL" (Tarragona, 2015)

It is our intention to make the CALL conferences annual instead of biennial, and to change the continent every year. Should you be interested in hosting one of our conferences, just let us know.

Jozef Colpaert

Editor CALL Journal

Organizer International CALL Research Conferences

Keynote presentations

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Contextual Challenges of Telecollaboration 2.0**Abstract**

This presentation will be a journey navigating through some key contextual issues that should be considered when designing and researching a telecollaborative project in the 21st century. With the so-called “intercultural turn” in languaculture learning and the technologies that can support telecollaboration, we explore such issues as: determining a theoretical basis for the exchange (e.g., Byram’s Intercultural Communicative Competence, Kramsch’s Symbolic Competence, Garrison et al.’s Community of Inquiry); considering a suitable methodology for analysis (e.g., ethnographic, qualitative); accommodating different geographic, institutional, and course contexts; establishing the goals for the learners in each context, which may be different; negotiating roles and tasks of teachers and students on both sides of the exchange; and identifying appropriate technologies (e.g., asynchronous vs. synchronous CMC, text-based vs. video-based, social media) depending on the participants. As an application of the issues discussed, you will be asked to design your own telecollaboration with several of your colleagues at this conference who are engaged in different research projects with the goal of publishing together around a common topic or theme.

Phil Hubbard

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Theory in CALL Research: The Role of Context**Abstract**

As a fundamentally transdisciplinary field (Colpaert 2004), CALL has historically been a consumer rather than producer of theories (Levy & Stockwell, 2006). Researchers and developers have relied on a wide variety of theories, frameworks, and models to inform design and evaluate outcomes of applications, tasks, and environments, sometimes singly and sometimes in combination. To distinguish theory from research and practice, I have previously defined CALL theory broadly as follows: "Collectively, *CALL theory* is the set of perspectives, models, frameworks, and specific theories that offer generalizations to account for phenomena related to the use of computers and the pursuit of language learning objectives, to ground relevant research agendas, and to inform effective CALL design and practice" Hubbard (2009). I will rely on that conceptualization here.

I will first provide an overview of the ways that theory can be incorporated into CALL studies based on the framework of Hubbard & Levy (2016) and speculate on how theory and context intersect. In the second part, I will review several talks from the present conference to explore how context has been incorporated into the theoretical orientation underlying the research design, the interpretation of results, or both. I will also endeavor to identify any interesting trends. For instance, an initial review of the proposals accepted for the conference shows the following patterns.

1. Some research studies appear to be conducted without reference to any theoretical framework or model, relying instead on perceived gaps within the prior research base.
2. Some draw on models or frameworks from SLA or another source that do not explicitly take into account context.
3. Some rely on theories that are instantiated within a given context, such as dynamic systems theory, activity theory, or grounded theory,
4. Some use multiple theoretical perspectives in an attempt to capture the nuances of a particular contextual combination of setting, technology, learners, and teachers, expressed as theory ensembles.

My objective is to provide both a general sense of the role of context and to use example studies from this conference to help illuminate the importance of considering context as it relates to theory in CALL research, encouraging colleagues to explore this relationship in greater depth.

Selected plenaries

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Discovering students' digital footprints in their learning trajectories

Bio data



Liliana Cuesta Medina is a professor in the Master's programs in English Language Teaching at the Department of Languages and Cultures, Universidad de La Sabana (Chía, Colombia). She holds a PhD in English Philology from the Faculty of Humanities at UNED (Madrid, Spain). Her research areas include CALL, CLIL, cyberbullying, academic writing, and learners' self-regulation in blended/online learning environments, on which topics she has led research projects, and published in books, international journals and conference proceedings.



Mauricio Buitrago Roper is a professor at the Faculty of Educational Sciences at Universidad Libre de Colombia, where he is the academic coordinator of the Master's in Education- Educational Technology Track. He holds a Master's in Education and is currently pursuing his PhD in Education at Universidad de La Sabana, Colombia. His research areas include educational technology, knowledge representation, ICT pedagogies.

Abstract

The demands of an increasingly knowledge-driven society and economy, characterized by the emergence of more interconnected communities and ever-growing numbers of digitized users, have imposed a dramatic shift on the understanding and practices of living, of learning, and of recognizing different ways to learn and be taught. The digitization of daily living practices produces vast quantities of data on numerous aspects of life. However, such data, representing the digital footprints of each individual, tends to remain unknown or unused, locked away in inaccessible corners of cyberspace.

In educational scenarios, not least those concerned with language learning and teaching, learners now have access to a wide range of technology-mediated opportunities for developing their linguistic, communicative, and intercultural competences. Yet these opportunities are not always contextualized and managed appropriately (by either instructional agents or by learners themselves), resulting in deficient instructional design/implementation and inhibiting the development of learner autonomy.

This presentation reports on the first phase of a larger study investigating the different ways that individuals shape their knowledge, as represented through their digital footprints and

traced through their learning trajectories. The qualitative, exploratory phase reported on here identified sources for collecting and using digital data to support language learning and teaching, as well as factors affecting this collection and usage. Following a mixed-methods design, we used a semi-structured questionnaire to collect data from 44 participant students at 2 universities in Bogotá, Colombia, focusing on how they selected and stored data from various digital environments, such as social networks and online communications platforms (e.g. Facebook, WhatsApp, Twitter, Gmail, Hotmail, Yahoo), as well as their preferences regarding the use of mobile applications and similar resources for learning English. We then held semi-structured interviews with 10 of the surveyed participants to inquire about their experiences with collecting personal data and using it for specific purposes, as well as their predictions about effects of collecting and storing digital data on their learning processes. Qualitative data gathered from the survey and interviews were analyzed through the grounded theory approach, while quantitative data were considered statistically.

Based on the results of the data analysis, we discuss the challenges of training students to make more controlled and more efficient use of technological resources and data in their lives. Learners should be scaffolded in the competences needed to distinguish between relevant and irrelevant content for their needs and purposes. Teachers should learn to exploit the customizable opportunities presented by technologically based resources to enrich and personalize context-dependent educational processes that respond to learners' specific experiences, needs, and wants. Such approaches can broaden the still limited range of opportunities for learners and instructors to take greater advantage of existing digital information, thereby affording enhanced usability in educational processes. Likewise, learners can also be fostered to become more conscious, responsible, and flexible at the continuous management of their own life-long learning. Finally, the session equips attendees with guidelines for the provision of data used to map personalized learning trajectories and strategies for identifying useful data sources that support teaching and learning.

Conference paper

Introduction

At the opening of the 21st century, digitization offers possibilities for decoding and operationalizing what lies beyond the digital environment itself—and, thus, to examine daily living practices more closely. Various studies have argued that better understanding of digitization is needed to bridge gaps between contexts and individuals and to promote digital interaction practices that are not only safe but more democratic and less hegemonic (Taylor & Gibson, 2017; Worcman, 2002). However, much remains to be done regarding information diffusion targets (Cohron, 2015) and participatory actions in economic, social, educational, and political scenarios. Unfortunately, as Worcman (2002) and Anderson and Rainie (2014) point out, even if individuals have access to information and communication technology services, there is no guarantee they will make optimal use of them unless sufficiently prepared for their use or to recognize their potential benefits for themselves and their communities. Thus, we argue that global citizens in the information age should be equipped with the media literacy skills needed to overcome digital divides and inequalities.

Nevertheless, studies on how users access, collect, and use personal digital content to produce and diversely represent knowledge are still embryonic (Pandey & Mittal, 2016). At times, data merely end up stored in the cloud without further interaction because individuals lack intelligent services to organize such data properly (Wu et al., 2016). Moreover, few studies have examined the implications of the shift from physical to digital formats with regard to the target users' values concerning, challenges with, and overall

experience of media (Lee, Holmes, & Lobe, 2016). Although governmental institutions (such as Ministries of Education and of Technologies), privately-own companies, and individuals have access to a seemingly unlimited amount of information via the Internet and other online services, large portions of key data remain remotely stored, resulting lack of access to knowledge that could be crucial for educational research and practitioner-led analyses.

Additionally, the ready accessibility of social networking services and customized applications, as well as the pervasive use of portable wireless mobile computing devices, suggest that the proportion of the population that engages in integrating the physical world and cyber/digital space is increasing everyday (Zhou et al., 2016). Universities currently recruiting the so-called Millennial generation (or Generation Y) are welcoming culturally diverse multitaskers, highly engaged with multimedia environments (Hanzaee & Aghasibeig, 2008). Nevertheless, although assimilation of this audience's needs may prove challenging, they also bring with them certain sociocultural advantages, such as familiarity with social networking for social and political action, supporting social causes, engaging in social entrepreneurship, and managing charitable activities (Ferris, 2010; Furlow, 2011).

Their generally well-educated, sophisticated, technologically savvy, and group-oriented nature (Syrett & Lammiman, 2003; Valentine & Powers, 2013) can be exploited through socially connected teamwork to enhance instruction and learning practices (VanMeter, Grisaffe, Chonko, & Roberts, 2013). Not only is this generation the first to use digital media more than traditional media (e.g. online games, streaming music, movies, and TV programs), but it also is the first to engage in non-traditional online media activities: accessing and sharing information, socializing and conversing with friends, purchasing products, and posting comments and videos on current events (Geraci & Nagy, 2004; Lester, Forman, & Lloyd, 2005; Taken Smith, 2012). These activities are linked to a constant drive for self-expression (Gupta & Jackson, 2010) but also create considerable potential to exert control and power over others. Social media companies, Web sites, and interactive technologies are already taking advantage of (but also empowering) Millennials through the promotion and development of products, brands and services—for example, by encouraging them produce content in the forms of product reviews and feedback, commercials, podcasts, blogs (Taken Smith, 2012), and Youtube videos and channels.

However, this new and more dynamic digitized environment, infused with non-traditional approaches to knowledge, has yet to be effectively harnessed either inside or outside the classroom to assist new generations of learners to cope with the essential literacy and lifelong-learning skills needed to contribute to global socio-economic development, while also developing their capacities for social awareness and critical reflection as fundamental conditions for personal and social change (UNESCO, 2006).

A practical approach to achieving such goals is found in Bélisle's (2006) triad of literacy models for instruction and learning, respecting their functional, socio-cultural and transformational essence. In the functional model, literacy is conceived as the mastery of the basic cognitive and practical skills required to function effectively within the community; it is a more evolutionary approach that moves further from a focus on mechanical skills for reading and writing. The socio-cultural model views literacy as an ideological construct (Street, 1984) and places it in an interdependent relationship with its social context, suggesting that access to cultural, economic, and political structures come through this relationship. The intellectual empowerment (transformation) model argues that literacy goes beyond the means and skills to deal with written texts and numbers within specific cultural and ideological contexts but instead represents a "profound enrichment and eventually entails a transformation of human thinking capacities" (Belisle, 2006, p. 54). This occurs when individuals equip themselves with new cognitive tools (e.g. writing) or with new

technical instruments (e.g. digital technologies). Technologies, viewed as support sources, should help users bridge barriers to accessing and using knowledge needed to generate such an intellectually empowering transformation. However, to realize this potential, educational agents need to be cognizant of the actions, preferences, tools, and routes individuals take when accessing and modeling information so as to help them make more informed decisions and thereby scaffold the transition. Learners need assistance in the selection and construction of specific and purposeful learning resources (e.g. learner profiles and learner trajectories) that can positively influence wide-ranging learning experiences.

We investigate this issue, specifically within the context of English-language learning, to examine the modes and purposes users employ to access, use, and store digital content, and we especially target how individuals' digital footprints are shaped to better understand the implications for language learning and teaching agents. Digital footprints are conceptually defined in this study as the traces of data an individual leaves, deliberately or unwittingly, online. These traces can be of two kinds: passive or active. According to Madden (2007), passive digital footprints consist of personal data made accessible online without an individual's deliberate intervention. Active digital footprints, however, are contributed voluntarily, often in specific contexts with specific audiences in mind (Madden et al., 2007, p. 4), such as when generated by the deliberate posting or sharing of information.

In this study, we argue that only when information is critically utilized and processed are learners ready to produce/represent new knowledge efficaciously. Accordingly, when learners become more aware of how their digital footprints are used, they become better able to make decisions about how best to create, store, access, share, or publish personal content online and identify risks for its unintentional disclosure or misuse.

Method

This study was carried out during the first half of 2017 at two universities in Bogotá, Colombia. The sample population was one of convenience (Gravetter & Forsano, 2009; Patton, 1990), consisting of 44 undergraduate students (mean age 19.48), studying for various degrees. We distributed a semi-structured questionnaire (through Google Docs) and a semi-structured interview (to a subset of 10 participants) to get a general overview of students' access to and use of technologies and personal data in both their daily lives and for language learning. The survey included both open and closed questions. The Research Committees of the participant institutions approved the implementation of the questionnaire, and participants provided, via a form, informed consent for the use of their data in the study. The researchers (authors) assessed the validity of the questionnaire before its implementation. Qualitative data gathered from the survey and interviews were analyzed through the grounded theory approach, while quantitative data were considered statistically. Triangulation measures were also exercised.

Results

The results provide both quantitative and qualitative data that allow identification of preferences and trends in the population's online behavior, their current uses of data and technologies, and promising future potentials in both language learning and teaching domains. They also raise critical questions about personal information storage and use of data in educational practices (either self- or co-constructed). We also highlight directions for further research to help learners and educators better recognize practices and strategies that lead to smooth, practical, and customizable digital literacy development.

Device ownership and usage for academic purposes

The results indicated that 100% of the respondents owned a smartphone device. Students used various mobile functionalities to support their academic work, with the most frequent

reported being the search of information (n = 17). They also reported that communication via chats with peers about course assignments (n = 5) was encouraged through their mobiles, as well as basic transfers of information, such as downloading files for reading (n = 4), exchanging information via e-mail or other means (n = 2), performing group coursework assignments (n = 2), reading texts (n = 3), completing short individual coursework assignments (n = 1), using dictionaries (n = 2), using translation services (n = 2), and accessing general English learning resources (n = 1). Only 4 participants reported they did not use their phones for academic purposes. One response was discarded as it dealt only with social networking leisure preferences.

All of the participants surveyed possessed an e-mail account and used it diversely. 39 participants use their e-mail to send files, four (4) participants used e-mail to establish communication with others, and only one person used it to send and receive notifications. The most preferred e-mail service was Gmail (n = 23), following by Outlook (n = 11) and Hotmail (n = 10).

Being wired in social networking lands

The participants used social networks extensively in their personal lives. The most frequently used instant messaging application was WhatsApp (n = 30), followed by the social networking site Facebook (n = 9), Twitter (n=3); the least used social network was Instagram (n = 2). There were three major categories regarding usage preferences: most students reporting using social networking services to establish communication with close contacts and with university and co-workers and to keep in contact with existing friends and acquaintances.

Among the reasons reported for particular preferences in social networking services, participants claimed WhatsApp allowed free, fast and easy access to contacts. They also rated its services and updates positively, and reported that with it they felt closer to others but also safe using it. As for Facebook, participants reported it facilitated human contact and had a very complete interface, also perceiving it as very dynamic. However, only 3 participants reported using Facebook for leisure activities (e.g. using memes or killing time). Twitter stood out as a source of information that was thought to keep users informed of the latest happenings. Surprisingly, however, only 1 participant viewed Twitter as a platform for free expression. Instagram was used mainly to watch photos and videos.

When learning on their own, students reported using very diverse mixes of equipment. Most reported using laptops and mobile phones (n = 11) together more than only desktop PCs (n = 4), only laptops (n = 7), or only mobile phones (n = 3). Others reported using desktop PCs with mobile phones (n=4), desktop PCs and laptops (n=6), desktop PCs with mobile phones and tablets (n = 2), desktop PCs with laptop and mobile phones (n = 6), or laptops with mobile phones and tablets (n = 1).

We also examined students' usage of digital environments inside and outside the formal classroom learning context. The most frequently used environment was blogs (n=12), followed closely by virtual communities (Mendeley, Academia.edu) (n = 11), then forums (n=7), groups (Yahoo, Google, n=9), virtual-learning environments (n=1), and wikis (n=2). Two (2) responses were discarded as learners indicated they used other environments but did not specify which.

Use of technologies to aid language learning

Thirty-four percent (34%) of students reported using Web sites and apps (n = 15); for learning English, some reported using mobile apps (n = 11) or Web sites in general (n = 5). Some used combinations of these: Web sites and Facebook pages (n = 4), and Web sites

and online courses (n =4). Only 2 students reported using free online courses (n = 2), while 2 students also reported watching movies and listening to music/videos on Web pages (n = 2), and 1 made combined use of Web sites, blogs, and chatrooms (n =1). For those who used apps, Duolingo was the most preferred, while YouTube was the most preferred Web site. Reasons cited for preferring apps included appealing interfaces, interactivity, navigation, efficiency, usefulness, interoperability for self-access and self-learning. Participants claimed that apps are easy to use, often free of charge, innovative and allow real-time response and feedback; all claimed that apps help them develop vocabulary and listening skills through interactive methodologies. Students reported that these resources display clearer, more practical instructions than those provided by teachers. Regarding online courses, participants highlighted the appeal of face-to-face interaction with native speakers. Facebook was preferred for its “community-sense” and for taking users out of formal academic contexts. Learners who preferred Facebook claimed that its leisure and entertainment activities (e.g. memes, jokes, humorous videos) also helped their language development, mainly in terms of vocabulary.

Students’ answers to the question “What resources would you like to use to aid your English learning?” varied significantly. Songs, videos, movies, and online books (n = 10) were the favorite set of resources. Mobile apps (n =7) were also rated highly, followed by video-conferencing (n =5), online support chats (n =2), and video chats (n =3). Special interest groups were also mentioned by a few students (n =2), as were learning objects (n =2), online platforms (n =1), academic exchanges (n =1), virtual reality platforms and immersion courses (n =1), and online lessons (n =1). Nine (9) responses were discarded as being incomprehensible.

Only 13 participants reporting using online resources (e.g. Web pages/sites, apps, forums) to support their language learning. Those that did claimed that they use such resources to enhance writing in the target language, to review posts and content, to curate and share content with others, to ask questions, and to revisit previously completed assignments. Forums were mostly used to review content and assignments, usually for test preparation. Interestingly, a few respondents (n = 3) claimed to use information recorded on a daily basis to map out pending tasks and course assignments, supporting information storage and retrieval with both images and texts. In contrast, 31 students claimed not to do anything with the data they produced in cyberspace.

Finally, a majority of students (n = 40) believe instructors do not use information produced by their students to aid learning. The 4 respondents who did think their teachers do this highlighted teachers’ use of such information to clarify doubts or questions, send reminders, and/or provide general feedback.

Discussion

One of this study’s main goals was to identify the types of resources students use in their daily lives and then determine whether they also use these to aid their language learning. Additionally, we were interested in finding out whether instructors and students used the data they produced (digital footprints) to support language learning and teaching practices. We found that students had difficulties understanding that the online data they produced, deliberately or unwittingly, could benefit both their daily lives and academic purposes. For many, this was a totally unknown and therefore neglected area. Although all participants had mobile devices and were cognizant of the technological goods and services these offered, these are nevertheless as yet largely unexploited in the English language classroom. Much remains to be done to make effective use of technologies through customizable language-learning targets and actions and context-dependent situations.

Thus, to better cater to student needs while enhancing productive language-learning habits, instructors and university stakeholders should firstly implement mechanisms that facilitate learner profiling, as early as the commencement of each academic term. The establishment of information systems to assess learner's profiles would help better trace their practices and learning trajectories, while keeping in mind (as Chakrabarty & Roy, 2016 recommended) the priorities and interests of users. As yet, for many educational institutions and teachers, little is known about their students' learning preferences and aptitudes for technology usage. The identification of profiles can certainly inform educational communities about ways to exploit all available ICT opportunities (Scherer, Rohatgi, & Hatlevik, 2017).

Furthermore, our findings highlight the many lost chances make pedagogical use of accessible digital content produced by students. We suggest that there are substantial opportunities for educators to not only bridge the gap in learner profiling but also to assist learners in making more informed choices regarding data selection, usage, and production. Not only would students be better able to represent knowledge and harmoniously integrate their learning trajectories with their outcomes, necessities, and skills, but they would also be better equipped to use technological tools to enhance their general well-being. We cannot ignore the potential that such transitions (and evolutions) could have for supporting learners in their self-regulatory development, as they are scaffolded in recognizing their own skills and learning modes. With success in these areas, learners would be more likely to use available resources and capabilities efficiently to control their learning and develop their self-efficacy skills. Overall, this study opens a way towards new research that further investigates the transition between the recognition and landscaping of students' digital footprints, assessing the ways that learners store, use, and produce knowledge.

CALL in Context

This study makes a call for the training of students to make more efficient use of technological resources and digital data in their lives and in their learning practices. At present, educators (and learners) are losing valuable pedagogical opportunities mediated by technology to assist context-dependent and personalized learning processes, since neither learners nor teachers make informed choices regarding data (and knowledge) selection, usage, and production to trace and shape their learning trajectories based on students' target goals, needs, and capabilities. Information systems should be essential support sources in situating digital literacy practices within CALL contexts to achieve such goals.

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“I somewhat wasted the chance to communicate” – socio-institutional factors in a Hong Kong-U.S. telecollaboration

Bio data

Carolyn Fuchs is an Assistant Professor at City University of Hong Kong (Department of English). Her research interests lie at the intersection of online and technology-mediated language learning and teaching, with a focus on telecollaboration, MOOCs, multiliteracies, autonomy, language play, and task design. Her work has been published in *LL&T*, *CALICO*, *CALL*, *ReCALL*, and *Humor*, and she is the NYS TESOL Journal Managing Editor.

Abstract

This telecollaboration study¹ aims to advance our understanding of the question of how the local context shapes the design of our learning environment. Against the backdrop of socio-institutional constraints such as learning culture and course requirements, this spring 2016 study investigates how undergraduate English majors in Hong Kong engaged and interacted via Facebook with telecollaborative partners in the U.S. Participants included 55 undergraduate English majors enrolled in an Intercultural Communication course at a public research university in Hong Kong and 19 undergraduates in a professional writing course at a private research institution on the East Coast in the U.S. Five telecollaborative Hong Kong-U.S. teams completed a set of increasingly complex tasks over ten weeks (O’Dowd & Ware, 2009).

This project adopts an ethnographic case-study approach (Yin, 2013) because intercultural exchanges are by definition socially and culturally situated in unique learning contexts. Data triangulation includes a needs analysis and post-project questionnaire, Facebook interactions, and course artifacts (projects). Three trained raters coded the data through MaxQDA. The researcher was participant observer in her function as project designer and course instructor.

Conference paper

BACKGROUND

This case study is part of a larger study and investigates the online collaboration between 55 undergraduate English majors enrolled in an *Intercultural Communication* course at a public research university in Hong Kong and 19 undergraduate students enrolled in a 300-level professional writing course at a private research university on the East Coast in the U.S. The theoretical contributions of this project are twofold. First, it seeks to advance our

¹ This project was funded by a Teaching Development Grant from EDGE, City University of Hong Kong.

understanding of Hong Kong learners' engagement in online tasks with geographically distant partners. Second, it aims at exploring participants' reflections of their engagement in telecollaborative work.

Prior research in the field of language education suggests that interactions in globalized, online spaces can provide opportunities for informal language and intercultural learning (Benson, 2015). However, there are currently only a few Asian institutions represented on leading platforms for international online exchanges (e.g., UNI-Collaboration). While most Hong Kong universities have an English as a Medium of Instruction (EMI) policy (Dearden, 2014), they have been scrutinized for underexploring what Kirkpatrick has termed the "multilingual capital" of their students (Kirkpatrick, 2016, p. 235). Thus, one main tenet of this exploratory case study is to promote Hong Kong learner engagement with other multicultural speakers of English via telecollaboration (e.g., Belz, 2003), and research questions include the following:

1. How did Global Teams collaborate online to complete tasks?
2. How did Hong Kong participants perceive their participation in task completion?

RESEARCH DESIGN

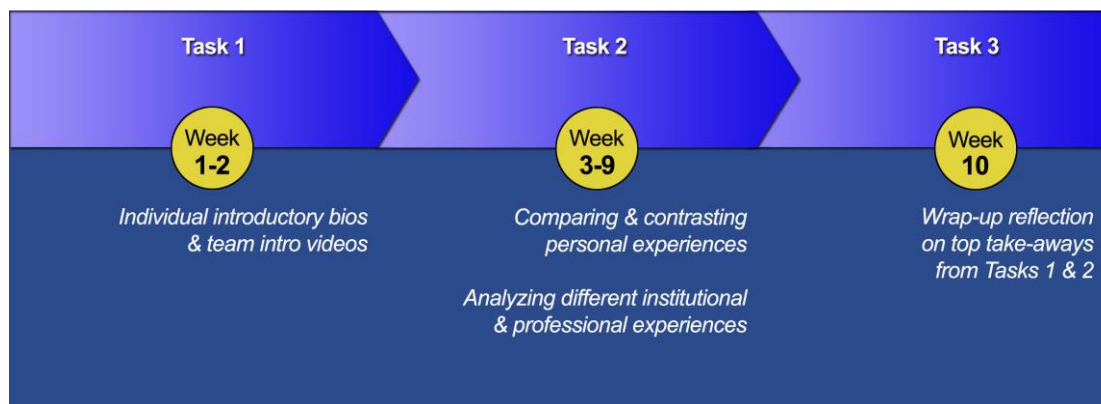
Participants

This spring 2016 project took as its site 55 Hong Kong students in an *Intercultural Communication* course at a public research university in Hong Kong, and 19 undergraduates enrolled at a private research university on the East Coast in the U.S. The course in Hong Kong was streamlined with another section (taught by another instructor but not part of the telecollaboration). The 55 Hong Kong students were divided into 13 Local Teams consisting of three to five team members. The 13 Local Teams merged to form a total of five global teams who were then paired with three to four U.S. students by their instructor. Of the students in Hong Kong, all were local except for two international students in Team E who were both Indian (one of them grew up in China). While all 74 students (55 Hong Kong students plus 19 U.S. students) participated in the telecollaboration, only 49 Hong Kong students signed the consent form. Online interactions took place via a private Facebook group, and each of the five Global Teams (A-E) had their own team sub-page. All participants had used Facebook before. One student (Kingston, Team D10) chose not to use social media; yet, he participated in the online exchanges and the final reflection post (Task 3) by having two teammates post on his behalf.

Tasks and Exchanges

The five global (telecollaborative) Hong Kong-U.S. teams completed a set of tasks over 10 weeks (Figure 1). Tasks built on each other ranging in complexity from information exchange to compare, contrast, and analysis, to a collaborative task (O'Dowd and Ware, 2009, p. 175-178). The content of the online exchanges centered around parallel readings on business and corporate cultures and ideologies in the U.S., China and Hong Kong (Scollon, Scollon, & Jones, 2012).

Figure 1. Timeline for the Tasks



The information exchange task (Task 1 in weeks 1-2) required students to post and comment on each other's introductory profiles on Facebook. For the comparison and analysis task (Task 2 in weeks 3-9), global teams explored personal experiences, institutional and educational systems, and corporate and business discourse. In the collaborative task (Task 3 in week 10), Hong Kong teams were encouraged to analyze their Facebook exchanges using a discourse analysis approach for their final ethnographic research project, a course requirement.

Methodology

This study adopts an ethnographic case-study approach (Yin, 2013) because intercultural exchanges are by definition socially and culturally situated in unique learning contexts (see also Dooly & O'Dowd, 2012; Müller-Hartmann, 2012; Reinhardt, 2012). The study shares ethnographic characteristics of emic and holistic principles (van Lier, 1988). The status of the Author was that of *participant observer* (Denzin, 1989) in that she co-designed the course (with her colleague in the U.S.), and taught the course in Hong Kong.

Data Collection and Analysis

The data collection took place in spring 2016, and instrument triangulation included a needs analysis, post-project questionnaire (both administered via Qualtrics), Facebook interactions, and course artifacts in the form of final ethnographic projects. The objective of the needs analysis questionnaire was to elicit information about students' prior technology experience and skills, and their goals and expectations for the project. The post-project questionnaire aimed at eliciting participants' perspectives regarding their project participation.

In order to answer research question 1, the Author draws on the pre-project questionnaire and private Facebook posts (Tasks 1-2). To answer research question 2, the Author draws on the post-project questionnaire, and the final project reflection (Task 3). Coding was conducted by three trained raters using the qualitative analysis software MaxQDA. In line with a Grounded Theory approach (Glaser & Strauss, 1967), *in vivo* codes from participants that captured the main theme ("*I want to meet some new friends and we can be long lasting friend.*" "*Making new friends who can communicate in a long term, not limited to the assignment time.*") were then categorized (*making long-term friends*).

RESULTS AND DISCUSSION

Project Goals and Expectations

In the needs analysis at the beginning of the project, Hong Kong students (N=30) listed 'cultural exchange' (15) regarding their expectations for team work and their virtual exchanges.

Global Teams' online collaboration and task completion (RQ1)

With regard to the question of how actively Global Teams collaborated online to complete the tasks, the teams with the highest average number of posts and those who used their Facebook interactions for their final ethnographic project are listed as follows in descending order:

1. E 452.56 (3 out of 3)
2. C 380.83 (2 out of 3)
3. B 314.89 (2 out of 2)
4. A 304.13 (1 out of 2)
5. D 176.55 (0 out of 3)

These findings indicate that Local Teams from almost all Global Teams – with the exception of the three Local D Teams – used their Facebook interactions for their final ethnographic projects.

Global Team A Excerpts

The examples below illustrate the nature of questions asked by Hong Kong students. For example, Kira (A1) asked her partners about their personal or educational backgrounds - as part of Task 1 fulfillment.

Figure 2. Global Team A Excerpt 1

KiraGTA1, *April 3*:

"Hey GTAC I know that you love reading according to your bio, so do you have a favourite writer? Mine will be Roald Dahl and Edgar Allan Poe (I crave gothic stuffs)"

In Figure 2., Kira asks GTAC about favorite writers (based on her partner's information in the intro bio). The question remains unanswered.

Figure 3. Global Team A Excerpt 2

KiraGTA1, *April 3*:

"Hi GTAC

So in [the Hong Kong institution] there is a wide range of foreigners coming from different countries, and the university has prepared different language courses and cultural workshops for these different cultures to get along well, so is there any these kind of programmes in your country to assist foreign students to accustomed to the cultures that they are not familiar to?"

In Figure 3., Kira asks GTAC a second question on the same day. She inquires about the existence of cultural programs to help foreigners to adapt. GTAC answers this second question 15 days later (on April 18) informing her that international students at the U.S. institution took the same courses as everybody else but that it would be good to offer something specific for them.

These excerpts illustrate that there were responses to only some of the questions. This may have been due to the fact that U.S. students were outnumbered and had to answer many more questions. In the examples above, the U.S. student might have prioritized the task-related question about the educational system and intercultural on-campus training.

Global Team D Excerpts

Team D was the Global Team with the lowest interaction. They further chose not to analyze their Facebook interactions for their final paper. Instead, they chose the topic *Comments on the popular posts on Instagram*. An example from D10 shows that the student who had opted out of social media realized that he had not taken full advantage of the online exchanges. Kingston (D10) posted the following for his Task 3 reflection on Facebook (via his teammates Juliet and Tory):

In his two Facebook posts (posted via Juliet on March 6 and April 1), Kingston formulated questions based on his U.S. partners' bios.

Figure 4. Global Team D Excerpt 1

JulietGTD10
 March 6, 2016
 Hello this is KingstonGTD10 and i would like to raise a question to GTDA and GTDJ with the help from my friend, JulietGTD10, to post it here for me.
 GTDA: Hey GTDA, i saw you are interested in the field of sustainability, which presumably leads to the assumption that you are pro-environmental friendly. So the question is, do you think the ongoing environmental issues are being established in a sense that the tyrants are using it as an agenda for scamming or as an attempt to make a lucrative profit from it?
 GTDJ: Hi GTDJ, you seemed really indulging in sports and sports relating stuff. As a soccer player myself, it happens to be that I suck at almost all the sports that require the incorporation with hands. How do you find the enthusiasm for such different sports in a way that one sport is more physically demanding whereas the other is more mentally demanding.

In the March 6 post in Figure 4., Kingston first asks one partner (GTDA) about the environment and problems with sustainability and then the other partner (GTDJ) about different demands of her sports activities. These were required posts for Task 1.

Figure 5. Global Team D Excerpt 2

JulietGTD10
 April 1, 2016
 From KingstonGTD10:
 GTDJ, how does your school and your teacher support you playing sports? Like for example, a deadline postpone?
 GTDA, how does your academic knowledge complement or provide a foundation to your robot builds?

As can be seen in Figure 5., on April 1, Kingston asks GTDJ about whether her teacher was supportive of her sports activities, and if and how GTDA's academic background has had any impact on building robots. These are the questions that meet the Task 1 criteria, but not the Task 2 criteria (the latter required asking about professional/ideological discourse based on the textbook reading for that week). GTDA replied to Kingston's 13 days later (on April 14). First, the U.S. student apologizes for the tardy reply, he then explains how his personal learning experience has inspired his work on robots.

Figure 6. Global Team D Excerpt 3

ToryGTD10
 April 21, 2016 · Hong Kong
 Wrap up for KingstonGTD10
 After participating this brief discussion, it has been a great chance for me to learn how not to make assumptions to others' life. For example, I thought [J., my U.S. team mate] must have joined college sports team just because she studies in sport management and used to play golf, soccer, and some other sports. My assumption had drove me to ask some not really good questions and i somewhat wasted the chance to communicate.

In this post-project reflection for Task 3 (Figure 6.), Kingston states that he "somewhat wasted the chance to communicate" and explains this by having asked "not really good questions." Yet, it remains unclear what he wishes he had posted instead. For instance, it is not clear if he was not satisfied with the content of his questions or the structure of his questions. This underlines Kurek and Hauck's call that multimodal tools and learning environments require learners to go beyond interpreting meaning and expressing their own opinions (2014). In other words, students need to be made aware of a task prompt's function as a stimulus for further online discussion, not as an end in itself. This is even more pressing for those teams (such as D8, D9, and D10) who chose not to make connections between their online interactions and the final ethnographic project.

Hong Kong participants' perceived task participation (RQ2)

Completion of all Tasks

With regard to the question of how they fared in all the required posts, the majority of students (N=31) indicated partial completion (61.3%). 38.7% stated they completed the tasks, while 0% indicated "no completion". Those who said they "completed" listed "course requirement" as the reason. This is in line with Belz (2002), who also found that students were concerned about completing graded tasks. Those who said "partially completed" mentioned: "time constraints, no incentive, lack of professional knowledge and guide to forward questions and make responses, mess up the due dates of each post, mechanical way of communicating with overseas peers." This points to issues with task prompts in that students seemed to post the required question; yet, a few went beyond what was expected and used their U.S. counterparts as cultural informants. These reflections seem to contradict Hong Kong students' expectations (as per their needs analyses) of engaging in a "cultural exchange", working "closely and efficiently with team members", and "active interactions", as expressed in the needs analysis questionnaires. However, those who engaged and used their interactions for their final projects (B3, C6) seemed to have taken advantage of the linguistic and cultural opportunities available in telecollaboration.

In the post-questionnaire (N=33), a number of Hong Kong students complained about the lack of responses from U.S. students and about the exchanges being too stiff or static: "merely a sort of questionnaire rather than real communication", "weird form of question and answer (feeling stressful to put forward questions and make responses)". One hurdle was the uneven number of participants (55 in Hong Kong versus 19 in the U.S.).

Most Challenging Course Aspect

In response to the question of when Hong Kong students felt the most challenged in the course and why, participants (N=33) replied the following: group project (appropriate topic, HK-U.S. project collaboration), learning objectives and guideline, understanding of theories, in-depth data analysis, stressful assessment including group project and exam, class size, unclear instructions

Institutional parameters such as final exam, course streamlining, and alignment of content and tasks across institutions posed major hurdles. Socio-institutional constraints included limited Facebook interactions due to task design and participant numbers.

Moreover, the comment “lack of professional knowledge and guide to forward questions and make responses” in their post-project questionnaire seems to reflect Kingston’s wrap-up statement of not having been able to ask better questions. This points to the need for learner training prior to this kind of exchange. One way of doing this would be to ask learners to work with their own transcripts, i.e., to ask them to analyze their own questions or answers to questions. More specifically, learners need to develop critical analysis, evaluation, and interpretation skills through filtering and synthesizing input by different people. In doing so, learners will be able to recognize and interpret social (power) relations, cultural references, and establish a feeling of belonging with the target language community (Kurek & Hauck, 2014).

CONCLUSION

Overall, interactions appeared to be somewhat one-sided due to the unbalanced number of participants in the Global Teams. Thus, while the majority of teams did seem to have taken to the notion of telecollaboration and its usefulness for cultural exchanges and intercultural communication in a context such as Hong Kong, task design and prompts need to be reconsidered given institutional constraints such as streamlining with another course section, and a final exam. These results are not unexpected due to the complex and complicated nature of working cross-institutionally especially with regard to different learning cultures (i.e., the examination culture in Hong Kong) and the socio-institutional constraints of streamlining with other course sections (see Belz & Müller-Hartmann, 2003). Yet, this implies that in an instructional context where course streamlining and examinations are prevalent, the standard telecollaboration task succession needs to be restructured in a way that encourages students to go beyond assignment requirements by engaging with overseas partners.

CALL in Context

This contribution highlights how the local context in Hong Kong shaped the design of the telecollaborative learning environment with the U.S. The course in Hong Kong was a core course for BA students majoring in English Studies, which was not the case in the U.S. Thus, institutional parameters (final exam, course streamlining, and alignment of content and tasks across institutions) posed major hurdles in the Hong Kong context. Instead of completing more in-depth tasks with telecollaborative U.S. partners, virtual exchanges stayed on the surface and were based on question-and-answer patterns. Each student had to ask their partners two questions for each topic, which consequently resulted in limited Facebook interactions where students stuck to the minimum task fulfillment requirement. Another issue was that U.S. students were outnumbered by Hong Kong students by far. These external factors also had an impact on how participants viewed the success of their participation in the telecollaboration.

Resulting questions are if and how such socio-institutional constraints could be mitigated, or if additional learner training is called for so as to help participants cope with possibly unrealistic expectations. How can the added value of telecollaborative partners as cultural informants be foregrounded in an examination culture such as Hong Kong, where students are primarily concerned with studying for exams and test results? Especially when there is another section of the same course (taught by another instructor), which is not part of the telecollaboration. What incentives can be offered to students and faculty to put in the extra

work involved in telecollaboration – especially if the outcome is not directly related to the final exam? Ultimately, this begs the question how we can still pursue telecollaboration in contexts where institutional constraints seem to leave little room for the explorative nature of such projects.

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Transparency of Reporting in CALL Meta-analyses between 2003-2015**Bio data**

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Abstract

Since its introduction by Glass in 1970s, meta-analysis has become a widely accepted and the most preferred approach to conduct research synthesis. Overcoming the weaknesses commonly associated with traditional narrative review and vote-counting, meta-analysis is a statistical method to systematically aggregate and analyze empirical studies by following well-established procedures. With the growing number of publications employing meta-analysis across a wide variety of disciplines, meta-analysis, however, has received criticism due to its inconsistent findings derived from multiple meta-analyses in the same research domain. These inconsistencies have arisen partly due to the alternatives available to meta-analysts in each major meta-analytic procedure. Researchers, therefore, have recommended a transparent reporting on decision-making in every essential judgment call so that the results across multiple meta-analyses become replicable, consistent and interpretable. This research examined the degree to which meta-analyses in CALL discipline transparently reported their procedures, decisions, and judgment calls. To achieve this aim, we retrieved 15 eligible meta-analyses in CALL published between 2003 and 2015. Features of these meta-analyses were extracted based on a codebook modified from past second-order syntheses Cooper (2003) and Zeynep, Aytug, Rothstein, Zhou, & Kern (2011). A transparency score of reporting was then calculated to examine the degree to which these meta-analyses closely followed the norms of reporting recommended in the literature. Our results generally endorsed those found in previous second-order analysis in different disciplines (e.g. Aytlung and Plonsky, Ahn, Ames and Myers, 2012). Among all five sections, methods and results are two areas that deserve much improvement. Specifically, in methods section, operational definitions of variables, quality of primary studies, data dependency handling and heterogeneity identifying and analysis in included studies need to be considered and described in appropriate depth. When reporting results, we hope to see information provided for the number of effect sizes contributed by each study, meta-analyst's rationale for the selection of moderators and results of publication bias analyses and sensitivity analyses if they are conducted. Procedures of dealing with heterogeneity among studies need to be addressed as well. We will end the presentation by providing suggestions of conducting quality meta-analyses in this domain. We also call for a need for validating instruments that can reliably evaluate quality of meta-analyses.

CALL in Context

The findings of this study can be used to provide suggestions of reporting when researchers in our field prepare their manuscripts on meta-analysis.

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Paper presentations

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The Perceptions of Pre-service Teachers of English on Flipped Classroom Model

Bio data

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Abstract

As a result of the advances in information and communication technologies (ICT) and the wide spread of technology use by personal users, English language teachers are expected to integrate Web 2.0 tools for creating global language classes, in which the learners are trained to be competent enough to communicate with the citizen of digital world. Thus, technology integration during the pre-service teacher training program will be a factor that affects pre-service teachers' attitude towards CALL and their motivation to use technology for their future teaching career. In this ongoing study, the benefits of flipped classroom model while training pre-service teachers in Computer Assisted Language Learning (CALL) course was explored. As the theoretical framework, self-determination theory, which gives prior importance to learner autonomy and motivation of the learners, was determined. The research questions were as follows: (a) what are the perceptions of participants on flipped learning experience; (b) what are perceptions of participants on the online platform, Google Classroom, which was used in this study. The participants of this study were 60 pre-service teachers enrolled at a state-run university in Turkey. During the data collection procedure, different types of tools were used in order to ensure triangulation. In order to explore the perceptions of pre-service teachers on flipped classroom model, Perception of Flipped Learning Experience questionnaire, developed by Chen Hsieh, Wu and Marek (2016), was used. Moreover, focus group interviews were also carried out in order to have a deeper understanding of the participants' perceptions. For the second research question, Technology Acceptance Model questionnaire, developed by Davis, Bagozzi and Warshaw (1989), was used. At the end of the study, the implications and recommendations related to the flipped classroom model in training pre-service teachers of English were suggested. The

findings of this study might be a guideline for the ones, who would like to implement Flipped Classroom Model for their courses. Moreover, CALL course was chosen for the data collection so that the pre-service teachers could find the opportunity to experience this learning model as a learner and could use it for their future teaching career.

Conference paper

As a result of the advances in information and communication technologies (ICT) and the wide spread of technology use by personal users, English language teachers are expected to integrate Web 2.0 tools for creating global language classes, in which the learners are trained to be competent enough to communicate with the citizen of digital world. Although there are many Web 2.0 tools to be used directly in classroom activities for engaging students, most of them allow students to study before or after the class at their own pace and to study anytime they need. Students have the opportunities to work online at home and learning process is not limited with the classroom hours. These kinds of changes have paved the way to new models in teaching and learning. The most recently emerged model is Flipped Classroom Model, which give importance to students' preparation before the class hour. In this model, students are expected to come to class having studied on the topic so that teachers guide some activities in the classroom.

Flipped Classroom Model is also called as inverted classroom, in which the lectures or teaching and homework are inverted. In a traditional perspective, teachers are expected to give lectures and give instruction about their content and the students are responsible for completing an assignment related to that topic. In this model, the place of these two activities are inverted or flipped so that the students start learning before the class hour; they are provided with materials, such as video presentations, articles, questions related to the upcoming course and teachers and students work in collaboration during the course hour in order to complete some tasks. In other words, students have a general introductory knowledge about the course beforehand and the class hour is allocated to work in collaboration. When the content of Computer Assisted Language Learning course is considered, the flipped classroom model fits well. In previous years, the course time was spent with getting accounts, creating usernames and to get a general idea about the topic of the week and the producing a material was left to the students at home. They had some technical problems or they could not find an opportunity to show their materials to their classmates. However, after the implementation of this model, students came to class having read an article about the topic of the week, creating their accounts for different platforms and exploring how it can be used for language teaching. Then, they start working in collaboration to create a language learning material in the class hour. If they have any technical or pedagogical problems, they could solve this problem with their classmates and the instructor. As soon as the class hour ends, the topic of the week ends there and they start working on the following topic. In this model, the role of the instructor in the classroom is questioned; however, the instructor becomes more important. The role of the teacher moves from knowledge provider to facilitator in activities. The students have information about the topic and teachers guide these students while they are working on a collaborative work with their peers.

As the theoretical framework, self-determination theory, which gives prior importance to learner autonomy and motivation of the learners, was determined. In this theory, it is claimed by Deci and Ryan (2000), who are the originators of this theory, people could function if three basic needs - competence, relatedness, and autonomy - are met and if their social environment is designed accordingly. In Flipped Classroom Model, students come to class having a prior and introductory knowledge through videos, articles, and questions. Teachers prepare students before the class and all students are expected to learn the topic of the week

in their own pace so that the students could feel competent enough to work on the topic. Then, they relate the topic with their future teaching career. The students are all aware of the fact that they are living a digital world and they should somehow integrate Web 2.0 tools in their classrooms; yet, they are not very competent in this process. When they see the ways of integrating technology in language classes, they relate this to their teaching career. Finally, the learners are autonomous. They are responsible for their own learning and could design their learning according to their pace. They do not have to learn the topic in the classroom so that they feel the necessity of studying in order to take part in classroom activities. These three needs are crucial for the motivation of the students and this was accomplished through Flipped Classroom Model.

In this ongoing study, the perceptions of pre-service teachers of English on flipped learning classroom model and Google Classroom as a learning management system in Computer Assisted Language Learning (CALL) course was explored. Within the scope of this study,, the research questions were as follows: (a) what are the perceptions of participants on flipped learning experience; (b) what are perceptions of participants on the online platform, Google Classroom, which was used in this study. Not only the perceptions but also the online platform was questioned in this study. There are a great number of learning management systems on the Internet and teachers should choose the most appropriate one for their objectives and goals.

The participants of this study were 58 pre-service teachers enrolled at a state-run university in Turkey. They are senior students at the Department of Foreign Language Education and enrolled in Computer Assisted Language Learning course, which is offered as an elective course in 2016-2017 Spring semester. Of these participants, 15 were male and 33 were female participants, whose ages ranged from 21 to 24. The participants were taught in two sections and the courses were carried out in a computer lab for two hours a week.

The data collection and analysis procedures are still in progress and the findings will be presented at the conference. As for the the data collection procedure, different types of tools were used in order to ensure triangulation. In order to explore the perceptions of pre-service teachers on flipped classroom model, Perception of Flipped Learning Experience questionnaire, developed by Chen Hsieh, Wu and Marek (2016), was used. Moreover, focus group interviews were also carried out in order to have a deeper understanding of the participants' perceptions. For the second research question, which focuses on Google Classroom, Technology Acceptance Model questionnaire, developed by Davis, Bagozzi and Warshaw (1989), was used.

At the end of the study, the implications and recommendations related to the flipped classroom model in training pre-service teachers of English were suggested. The findings of this study might be a guideline for the ones, who would like to implement Flipped Classroom Model for their courses. Moreover, CALL course was chosen for the data collection so that the pre-service teachers could find the opportunity to experience this learning model as a learner and could use it for their future teaching career.

CALL in Context

This study is about determining the perspectives of pre-service teachers of English on Flipped Classroom Model and Google Classroom as the online platform used throughout the semester. In our context, Turkey, all classrooms are equipped with technological devices within the scope of FATİH Project (Movement of Enhancing Opportunities and Improving Technology) (<http://fatihprojesi.meb.gov.tr/en/>). As a result, the future teachers are also expected to integrate technology in their classes in order to enhance the opportunities for

their students. For this purpose, the pre-service teachers should be provided with some practices which they could take as models.

Flipped Classroom Model has been very popular in recent years and the pre-service teachers should be familiar with this model so that they could use this model for their own classrooms in the future. In order to exemplify this model, Computer Assisted Language Learning course, which is an elective course at the Department of Foreign Language Education was chosen. This course is quite appropriate for this model because the pre-service teachers usually spend too much time in the classroom on getting accounts, understanding the rationale of using specific Web 2.0 tools for teaching a foreign language. By means of this model, students came to class having completed registration process and read an article on the topic of the week so that they could spend more time to work in collaboration with their peers and producing materials.

Since Flipped Classroom Model is a very recent model and some institutions trying to implement this model for teaching, pre-service teachers in our country should also be familiar with this model and this study will help to create an awareness about this model. From this perspective, this study will be very helpful for pre-service teachers of English.

As for the theoretical framework, self-determination theory, which focuses on motivation, autonomy, relatedness and competence, was determined. As the participants had general information about the topic of the week, they were more motivated and competent to use technological tools. Since this is an ongoing study, the findings will be presented at the conference and it would be very useful to see the perceptions of pre-service teachers on Flipped Classroom Model and Google Classroom.

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From teacher to learner to teacher: building context-awareness for mobile app use through exploration

Bio data



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Abstract

In this auto-ethnographic study, I describe my learning experiences as a novice learner of Spanish through mobile apps. The aim of this study was to experience language learning with apps from a learner's perspective and to increase my awareness of learning opportunities in an informal learning context. Over a period of six months, I explored and used a wide range of different language apps and features from my mobile phone to study Spanish. I documented the use of these apps, my observations and reflections on my learning process with the journaling app *Day One*.

Based on the analysis of my learning journal, in this presentation I will describe the informal learning opportunities I discovered on my Spanish learning journey. I will focus on a selection of five apps - *Memrise*, *Duolingo*, *Busuu*, *HelloTalk* and *Reverso Context* - to illustrate how my awareness of the informal learning context developed through exploration and reflection.

Conference paper

In 1988, Higgins used the metaphor of the *pedagogue*, the figure of the Greek slave who responds to his young master's demands at the snap of his fingers, to describe the supporting role of the computer in learner-centered learning environments. The *pedagogue* "answers the young master's questions, recites a poem, translates words, plays a game, or even, if that is what the young master demands, gives a test. The young master snaps his fingers again, and the pedagogue goes back to his place" (Higgins, p. 14). It is tempting to replace the *pedagogue* with the *personal assistant* that has become the mobile phone for many of us in our everyday lives. The variety of applications on the mobile phone, with communication being only one, provide unprecedented personal access to the target language (TL). Apps such as *Spotify* (for songs in the TL), *Google translate* (for written and voice translations), *Mindsnack* (for playing language games) and *Duolingo* (for practicing and

testing) are not only available at the tip of the language learner's finger, they have also created the setting for "alternative pathways for learning and practice" (Kukulska-Hulme, 2016, pp. 153-154).

The availability of the *pedagogue* and the access to his expertise alone, however, does not necessarily lead to successful learning. After all, the *pedagogue* is at the service of a young master who might misuse his powers or simply ask the wrong questions. To engage in rigorous and structured learning a *magister* might be needed, who "imposes" a lesson plan and oversees/monitors the pupil's learning progress (Higgins, 1988, p. 13). While some language apps provide a guided structure, they are generally met with mistrust by the magisters of language education. When interviewed on the topic, Robert DeKeyser explained: "Many of us in academia have quite a bit of disdain for the endless series of gadgets and apps that are supposedly going to solve all our problems". This sentiment is shared by fellow linguist Suzanne Flynn who considers *Duolingo* "good for learning new vocabulary at best" (both quoted in Pearl, 2017, n.p.).

Intrigued by the pathways for language learning that mobile apps might offer, I started to use my iPhone as a *personal assistant* to learn Spanish in December 2015. Without any magistral support, I explored the affordances of my phone and a wide range of apps to create my personal learning environment. For six months, I documented my use of these apps, my observations and reflections on my learning process with the journaling app *Day One*.

My findings in relation to the conference theme were that effectiveness of language learning apps, which vary widely in scope, should not only be measured by the features of an individual app but rather on the ability of learners to create their personal learning context through the affordances of these language tools.

For example, in *Duolingo* learners can submit their responses using siri/voice recognition to provide answers instead of typing. This is especially effective in the recently introduced chat bots. Learners can resort to various apps to complete a task or to solve a problem. The translation and dictionary app *Reverso Context* matches words and phrases with chunks of original L2 texts. This app can be used for chatting, for example through *HelloTalk*, an app-based mobile language learning community with over 4 million users. While the app has integrated support features, learners might find more suitable apps for their individual needs which can be used in concert.

Mobile apps provide tools for language learning, yet it is up to learners to build their individual toolkits. The construction of this toolkit requires, as Kukulska-Hulme put it, an "awareness of one's surroundings and their potential to provide information and rich learning experiences" (2010, p.4). This approach to learning differs fundamentally from the already structured environment that language learners encounter in formal language education, and both learners and teachers have to develop a sense of this "context-awareness" to engage in and to foster mobile language learning.

CALL in Context

My contribution addresses the topic of **context-awareness** for informal app-based language learning. I found the work of Kukulska-Hulmes (see references) especially helpful. Here is a quote from an earlier text which provides a definition of context-awareness:

Learners are increasingly in a position to engage in educational activities motivated by their personal needs and circumstances, including those arising from greater mobility and travel, and to draw on the resources of communities of like-minded learners. 'Context-awareness', that is, awareness of one's surroundings and their potential to provide information and rich learning experiences, becomes a starting point for learning. Context-aware learning is about enabling learners to use personal and social technologies to draw on aspects of their environment, including people who can join in or help, approaching the environment as a dynamic learning resource (Kukulska-Hulme, 2010, p. 4).

Research so far has shown that only a minority of learners are "proactive and innovative in their use of personal mobile devices" and that most learners need some guidance to become aware of existing opportunities for language learning to become 'good mobile language learners' (Kukulska-Hulme, 2016, p. 148). Teachers, however, are not necessarily well-equipped to advise their students appropriately, as their reference framework for evaluating apps is anchored in the context of formal language education (Rosell-Aguilar, 2017). I argue in this presentation that language teachers will have to become 'good mobile language learners' and to explore alternative pathways for learning and practice" for themselves in order to foster context-awareness in their students. My own experience has also shown me that an informal learning context is always a personal one. That means that my relationship with my resources can not be transferred to others. My understanding of this process, however, can help me to enable my language students to create their own learning environments. One of the underlying principles seems to be that learners have to work out how the affordances of various apps work together/interact for their individual learning needs.

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Enhancing the development of the reading and speaking skills of university students online in an L2 academic context: a socio-cultural theory (sct) approach

Bio data

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Abstract

Within the socio-cultural school of thought, Gal'perin, was influenced by Vygotsky's theory of mind. Following Vygotsky's argument about the leading role of instruction within the zone of proximal development (ZPD), Gal'perin developed an instructional approach, known as Systemic Theoretical Instruction (STI), which encourages the active construction of materialized concepts and their monitored transformation into mental processes in order to foster development. This study adopted a mixed methods exploratory sequential approach and collected various types of data to support the cognitive development of 13 UK based L2 learners who were pursuing postgraduate studies. Importantly, while existing STI investigations have employed mainly qualitative data, the analysis conducted for this study included both quantitative and qualitative data such as introspection techniques, recorded interviews, pre-post interview tasks, concept-mapping, online Moodle tasks and questionnaires, screen-captures and audio recordings of the online activities.

The findings from the comparison of the pre and post concept maps have revealed that the Moodle unit was successful in fostering the students' conceptual development and that specific scaffolding features and types of tasks have contributed towards this direction. Furthermore, this study contributes to the growing body of research into the potential role of scaffolding to enhance ZPDs in online environments in order to facilitate the L2 learners' EAP training. It also sheds light into the affordances of STI and online environments to develop the students' academic speaking and reading skills and lead to overall conceptual development. Finally, it highlights the potential role of verbalisation (introspection tasks, concept maps and oral presentations) as a means of assessing conceptual development within the specific L2 online context.

Conference paper
Introduction

Online learning in higher education institutions expects students to be able to cope with complex and advanced reading while also being able to deliver good quality oral presentations.

This implies the development of specific reading and speaking strategies that could facilitate the delivery of any computer assisted language learning (CALL) activity. However, to date there are no empirical studies documented in the literature about the role of verbalisation during the delivery of an oral presentation for speaking skills development or in the area of language use for “regulatory purposes”, especially when L2 learners are engaged in genre focused pedagogic tasks (Gánem – Gutierrez Gutiérrez & Roehr, 2011: 299), such as the learning of EAP reading discourse. This paper aims at investigating a) the affordances of an online (Moodle-based) Pedagogic Unit to potentially foster L2 English online academic training with specific reference to Applied Linguistics terminology b) the effectiveness of the online scaffolding mechanisms that were developed for each online task and c) the students’ views with regards to all the previous.

Systemic theoretical instruction - a pedagogic approach

Building on Vygotsky's ideas about human development and internalization, Galperin conceived the latter as a transformation process that involves “certain material forms of individual external activity into other mental forms of the same external activity and as a specifically human form of appropriation of new knowledge and skills” (Arievitch & Haenen, 2005: 158). He contended three stages in the process by which such transformation occurs. These stages included progressing from physical action to oral verbalisation and, finally, to 'internal speech' (Galperin, 1989a,b,c). These internalized actions constitute the essence of the mind in terms of structure and content. Importantly, according to Galperin, the transformation of material actions into internalized 'mental processes' is a complex procedure that involves mastery of cultural tools such as language functions, etc. Therefore, exploring the process by which cultural tools are acquired (or learned) by individuals is a crucial component in studying cognitive development (Arievitch & Stetsenko, 2000). Based on these theoretical claims, Galperin developed his mental action model according to which he interpreted actions as “conscious attempts to change objects according to some intended results” (Arievitch & Haenen, 2005: 159).

Based on the previous, development at a conceptual level is understood as the increased ability of the participants to perform higher mental functions (i.e. planning, voluntary attention, reasoning etc.). A student’s level of conceptual ability was determined by taking into consideration whether for instance the ability to plan or formulate assumptions was evident in the pre and post treatment concept maps.

Materialisation is the process of concretising abstract information by employing tools (i.e. concept maps) that can enable students to verbalise (i.e. talk about and explain) the target concepts by relying on the use of the tools at an initial stage and then later without the need to use the tool anymore.

During this process the learners’ actions require support. Bruner (1983: 60) defined the term Scaffolding as “a process of ‘setting up’ the situation to make the learner’s entry easy and successful and then gradually pulling back and handing the role to the learner as he becomes skilled enough to manage it”. In other words, it is a pedagogic tool that refers to the graded assistance that is provided to the learner until the latter is able to perform a task independently and without support.

The scaffolding framework used for the present online course was adapted by Fu-Yun Yu (2009: 24) who worked on not only scaffolding student activities on an online learning environment but also used Moodle specific features. The developed framework was characterized by the following features: a) Reflective social discourse features (i.e. comment boxes, peer-evaluation, notification system with message alerts), b) Process prompts (i.e. built-in hints for the completion of the tasks), c) Process displays (i.e. task completion and

progress indicators, learner portfolios), d) Process models (i.e. accessing exemplary answers, concept maps, external links, etc.) and e) Customizable options: sets of criteria for peer – assessment, sets of exemplary answers.

Moodle and online learning affordances

Course management systems (CMSs) are sophisticated, virtual environments, such as Moodle and Blackboard, designed to enable real-time computer-mediated interaction. Within these settings, learners can access course contents in different formats (text, image, sound), as well as interact with instructors and classmates, via message boards, forums, chats, video-conferencing or other types of communication tools (Sanchez & Hueros, 2010). These environments offer a set of configurable features, in order to facilitate the creation of online courses, work groups and learning communities (Paulsen, 2003). Apart from the pedagogical functions, these platforms provide a set of management features for learner registering, monitoring and evaluation activities, enabling the contents' management via Internet. Following Piotrowski's approach (2010), "an e-learning platform represents a system, which provides integrated support for six different activities: creation, organization, delivery, communication, collaboration and assessment". The following features of these environments are highlighted as particular affordances for language learners and educators for the purposes of the present study: a) Organization features that allow users to access content in a well-structured way, b) Variety of task creation options, c) Opportunities for synchronous and asynchronous collaborative / peer activities, d) Links to the internet or other online sites and e) Multiple evaluation options.

EAP reading and speaking

For the purposes of the current project, academic reading as a skill will be approached by adopting the SCT theoretical approach. This includes seeing the development of reading as closely linked to the use of higher order cognitive processes such as reasoning, development of concepts, planning, voluntary attention, etc.

Therefore, the students for the present study were expected to plan their approach when reading a text online by identifying top-level structures or by formulating self-generated questions. The students were then trained to focus their attention to specific terminology by underlining and then to plan and depict the relationships of specific article terms with the use of concept-mapping, to develop their understanding of concepts. Following from this the students' reasoning processes were employed to decide on note-taking and then planning the structure of notes for summary creation.

In addition, as Nuttal, (1996) argues, EAP students are often not taught how to approach academic texts. There is therefore, a wide range of macro and micro – reading skills that EAP students should develop with the use of appropriate strategies (Nuttall, 1996).

The specific reading skills that were addressed during this training were the following: a) Developing reading comprehension abilities (i.e. Strategy use and strategic processing, goal setting, activation of schemata, etc., b) Developing the awareness of academic genres (i.e. identifying different purposes for reading, and different types of texts will also lead to more emphasis either on a text comprehension or text interpretation (Kintsch, 1998) and c) Developing the awareness of discourse structure knowledge since this could enable readers to organise the content and thus develop reading comprehension and retention (Carrell, 1984, 1985, 1992).

Turning to academic speaking the students were expected to create an oral presentation and introduce a topic, develop and plan the steps of giving a presentation and learn to sequence,

compare/contrast and illustrate points in academic speaking situations. More specifically, the previously mentioned speaking skills are translated into the following more specific ones:

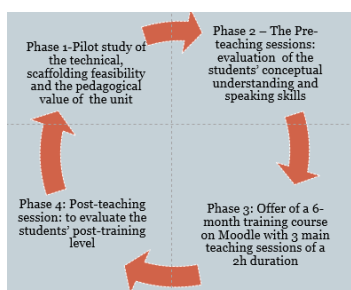
- Preparing presentation notes – Notetaking (pedagogic aim of online teaching Unit 3)*
- Summarizing
 - Distinguishing key ideas
 - Creating a presentation plan
 - Introducing a topic
 - Structuring a presentation
 - Preparing for and delivering a 10 minute presentation of the treatment academic article (Noticing)

With regards to the materials used to support the development of the reading and speaking skills, there were 3 academic articles with a focus on applied linguistics topics such as motivation, input and feedback (on which the students should deliver an oral presentation about the main article concepts and ideas). All students were working in a lab in front of a computer and logged into Moodle in order to complete their tasks. All tasks were designed by the researcher.

Methodology

This section will provide more information on the designed pedagogic unit, the participants and the data collection tools. The graph below provides an overview of the study's cycle and its four different phases:

Figure 1: Study cycle



The pedagogic unit

The Pedagogic Unit – Scaffolding Advanced Academic Skills (SAAS) was organised into 3 teaching units on Moodle. The first teaching session was an introduction to the topic, the treatment text and understanding the main ideas. The second session was a hands on practice where the students experimented with identifying specific text details, concepts and with peer - evaluating work online. In the final session the students were trained on summarising text parts, reducing content for presentations, note-taking and creating a presentation structure. The students worked on an academic article on the notion of noticing during the three day training and they went through a series of tasks whose design and objectives will be analysed later on. Their activities were recorded by digital recorders and by using screen – capture software. The Pedagogic Unit on Moodle also contained feedback questionnaires for each session. At the end of the session the students were asked to submit their presentation of the academic article online and to deliver it orally. An example reading task is a concept map task that was also offered to students during the first session of their online training. They will function as examples to showcase how various scaffolding mechanisms were implemented to support the development of the students' reading skills. The materials provided included a word document for the concept map and the Forum area of the Moodle course. The aims of the task were to enable students to develop an understanding of text structure and to identify the main ideas and concepts of each article section. The task offered scaffolding in the form of

comment boxes (Forum area), peer-assessment (comments) and by providing model concept maps (external link to website).

The participants

The participants in this project included student volunteers (N=13) and a language tutor that was also recruited at the University of Essex. All the students were speakers of English as a foreign language and their native languages included Chinese, Arabic, English, Hungarian and Greek. The students were enrolled in a general English course at an upper-intermediate level (level C1 according to the CEFR) and were also attending an MA course in the Department of Linguistics. Their familiarity with computer enhanced learning (CEL) ranged from none to some familiarity but they were all computer literate, familiar with Moodle, which is the platform used at the University of Essex for course management, and academic article reading. The participants' interests differed in terms of their studies since they specialised in different areas of Linguistics such as Second language acquisition, Bilingual development and evaluation of course materials.

The participants for the study were guided by the researcher who also acted as facilitator of this pedagogical intervention unit. The selection of the students was based on the level of studies they were carrying out (postgraduate level), their interests (i.e. Applied Linguistics, etc.), and availability to participate in the project after a brief discussion about the project.

The data collection tools

The data collection during the training cycle took place at three different stages: the pre-treatment session, the main 3 day teaching cycle and the post-treatment session. The students were audio recorded during the pre- and post-interviews and they also had to complete a task and deliver a presentation. During the teaching cycle the students were audio and video recorded, their online activities were captured by using screen capture software and the materials that they created on Moodle and their online tasks and questionnaire answers were also considered for analysis. A more detailed analysis of the tools used during each phase, the rationale behind them, and the data collection procedure is detailed in Table 1 below. Our focus in the present paper however will be on concept maps, oral presentations and scaffolding features.

Table 1: Overview of data collection tools

Session	Article	Activities
Session 1: Pre-treatment	'Feedback' article	<ul style="list-style-type: none"> • Introspection – Think aloud task • Concept maps • Oral presentation
Session 2: Treatment (3 days, 3 sessions, 2h per session)		General activity types: <ul style="list-style-type: none"> • Moodle features: forum, glossary • Individual online Moodle type tasks • Oral presentation
Day 1 – Teaching session: Developing reading and understanding of keywords	'Noticing' Article	Introduction to the topic, the treatment text and understanding the main ideas
Day 2 – Teaching session: Reading and understanding to develop conceptual and critical thinking		Hands on practice where the students experimented with identifying specific text details, concepts and with peer - evaluating work online
Day 3 – Teaching session: Preparing presentation notes and note-taking		Training on summarising text parts, reducing content for presentations, note-taking and creating a presentation structure. Online submission of presentation and oral delivery
Session 3: Post-treatment	'Motivation' article	<ul style="list-style-type: none"> • Introspection – Think aloud task • Concept maps • Oral presentation • Semi structured-interviews • Task questionnaire • Scaffolding questionnaire

The rationale for asking students to create concept maps is in line with STI requirements about materializing abstract concepts and the maps serve as a tool in this process. Text-based comprehension (Kintsch, 1998) alone is not sufficient for academic success. Prior knowledge application to define purpose(s), to verify hypotheses, and to infer and question content is also required (Macaro & Erler, 2008). The maps offer a view of learning as a cognitive change within a single continuum that extends between rote and meaningful learning and has the following characteristics (Novak, 1998: 19).

- (1) Relevant prior knowledge.
- (2) Meaningful material.
- (3) The learner must choose to learn meaningfully.

A quantitative approach was followed for assessing maps by comparing them to two "expert" maps [one expert map for each academic article (pre and post sessions)]. The coring system was adapted from Novak and Gowin with three main concept map components: propositions (i.e. number, accuracy, cross-links), hierarchy levels and examples. The students' scores were divided by the criterion (expert) map score to give a baseline for comparison. The agreement percentage between the coders was 92.3%, Cohen's kappa was 0.852 and there were 12 agreements and 1 disagreement in total.

Findings and discussion

Insights from concept maps

The comparison of the students' pre and post concept maps revealed interesting information as it can be seen in Table 2 below:

Table 2: Pre and post-treatment concept map scores – Student and expert map scores

Student	Pre-treatment concept maps		Post-treatment concept maps	
	Raw CM score	Similarity with expert map (%)	Raw CM score	Similarity with expert map (%)
S1	80	66.1%	70	90.9%
S2	101	83.4%	71	92.2%
S3	90	74.3%	70	90.9%
S4	58	47.9%	71	92.2%
S5	60	49.6%	54	70.1%
S6	92	76%	69	89.6%
S7	62	51.2%	60	77.9%
S8	78	64.4%	68	88.3%
S9	89	73.5%	70	90.9%
S10	44	36.3%	60	77.9%
S11	33	27.2%	53	68.8%
S12	81	66.9%	71	92.2%
S13	65	53.7%	47	61.0%
Average	71.7	58.6%	64.1	83.3%
Expert map score	121	100%	77	100%

At a post-treatment stage, the students' raw concept map scores had increased in similarity with the expert's map and this was because the maps were more enriched after the treatment phase. Student 12 whose post-treatment raw concept map score was 71 and was lower than the pre-treatment concept map has now created a map that is 92.2% similar to the relevant expert map (compared to the pre-concept map which was only 68.9% similar to the relevant expert map). This suggests that the student's map represented the same main and important concepts and the student was successful at identifying the various levels of hierarchy and at establishing links between concepts (cross-links). This can therefore translate into an ability to demonstrate high levels of comprehension since the student is able to evaluate the importance of terms, add them and synthesize a map that depicts the complex relationships between concepts.

Successful types of online support and tasks

In terms of the 4 broad scaffolding techniques the recordings of the students' online activity revealed that the Process models (i.e. accessing exemplary answers, concept maps, external links, etc.) were viewed as having the highest support with 11 of the students indicating this support level as "major". The Reflective social discourse features (i.e. comment boxes, peer-evaluation, notification system with message alerts) were rated second as 8 students indicated it offered "major" support. Process prompts (i.e. built-in hints for the completion of the tasks) were rated third as 6 students indicated it offered major support. Finally, Process displays (i.e. task completion and progress indicators) were the least supportive features with only 4 students indicating it offered "major" support.

With regards to tasks, the peer-assessment workshops were very popular among students. The use of comment boxes was a quite frequently used source of scaffolding for students. It was mentioned by nine out of the thirteen students and it was mostly related to cases where the students received (or gave) feedback from/to peers or the tutor either in the workshop or Forum areas. Student 7 mentions that in one case the "comments provided in the workshop area" allowed him to develop the stages of a task later on and that the advantage of this was that feedback was not visible to other users. However, Student 8 mentions that did not feel uncomfortable by the feedback in the forum area as the students "could see examples and feedback from others and make comparisons or incorporate more positive elements" in their work. With regards to the peer-feedback option Students 3 and 6 mentioned that it was "very positive when appropriate comments (in detail) and fair marks were given" whereas Student 2 mentioned that "it was enlightening to experience this and see the perspectives others have on doing the same task".

Verbalisation and conceptual development

By analysing the interview data, two general patterns of presentation structure emerged at both pre and post treatment stages and are presented below. Some of the students were already familiar with the delivery of presentations and followed a generally acceptable pattern and others experimented with their options. The Pattern of presentation structure 2 (Table 3 below) corresponded to 7 of the students' presentation structure. They adopted a basic organisation though, and the explanation of related links (d) below was not a fully developed section. This reflects the students' low conceptual ability at this stage (as they were not able to establish/describe connections between concepts).

Table 3: Patterns of presentation structure at a pre and post treatment stage

Pre-treatment stage		Post-treatment stage	
Pattern of presentation structure 1	Pattern of presentation structure 2	Pattern of presentation structure 1	Pattern of presentation structure 2
a. Introduction to the topic	a. Introduction to the topic	a. Introduction to the topic	a. Introduction to the topic
b. Definition of concept 1	b. Outline of the article structure	b. Definition of the main concepts	b. Presentation of the key concept
c. Example	c. Presentation of the main ideas	c. Examples	c. Overview of the concept map and ideas
d. Explanation of how it relates to other concepts in the field	d. Explanation of related links	d. Analysis of the relationships between concepts	d. Explanation of the connections between ideas
e. Definition of extra concepts	e. Provision of examples	e. Definition of extra concepts	e. Presentation of how this links to the article
f. Explanation of the article's arguments	f. Conclusion	f. Explanation of the author's purpose and stance	f. Examples
g. Conclusion		g. Conclusion	g. Conclusions

From the analysis of the interview data, it appeared that the students were guided through the various steps of presentation preparation during the three-day training, incorporated feedback and suggestions from the previous two presentations and followed a much more improved and acceptable presentation pattern. The post-treatment presentations show that the students adopted an improved presentation organisation and the analysis of related links is an issue that reflects the students' higher conceptual ability at the moment (as they are able to establish/describe connections between concepts, bring examples and critically analyse and synthesise a presentation that reveals their personal comprehension of the article's content and concepts).

Conclusion

Subsequently this study contributed to the growing body of research into the potential role of scaffolding and ZPD in online environments as a means of facilitating L2 learners' EAP training, into the affordances of online environments to develop the students' reading skills and lead to overall conceptual development. It has also extended the boundaries of the reading and speaking EAP instruction context by transferring the learners' activities and training online within a course management system like Moodle and by adopting a Socio-cultural theory (SCT) approach that has not yet been explored and therefore calls for more research.

With regards to suggestions about how the scaffolding options could have helped students proceed with completing tasks successfully, students mentioned that an additional idea would have been to “use more external links to websites with examples of how to perform a specific task such as creating a concept map” whereas it was brought to our attention that it would have been better if during workshops student work was allocated for marking to other students anonymously. Finally, it has also been found that in the future more online feedback should be provided to the students who make mistakes if they wish to see more examples of specific suggestions for instance. This opens up possibilities for further research studies with a higher number of online participants and with a longer duration.

CALL in Context

This contribution shows in more detail the extent to which technologies and in particular learning management systems such as Moodle can be personalized and address the local context of the EAP learners in an academic environment. Our online pedagogic unit is a good example of how educators can create courses that address the needs of higher education students by preparing exercises and embedding scaffolding features that the students can consult depending on their own personal needs. The design of our online unit is also in line with the UK higher education requirements as its purpose is to address specific language training needs. Therefore, context in this case dictates certain choices in terms of the types of tasks and student interaction that Moodle’s affordances can satisfy (peer-review, self-assessment, creation of concept maps, creation and delivery of oral presentations). With regards to personalizing the learning process, as the unit has taken into account the fact that different types of scaffolding features could support the completion of different tasks the students free to choose which features they would use to ensure successful completion of the tasks. Finally, this study forms an example of the way in which teaching practitioners could exploit the affordances of learning platforms and a range of features and tasks in order to offer a varied learning experience (depending on their set learning objectives). The designed pedagogic unit could be adopted by different tutors and the proposed tasks and content could be very easily adjusted to meet individual student needs.

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Improving ICT Integration in Language Classrooms: Voices from Teachers in Indonesian Province of Gorontalo**Bio data**

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Abstract

Since Information and communication Technology (ICT) has revolutionized society in the 20th and 21st centuries, it is evident that innovative approaches based on the advanced and dynamic technologies are challenging traditional pedagogy approaches. Although there has been an extensive growing amount of research literature showing the positive impact of Information and Communication Technology (ICT) on the quality of teaching and learning, the evidence base for ICT integration in classroom remains largely underdeveloped and underperformed. Findings from the previous recent studies show a gap between the proposed ICT curriculum at the macro-level and the actual use of ICT in the classroom. This current study identifies types of lesson learned from an interview conducted to a group of 20 secondary school English for Foreign Language teachers in Indonesian Province of Gorontalo coming from different schools from different areas in respect to their ICT access and integration. The questions that have guided this interview were to what extent they integrate ICT in their classroom, how they encountered challenges and what should be done to help them successfully integrate ICT in classrooms. Teachers in this study have reported that regardless their willingness to integrate ICT in their pedagogical practice, ICT works in some schools but hardly in another schools for some reasons. Institutional support, basic infrastructure and ICT-related facilities, teacher professional development and teacher collaboration have been suggested as key factors for the sustainability and success of their ICT integration in their classrooms.

Conference paper

Introduction

The vast spread of Information Communication Technology (ICT) has impacted education in general as one of the many strata of a nation's development. The adoption of ICT employed within the education sector by government is part of the overall national development strategy to be competitive and invest in creating a 21st century nation. The implementation of ICT in education and the potential for its growth has only been limited by the capacity of individuals, organisations and countries to acquire and deploy the necessary technology skills, resources and strategies. A number of studies suggest that one of the significant issues in education field, particularly in English as a Foreign Language (EFL) is that teachers do not make maximum use of Information Communication Technology (ICT) available to them (Cahyono, 2012; Pelgrum, W. J. , 2001; Tondeur, J., et al., 2008). There have been a lot of reasons given for the relative lack of use of ICT, such as an under-commitment to include ICT training in in-service programs (Ana-Belén Sánchez-García, et al, 2013; Nair, G.K.S et al, 2012), Professional Development (PD) programs that have failed to utilise best practice criteria (Brown, 2003; Hew, K. F., & Brush, T., 2007), and the amount of support by management within educational institutions (Harendita, M. E., 2013).

Settings and Methods

As one of the 34 provinces in Indonesia located in the main island of Sulawesi, Gorontalo province has been rapidly growing in their economy, demography and human development and socio-culture. Over the past three decades governments, school systems and schools have made considerable investments in providing information communication technologies (ICT) to support teaching and learning. These initiatives have been strongly endorsed by national and international organization and authorities across the world. The major aims of this provision have been to enhance teaching and learning, and to better prepare students for participation in the emerging knowledge economy and information based society. Numerous studies have provided accounts of successful and impressive use of ICT in schools and classrooms yet there is little evidence of a sustained transformation occurring. In particular, teachers need to be in the frontline of this transformation on their capacity and pedagogies change for the potential benefit in their classroom.

This report is the part of the study conducted to investigate ICT integration in EFL classrooms in Indonesian province of Gorontalo as the context. The semi-structured interview was conducted to a group of 20 Secondary high school EFL teachers. The questions that have guided this interview were to what extent they integrate ICT in their classroom, how they encountered challenges and what should be done to help them successfully integrate ICT in classrooms.

Findings

The study identifies types of lesson learned from an interview conducted to a group of 20 secondary school English for Foreign Language teachers in Indonesian Province of Gorontalo coming from different schools from different areas in respect to their ICT access and integration.

A. Some Common Misconceptions of ICT Integration in Classrooms and How They Affected their Teaching Practices

1. I am not good at technology

The findings of the study show that teachers used their lack of confidence and skills in using ICT as one of the main reasons why they did not use ICT in classrooms. There had been a misconception among teachers about ICT integration. Understanding the complexity of

technologies and their application, it caused anxiety and misconception among teachers saying that only those who are good at technologies who can use it.

2. Using ICT takes a lot of time and preparation

This study found that there have been quite significant numbers of teachers who mentioned that using ICT in the classrooms required a lot of time to prepare and it was somewhere preventing them moving forward with technology integration. In addition, teachers had faced a high pressure of being able to follow the curriculum standard set by the national policy makers, provincial/regency officials and school officials. They were also required to ensure that their students are being ready for the national exam. With those sorts of mandates and standards leave no desire of many teachers to try new approaches. Using ICT was becoming new load or even burden if they are not well prepared to plan and implement it properly.

With this situation, it is important for teachers to realize that students now live their lives with technology and the teachers should make time for technology to relate better with their students. It may take time to starting out on teaching with technology, but like all experiences, as it turns into a routine, it will be quicker and easier. And there are many usages of technology that can actually help teachers to save time such as managing students' profile and grading assignments.

3. Technology brings negative effects to students

Another misconception about the ICT retrieved from the interview in this study was that the teachers and parents worry that introduction of technology in school will distract students and impede their learning.

"Technologies may bring negative effects to students, as they will be exposed to inappropriate contents from the website or social media. That also becomes parents' main concern" (Extract: Participant #6, 05:30)

"I just do not want my students get distracted with technologies. In teaching and learning activities, I have already had a lesson planning in place that need to be completed on time." (Extract: Participant #9, 04:10)

With the above mentioned misconceptions, they could potentially promote a sense of fear among teachers and impede the adaption of educational technology. The fact that technology is going to encompass into every aspects of education and changes, both subtle and disruptive, are inevitable. Teachers, national/provincial government, school officials and others including parents should work together and make the best use of technology to improve teaching and learning and prepare students for the future.

Teachers who felt positive about using technologies in their classroom shared their experiences and lesson learned in how they addressed this misconception. The concerns could be possibly anticipated by introducing security measures as well as promoting the digital age culture. There are various options available to limit the content that can be accessed or help teachers monitor the students' usage of the devices. Teachers should not be afraid of giving up a certain amount of control to students. A healthy and innovative culture of learning will motivate students to take their own responsibility and better prepare them for the real world.

B. Challenges in ICT Integration and Key Factors to Address Them

Teachers in this study have reported that regardless their willingness to integrate ICT in their pedagogical practice, ICT works in some schools but hardly in another schools for some reasons. The following points have been suggested as the challenges and key factors for the sustainability and success of their ICT integration in their classrooms.

Basic infrastructure and ICT-related facilities

Based on the interview, the result shows that school educational technology infrastructure still sits on top of the main challenges. With regards to this technology infrastructure and equipment, teachers reported lack of language/computer laboratories, basic supported infrastructure like electricity, staff computer hardware, classroom equipments, internet connectivity issues at school and classroom, and limited student access to home Internet as barriers.

However, there has been a variety range of access from one school to another. Some teachers reported that they had relatively sufficient access to those facilities, but some others reported that they had inadequate acces to it.

In some schools, a lack of ICT in teaching and learning activities for example, has not been attributed to the absence of a power supply anymore, but rather to a lack of policy imperative or gaps within schools' operational budgets. In contrast, electricity is still a significant obstacle to integration of ICT in their teaching practices especially in schools located in rural areas.

Effective technology integration would be impossible to achieve without comprehensive technology infrastructure. To plan, develop, and provide proper technology infrastructure, school officials must become familiar with emerging technologies and the infrastructure required to utilize them.

Institutional support

Institutional support including provincial/regency level policymakers and school management are in a strategic position to bring about change in teachers knowledge, skills and capacity building in ICT and the way how teachers implement the principles of ICT integration in the classroom. Teachers in this study revealed that school support particularly the school officials accounts for the majority of the success of teachers professional development. The result of the study reveals that when school officials promote the initiative of technology integration, the necessary support and necessary attention to enhance technology infrastructure shall be usually provided. Once comprehensive infrastructure is in place, school officials may devote their attention to technology integration. In addition to leadership, other essential conditions may assist successful technology integration. These essential conditions are introduced below.

Responding to an understanding that ICT will be a fundamental requirement for teaching and learning, some teachers who come from schools in the rural areas reported that their schools still do not have a comprehensive policy on ICT in teaching and learning that sets out general principles, guidelines and strategy. Initiatives to implement ICT in their teaching practices come from the teacher itself. They did not have enough support to attend professional development outside their schools. School principal in this respect is normally the key personnel to make this policy happens. The strong leadership of principal has been reported to account for the teachers continuous support to undertake their in-service teacher professional development.

Teacher professional development

Teachers reported in this study that with so many pressures from students and school, as well as from government educational change agendas, teachers are placed in positions where they have good cause to feel anxious. In schools, ICTs are mandatory for inclusion in all curriculum content areas. With the growing demand for teachers to be confident and competent users of ICTs for their personal and professional lives; these teachers had shedlighted the importance of continuous teacher education and professional development. They suggested that the teacher professional development plays a pivotal role in preparing them to successfully integrate ICT in language teaching.

Teacher collaboration and mentorship

Teacher collaboration and mentorship are regarded as the ways in which professional development activities promote professional communication among teachers who are engaged in efforts to reform their teaching in similar ways. Teachers are encouraged to maintain an ongoing discussion among teachers who meet similar issues. This communication can facilitate change by encouraging the sharing of solutions to problems, as well as by reinforcing the sense that, with time, improvement is possible.

Teacher reported that the collaboration initiatives normally come from different ways. Some stated that the teachers usually have regular formal meetings between the same subject teachers group set up by the provincial/regency education department or local area authorities. They discussed about their teaching and learning practices, issues they encounter when they tried to apply new teaching method in their classrooms, or the new ideas in teaching and learning that they got from the conference/seminar/workshop they recently attended or from the book or website they read.

Another collaboration also could happen based on the assignment or course project that they got from their teacher professional program or the university course they attend. Some teachers had positive feedback on this kind of collaboration. Evidence shows that these networks of teachers involved to some extents can help sustain motivation and maintain their willingness to try something new in their teaching practices. They also found that through this collaboration, they could find peer-mentorship who could help them individually from the range of different teaching issues.

"It is always good to meet with the other teachers to discuss about new teaching methods. I got some good ideas about ICT application from my friends in MGMP (stands for *Musyawarah Guru Mata Pelajaran* – Teacher Clusters). (Extract: Participant #12, 09:10).

"I am not that good at technologies. But, when you work together, you could always seek some advice from other teachers. (Extract: Participant #14, 10:15)

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Application of foreign language courses in electronic language environment eLang

Bio data



Ekaterina Barancheeva is an associate professor of Russian Language Department at Novosibirsk State Technical University (Novosibirsk, Russia). She has wide experience of designing Russian language courses for different levels of non-native Russian speakers. Her research interests include computer assisted language learning, language acquisition, lexical semantic and discourse analysis

Abstract

The current paper is devoted to the issues of application of informational and communicative technologies in foreign language teaching. These issues are in the focus of the paper through the discussion of the designing of the electronic language environment eLang (www.elang.nstu.ru) in NSTU (Russia). The author describes the conditions of elaborating of this educational environment, designed especially for the language courses. As a conclusion the paper touches the possibilities of using of the newly elaborated language environment both for students and language instructors.

Conference paper

The current development of foreign language teaching and learning is tightly connected with the rapidly growing area of computer-assisted language learning (CALL). This area is devoted to the great number of new challenging teaching technologies, promising ideas of autonomous learning and personalization of learning process, designing and applying new software for second language learning. CALL emerged as a distinct field with the spread of the personal computer in 1980s (see reviews in Warschauer & Healey, 1998; Salaberry, 2001); modern approaches in this field deal with the crucial issues about the quality of learning materials for personalized studies (see Schwienhorst 2008) and about innovative software (programs, learning environments, on-line platforms) that can improve teacher productivity and materials development (see Hubbard 2009).

The current work focuses the wide range of issues of modern CALL theory and practice. It's based on the practical case of developing electronic language learning environment (eLang) for the needs of language learning and teaching.

Designing the electronic language environment eLang (elang.nstu.ru) in Novosibirsk State Technical University (NSTU) was a part of a large university project "Modernization of education process in NSTU" that was carried out during 2012-2016. The goal of the project

was to design an on-line environment for creating electronic study materials in different foreign languages. This environment applies modern requirements of computer-assisted language learning and modern language didactics, and it focuses on self-study foreign language improvement for undergraduate and graduate students, as well as everyone (teachers, instructors, technical and administrative officers) linked to the university corporate system. The first presentation of the created environment was held on the 14th of May, 2014.

This project brought together the groups of foreign language teachers (of English, Russian, German, Japanese, Chinese, Polish, Spanish, Italian) and technical officers, who collaborated in shaping the concept of the new special language environment, formulated the technical objectives and task, created the bank of learning materials in different foreign languages.

Each step of work on the projected was aimed to the specific planned outcome: figuring out the language specifics of the environment and types of learning tasks bound with concrete language-learners, correction the functional options of the environment and design variants, testing the environment, improving the learning functions of the environment, and analyzing the feedback. Testing and functioning procedures was held in two modes: course editor's mode and student's (user's) mode. Testing the first (editor's) mode includes such issues, as authorization (number of course authors), designing the course modules and the whole structure of the course, creating the tasks of different types and additional features for each type of the task. Testing the student's (user's) mode included issues of creating the individual learning trajectory for every user, options of switching between the modules and tasks of each module, options of self-checking, scanning the mistakes and analyzing the gaps in the material that was already learnt. Testing the electronic environment enabled gathering suggestions for the further technical development of the system working in the mode of "Editor/Teacher" and in the mode of "Student/User". Creating and editing the tasks by the language instructors was carried out in the mode of "Editor/Teacher", but at the same time it was possible to switch to the user's mode and to see the target material with the potential student's eyes.

Working on the described project united technical support group and language instructors teaching at the different Faculties of Novosibirsk State Technical University. Such collaboration resulted in designing the course of Russian as a foreign language (A2 level), English (B1) course, course of English for Press Office, German (A1) course, Business Japanese course, Basic Chinese course (A1). The course of Polish language (B1) was started as well.

The course of Russian as a foreign language designed under my supervision is oriented to the foreign students' needs who reached the elementary (A1) level and wish to improve their language proficiency at A2 level. This means that the course needs to match the language level satisfying basic communicative intentions and motives related to the areas of immediate personal relevance in the conditions of new social and cultural environment (see Common European Framework of Reference for Languages: Learning, teaching, assessment, 2001). The course aims to the interrelated learning of different speech performances and forming the communicative competence for each learner. The electronic course has such fundamentals as communicative approach in teaching foreign languages and communicative situation orientation in language input. The legal basics of the course are supported by State Study Standards for Russian as a foreign language, issued in 2001 and later (Gosudarstvenny standart (eng. State Standard), 2001). The course is designed for the individual language learning and includes the following elements: input test with 60 tasks, 9 study modules, final test with 75 tasks, and reference bank for the whole course with the links from each module. The modules are titled as in a typical paper language manual for this level: «about me», «my family», «my studies», «my home», «my shopping», «visit to the doctor», «my working day», «my city». These topics are also described as key ones in State Study Standards for Russian as a foreign language. The electronic course contains texts and audio, video materials with

corresponding transcripts. All these materials are culture oriented; they touch the realities of living in modern Russian society. By this we could enable language and culture adaptation of language learners, so university students can be aware of real language usage in modern discourse before starting the traditional language course in the university. The prospective outcomes of this research lie in the domain of integration of this course in the university language learning strategy, creating blended courses and finding the ways for personalization of this course for different learners.

CALL in Context

My current research is mostly based on the issues of appropriate technologies (on-line electronic courses) for the effective individual language learning. The question arisen by CALL organizers "How to determine the role and shape of the most appropriate technologies for our context?" is very challenging for previous researches in CALL (Higgins, 1988; Levy, 1997; Warschauer & Healey, 1998; Davies, 2001; Hubbard 2009) as well as for current research. It's argued in my paper that the shape (design and technical options) of electronic language learning environment must be oriented to the language learners' needs and objectives. That includes particular mutual interest of the technical support group and language instructors group to create unique learning environment for development learners' listening, reading, writing skills in individual trajectories. Computer assisted language learning has its strengths and its limitations for language learners: working on the electronic language learning environment eLang (elang.nstu.ru) highlighted the ways of the most effective electronic learning with the possible and evident learning gaps.

The described language environment was created in two formats: in editor's format (for designing university language courses by language instructors) and in learner's format (for individual study by language learners). These formats were considered to have different options of layout and navigating, each format had specific basic and modified options for more freedom in language course designing and learning. At the same level the tasks of the particular course are always in correspondence with the chosen language level and the needs of learners who can have different learning strategies and different study problems. It has always been a problem to coordinate the stable shape of the technical system and the real needs of learners, and my paper deals this issue on the material of electronic course.

The designed model of the language learning environment (elang.nstu.ru) was tested during my work on electronic course of Russian language (A2 level). The process of language course designing included defining the limited input language material (vocabulary and grammar), working on relevant for the chosen level types of tasks, creating functional reference bank, and finding learner-friendly options for navigating individual learning trajectory. The case of practical study of electronic Russian course by foreign university students is described in the current report as well. The paper is concluded by the hints acquired from the comments of the users (instructors and students) about further electronic course improvement.

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Observing students' linguistic variation in an online intercultural exchange

Bio data

Marie-Thérèse Batardière is a lecturer in French at undergraduate and postgraduate levels at the University of Limerick, Ireland. She is also involved in teacher training and university-school partnerships. Her research interests include the impact of Study Abroad on L2 learning as well as the use of computer-mediated communication to enhance language learning/teaching and promote intercultural collaboration.

Abstract

The study examines the effect of telecollaborative intercultural partnership on the development of second language (L2) learners' linguistic variation focusing specifically on the variable use of two subject pronouns *nous* and *on* by native speakers (NSs) and non-native speakers (NNSs) of French. Drawing on qualitative data collected from the transcripts of a text-based discussion forum, it first attempts to establish if the NNSs' use of the two variants is conditioned by the same linguistic and extra-linguistic constraints that determine the NSs' alternation between *nous* and *on*. The second aim is to identify (for each NS/ NNS dyad) the patterns of use of the two pronouns in semi-formal 'conversations' (Batardiere & Helm, 2016) and determine if and when second language users begin to emulate native speakers' sociolinguistic norms (van Compernelle & Williams, 2009). Preliminary findings suggest that the intercultural CMC project provides a rich context in which L2 learners can develop their sociolinguistic competence.

Conference paper

Introduction

Kramsch (2014) argues that the advent of globalisation "has changed the conditions under which foreign languages (FLs) are taught, learned, and used. It has destabilized the codes, norms, and conventions that FL educators relied upon to help learners be successful users of the language once they had left their classrooms" (p.296; my emphasis). Motivated practitioners emphasize the necessity of integrating web-based tools into the language classroom and the value of providing second language (L2) learners with an authentic context in which the world of formal education interacts with the wider world (Thorne, 2006). Moreover, computer-mediated communication (CMC) between native and non-native speakers (NSs/NNSs) give access to *expert peers*. This (tele)collaborative learning environment has been found to be conducive to the development of target language pragmatic competence as this approach "may expand the variety of discourse options to which learners are exposed" (Belz, 2007, p. 52).

Even though CMC environments are seen as rich contexts of social interaction, van Compernelle & Williams (2009) point out that “there is a growing body of literature on sociolinguistic variation in French chat, but other forms of CMC (e.g., discussion fora, weblogs) have received less attention” (p.495). The need to explore learners’ pragmatic development in more naturalistic online interaction, outside of a classroom setting, is particularly important if we are to acknowledge the ‘social turn’ (Block, 2003) in second language research.

With these remarks in mind, this paper explores the effectiveness of an online discussion forum to “provide a fertile context for non-native speakers to manifest and further their sociolinguistic competence” (Kim & Brown 2014, p.264).

Context of study

A well known sociolinguistic feature of the French language discourse was selected to observe NS and NNS linguistic variation in the *context* of CMC: the use of the subject pronoun *nous* (the more formal variant) for first-person plural pronoun ‘we’. The informal variant *on* (also used as the indefinite third-person singular pronoun “one”) commonly replaces *nous* in many types of spoken communication and to a lesser extent written communication contexts. Its widespread use in informal discourse *has attracted the attention from researchers* (for an *overview* see Dewaele, 2004). Summarising the sociolinguistic research on the variable use of the two pronouns *nous* and *on* for “we”, Dewaele (2007) states that there are “very clearly so-called pendulum effects in French NNS whereby an initial over-use of the formal variant is often followed by over-use of the informal variant as learners are keen to sound native-like, meaning informal” (p.218). Regan et al. (2009) argue that the study abroad context has a strong and positive effect on L2 learners’ awareness of sociolinguistic variables due to the prolonged contact and the authentic use of French with native speakers.

Method

The data analysed in this study come from a non-traditional type of written discourse in a third level educational context: the threaded discussion transcripts from twelve NS-NNS dyads involved in an eight week asynchronous online exchange carried out outside of *class* time and with no instructor presence. The NNSs were Irish undergraduates who had spent a six-month period abroad in France, Belgium or Luxembourg, on a study programme or work placement and had an upper-*intermediate* or *advanced level* of French. The NSs were on-campus Erasmus students. They came from French and Belgian universities and were unknown to their Irish partners.

Lending support to Herring’s (2011) assertion that CMC *is* ‘conversation’, it was expected that this semi-formal learning context would lead to more spontaneity and interactivity in students’ written discourse, thereby allowing for stylistic variation.

The written corpus comprises approximately 56,000 words (the 12 NS-NNS dyads produced a total of 151 one-to-one messages with an average post length of 300 words). The topics of discussion varied from the Euro zone crisis, a European language policy, the legalisation of marijuana, same-sex marriage, etc. The Antconc concordance software (Anthony, 2014) was used to retrieve all instances of the two pronouns with their context of occurrence in the corpus. Each token of *nous* and *on* was then manually reviewed. Tokens of *nous* (we) were coded according to their grammatical function (e.g., subject pronoun (see token 4/ Figure 1), object pronoun (see token 2/ Figure 1), disjunctive pronoun (see token 7/ Figure 1). Only tokens of *nous*-subject pronoun were kept for the final analysis.

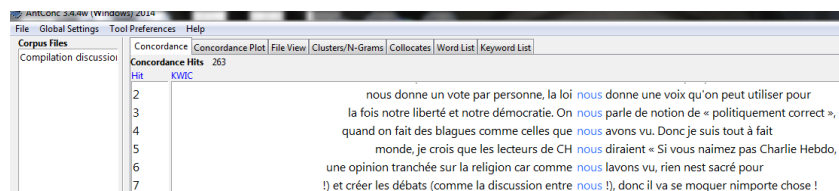


Figure 1. Sample concordance lines for *nous*

Tokens of *on* were coded either *on*-indefinite (i.e., the subject pronoun *on* is used as the equivalent of the English pronoun “one” (see token 21/ Figure 2) or *on*-definite (i.e., *on* is used to mean ‘we’). The labelling of *on*-definite tokens was generally aided by a context clue in the concordance line (see token 19/ Figure 2; context clue: *toi et moi*). Ambiguous cases of *on* (n=3) were included with indefinites (van Compernelle, 2008). Tokens of *on*-indefinite were set aside to allow for comparison of students’ use of *on* “we” versus *on* “one”.

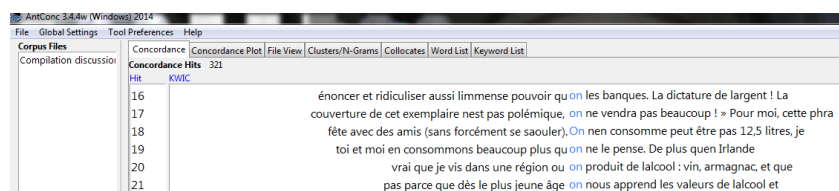


Figure 2. Sample concordance lines for *on*

Results and discussion

While a comparative analysis of the frequencies of the two subject pronouns shows varied patterns of use (and non-use) at individual level (as shown in Table 1), there is nonetheless a clear overall trend in the use of these pronouns: *the formal variant nous* (Table 1/ column 1) shows a high rate of use (accounting for 67% -n=228/342) of the first person plural contexts) while the informal variant *on*-definite (Table 1/ column 2), shows a significantly lower rate of use with 114 *on*-definite tokens (33% -n=114/342) of all “we” reference) found in the corpus. Worthy of *note*, over two-thirds of *on* tokens (64% -n=203/317) were used for indefinite reference, its traditional generic function (Table 1/ column 3).

Dyads' topic/ partner ↓	Tokens of →	NOUS subject	ON- definite	ON- indefinite
1.The Euro zone crisis / NS (M)		7	0	4
1.The Euro zone crisis/ NNS (M)		6	0	16
2. Binge drinking in EU countries/ NS (F)		26	11	3
2.Binge drinking in EU countries/ NNS (M)		10	21	11
3.Maastricht 20 years on/ NS (F)		12	1	13
3.Maastricht 20 years on/ NNS (M)		57	3	2
4.The legalisation of marijuana/ NS (M)		3	5	13
4.The legalisation of marijuana/ NNS (F)		2	5	2
5.Fashion & youth image/ NS (F)		6	2	2
5.Fashion & youth image/ NNS (F)		9	12	5
6.Freedom of speech / NS (F)		19	3	5
6.Freedom of speech / NNS (M)		2	3	10
7.Youth unemployment in Europe/ NS (M)		1	6	3
7.Youth unemployment in Europe/ NNS (M)		19	1	0
8.Same-sex marriage/ NS (F)		0	2	17
8.Same-sex marriage/ NNS (F)		12	7	15
9.The tech addiction/ NS (F)		4	0	2
9.The tech addiction/ NNS (M)		4	0	2
10.Language policy in the EU/ NS (F)		4	17	42
10.Language policy in the EU/ NNS (F)		9	12	24
11.Obesity 'the new norm'/ NS (M)		2	2	3
11.Obesity 'the new norm'/ NNS (F)		6	0	0
12. The decriminalisation of prostitution/ NS (F)		5	1	7
12. The decriminalisation of prostitution/ NNS (F)		3	0	2
Total number of tokens		228	114	203

Table 1. Distribution of use of nous, on-definite and on-indefinite in ACMC discourse

At an individual level, two distinct patterns of variation emerge with the use of *nous* versus *on*-definite: (i) students who use either *nous* or *on*-definite categorically and (ii) students who alternate between *nous* and *on*-definite. Nearly half the students (5 NSs and 6 NNSs) use exclusively *nous* while one (NS) student uses *on*-definite nearly systematically to express “we” (Table 1/ Dyad 10). In parallel to this restricted use, one third of the students (3 NSs and 5 NNSs) alternate between the two pronouns.

The presence of *nous* remaining strong in students’ asynchronous online discourse is in sharp contrast to the rate of *nous* in *synchronous chat* discourse (van Compernelle, 2008) but can be expected as stylistic features from both speech and writing are at play in this CMC mode (Herring, 2011). Nonetheless, the extensive use of the formal pronoun *nous* by some NNSs (Dyads 3, 7 & 11) would suggest that these students have not fully grasped the sociolinguistic rules for the inclusion of its variant *on*-definite. Conversely, the alternate use of *on*-definite and *nous* by some NNSs (Dyads 2, 5 & 10) corroborate previous research on students’ tendency to increase their usage of informal variants in their ‘speech’ after a period of immersion in the target language.

Arguably, pointing out a lack of knowledge of the stylistic constraint by some students may not be sufficient to explain NNSs’ preference for the more formal written variety of the language, especially when, as previously mentioned, NSs seem to have made the same choice (Dyads 2, 3, 5, 6, 9, 12), nor to provide a rationale to the large amount of *on*-indefinite pronoun in many dyads.

This prompts us to posit that extra-linguistic constraints, namely the topic of the discussion, the dyad dynamics and the exposure to a model of stylistic variation might have had some bearing on partners’ range of linguistic variants.

The first hypothesis stipulates that for some dyads the degree of engagement in the discussion topic influenced their choice of variants. Indeed, it was found that linguistic variation served to express how the students *position themselves in relation to the issue discussed* (Coveney, 2000), as illustrated in examples 1 & 2 below:

(1) *Bien sûr, nous pouvons faire quelque chose. Il y a beaucoup de pétitions en ligne! [...] Si on met la pression suffisante sur le parlement européen, je crois que nous pouvons faire une différence.*

Of course, we [(past) Erasmus students] can do something. There are a lot of petitions on line. If we [EU citizens] put enough pressure on the European Parliament, I think that we [(past) Erasmus students] can make a difference.

(NNS/M - Dyad 3)

The formal variant *nous* is used here to stress the student’s association (and that of his partner) to the “we”. *Nous* also helps clarify the rather vague *on*-definite (referring to a larger group) in the previous line.

(2) *Donc, nous sommes d’accord: le fait qu’on dit toujours qu’on n’a rien à porter même quand l’armoire est pleine montre les valeurs des jeunes européens: on n’est jamais content de ce qu’on a.*

So we [both of us] agree: the fact that we [young people] always say that we [young people] have nothing to wear even when the wardrobe is full shows the values of young Europeans today: we [young European] are never satisfied with what we [young European] have.

(NNS/F - Dyad 5)

The formal variant *nous* here is used to emphasize the dyad grouping versus the *on*-definite used thereafter (with its various referents). *Nous* also helps convey a sense of entity and introduces an assertion which the student formulates using a more distancing *on*-definite.

The second hypothesis proposes that the rapport (i.e., relationship) between dyad partners affected their range of formal/ informal variants. Our findings clearly support this assumption. In dyads where a social bonding was established, dynamic interactions allowed for wider linguistic variation, as illustrated in example 3 below:

(3) *Ça va? Ne t'inquiète pas pour le retard, je sais qu'on est bien occupées en ce moment avec les études. Pour revenir sur le débat initial, je pense qu'on peut récapituler un peu. Nous (les jeunes) ne voyons pas de problème avec un changement des traditions. Cela dit, on pourrait dire que c'est un stéréotype.*

You are okay? Don't worry about the delay. I know we [both of us] are kept busy with studying at the moment. To get back to the initial debate, I think that we [the dyad] can summarise a bit. We (young people) do not see any problem with a change of traditions. That said, one could say/ it could be said that this is a stereotype.

(NNS/F - Dyad 8)

The informal variant *on*-definite is used at the start of a new discussion post. In the first instance, the student chooses it to express -in a casual tone so as to keep the matter lighter empathy and affinity towards her partner. In the second instance, *on*-definite helps put their relationship into context, that of a collaborating dyad. The introduction of the formal variant *nous* brings back a bit of formality to the conversation. The *nous* is reinforced by the addition of *les jeunes* to clear all ambiguity with the previous reference to the dyad. The *on*-indefinite attempts to give an external perspective to the dyad's debate.

The third hypothesis suggests that the exposure to one partner's style of discourse brought similarity in dyads' selection of variants. Our results indicate that this is the case. Most dyads shared at least one preference or dislike for one of the two pronouns, as illustrated in example 4 below:

(4) Excerpt from Dyad 1/ NS and NNS are both male students.

A ton avis, pourrait-il être mieux pour tout le monde si on n'imposait moins de règles dans la zone? NNS

Je pense que nous vivons dans un monde régit par d'innombrables lois et de règles [...] Nous sommes, comme on l'entend partout, en période de crise et je pense qu'il y en aura toujours. NS

Je ne suis pas certain que nous serons toujours en période de crise ou d'incertitude. On peut se poser la question, est-ce qu'il y a un futur réel pour la zone euro ? [...] NNS

Je pense sincèrement que nous sommes en phase de transition. L'économie ne peut pas être prospère sans confiance. [...] NS

Oui, c'est vrai que nous sommes perpétuellement en panique. [...] NNS

In your opinion, could it be better for everyone if there were fewer regulations in the Eurozone? (NNS)

I think that we (European citizens) live in a world governed by countless laws and regulations [...] We (European citizens) are, as we (everyone) can hear it everywhere, in times of crisis and I think that there will always be others. (NS)

I am not sure that *we* (Eurozone citizens/ countries) will always be in a period of crisis or uncertainty. *One* (anyone) can raise the question, is there a real future for the Eurozone? [...] (NNS)

I sincerely believe that *we* (Eurozone citizens/ countries) are in a transition phase. The economy cannot prosper without trust. [...] (NS)

Yes it's true (to say) that *we* (Eurozone citizens/ countries) are in constant panic. [...] (NNS)

The formal variant *nous* is introduced mid-way through the discussion by the NS *to make the issue discussed more tangible. Until then, the NNS seemed to favour the impersonal pronoun on-indefinite. In the subsequent interactions, it is evident that the NNS's discourse, with its inclusion of nous, mirrors his NS partner's choice of variant.* The formal variant also helps give a sense of responsibility and agency towards the European financial crisis debated here.

Conclusion

The study has provided insight into the development of the sociolinguistic competence of L2 learners engaged in an asynchronous intercultural exchange. It has shown that this learning environment, on a par with a study-abroad context, *gave* NNSs access to authentic NS discourse that was beneficial to this development. Moreover, the task-based collaboration allowed NNSs to experiment with linguistic variants during their paired interactions with NSs to the extent that some learners seem to have modelled their partner's linguistic behaviour.

The corpus driven analysis shed light on students' patterns of variation in the use of the French pronouns *nous* ("we") and *on* ("one" or "we"), underlining the fact that dyads' partners tended to share a similar rate of use of *on*-definite (in 6 dyads) or both pronouns *nous* and *on*-definite (in 2 dyads). This led us to reconsider our initial views on the NS/NNS dichotomy on linguistic variation. Indeed, an unexpected finding to this study was the significance of extra-linguistic constraints (namely the discussion topic and the dyad dynamics on the choice of the two variants. The analysis revealed that linguistic variation served to scaffold an argumentation and support collaboration.

To conclude, *this study lends further support* to Abrams's (2013) claim that "instructors should create [CMC] opportunities for learners to participate in socially meaningful exchanges" (p.440) where their sociolinguistic competence can be developed not only through exposure but through awareness raising and practice.

CALL in Context

How does the local context shape the design of our learning environment?

The invaluable opportunity to study a language in an international environment at our university lead us to consider the implementation of a number of face to face language exchanges in the late-nineties and subsequently in the mid-2000s, an online exchange which would bring foreign students into contact with home students. The intercultural Franco-Irish exchange is an asynchronous CMC project between Erasmus & home students. It can be, for the latter, either a *pre or post sojourn abroad learning experience and for incoming French-speaking students, a support for their integration into the host institution.*

The discussion forum feature is readily available in the Learning Management System (LMS) of our university. Home students are familiar with this platform (i.e. they visit it on a daily basis for most courses). The Erasmus Students attend a 30 minute training session on how to access, use and maximise the forum. Discussions are threaded (i.e., each NS/NNS dyad

focuses on a specific social or political issue). The collaborative online task is integrated into their respective course curriculum and is graded.

To what extent can technology contribute to the contextualization of the learning context?

This particular CMC context allows NNS and NS students to participate in an authentic dialogue outside the classroom, without the teacher but with the assistance of their peers (who are *experts* in their own *language* and *culture*). Dyads work at their own pace, with NNS' L2 *proficiency* ranging from *upper-intermediate* to *advanced* levels. Technological *affordances*, such as 'persistence of transcript', 'availability of quoting previous message' and 'possibility to include hyperlinks to video' on the university forum would seem to *encourage critical reflection* and promote the co-construction of knowledge. The students' interactive discourse shares elements deriving from both written and spoken varieties of the language (please note that French is the only language used).

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Learners' Expectations and Experiences in Virtual Reykjavik

Bio data

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Abstract

This article discusses learners' expectations and experiences in playing *Virtual Reykjavik*, which is an online language and culture training application for Icelandic. On the basis of two short studies, we investigated what learners of Icelandic expect to learn from the application in regard to language skills, and how they perceive playing it. The results, among others, indicated that learners expect the application to help them keep focused on practicing spoken Icelandic and thus eliminate switching into English, and to learn similar skills as in the traditional language classroom, however, with a stronger emphasis on listening. In addition, the learners expect the application to include both an interesting storyline and virtual characters that are fun to speak to. The main concern, however, is the absence of an immediate feedback on language errors and mistakes. Regarding the experience, learners

reported fun and enjoyment due to the realistic design of virtual characters and the virtual surroundings in the game. Nevertheless, some also experienced frustration and boredom, mainly due to the speech recognition's inability to recognize their fast or soft speaking into the microphone, or a slow pace of movement of their avatar. As to the learning effect, they reported success in starting a communication in Icelandic and learning about cultural sites. Their general impression from playing the first scene suggests that once the game is ready it will be very suitable for learners practicing spoken Icelandic and learning about cultural sites.

Conference paper

Introduction

Prensky (2001) views computer and video games as the most engaging pastime in the history of mankind, because they provide enjoyment, pleasure and evoke emotion; they are interactive, challenge users and involve them in playing and winning; they stimulate creativity and problem solving; have a strict structure and rules, focus on particular goals while keeping a certain flow and a storyline, and facilitate learning by giving feedback (p. 05-1). In foreign and second language education, serious games have a great potential because they have the ability to provide learners with specific language-learning environments that contextualize knowledge, and immersive experiences in both inside and outside of formal education (Meyer, 2009, p. 715).

Mastering fluency, however, is often difficult to attain in classrooms, where a couple of lessons a week may fail to provide the meaningful exposure to the target language that is necessary for learning (Meyer, 2009, p. 715). As learning a language also requires oral practice, the lack of exposure in classrooms affects one-on-one time between the learner and the teacher to engage in a spoken dialogue (Morton et al. 2012, p. 1). Therefore, computer games that include speech recognition and realistic Embodied Conversational Agents (ECAs) that have a human form and know how to use their bodies in conversations (Cassel, 2000) can provide another opportunity for learners to engage in a spoken interaction in a simulation of reality, and thus increase not only the language exposure, but also help to develop their communicative competence in the target language (Peterson, 2010, p. 89).

Virtual Reykjavik is an online language and culture training application for Icelandic (Vilhjálmsson, 2011) that belongs into the category of serious/educational games. It is designed for adult learners, who are beginners in Icelandic as a foreign (temporary residents, or learners living outside of Iceland) or second language (permanent residents). It uses Google speech recognition service for Icelandic². The virtual characters' responses are synthesized using the Ivona Text To Speech (TTS) system for Icelandic. The theoretical approaches used in the application are Communicative Approach (Littlewood, 1981; Richards, 2006), Task-Based Learning (Nunan, 2001; Ellis, 2003) and Game-Based Learning (Meyer, 2009). As learners also need to undergo a certain preparation regarding vocabulary, grammar and pronunciation before playing the game, to be able to interact with virtual characters in particular social scenarios, the application further makes use of Context Approach (Bax, 2003). While playing the game, the learners participate in specific communicative tasks. After completing them, they proceed to the next task/level. Currently, the game has only one scenario consisting of one scene, Týnda hljómsveitin 'The Lost band', with one chapter, Hvar er Hitt Húsið? 'Where is Hitt Húsið?'

In order to find out what learners of Icelandic as a foreign language and second language

² <http://goo.gl/eSRnbv>

expect from *Virtual Reykjavik* to contain and learn, a short survey was conducted. The survey did not only shed light on what expectations learners have from such a game, but also provided information on the problem of using spoken Icelandic in face-to-face conversations with native speakers in real life. After playing the game, another mixed-method study was conducted that included those learners that showed interest in participating. It informed about their general experience of playing the game, the game's learning effect, and the reasons why such a game would be useful in the local context for practicing spoken language skills.

Method

The study consisted of two separate investigations. A mixed-method study approach was used, which enabled a comparison of various data to achieve optimal results (Creswell, 2009, p. 213). The participation was anonymous but a written consent was obtained from those who participated in the interviews and the playing session that involved video recordings. The first study consisted of a survey, which was distributed among adult learners of Icelandic as a foreign or second language in classes of the practical diploma and the bachelor's level at the University of Iceland. Twenty-one learners took part in the survey; they were from twenty different countries, eighteen female and three male, aged 19-40, either beginners or intermediate level. The answers were collected online using Google Forms with a protected access. The questions were as follows: 1) Which of the below areas do you want to practice the most in the Icelandic language class?; 2) In a 3D game *Virtual Reykjavik*, you can interact with other characters that appear there. Which of the below areas do you want to practice your Icelandic in the most while playing the game?; 3) What do you think a 3D game should contain, or have, in order to make it fun for you to learn and practice Icelandic?; 4) In your opinion, what pros and cons there are when you can learn Icelandic in a 3D game, in which you can interact with other characters only in Icelandic?; and 5) How do you feel when using Icelandic in a face-to-face interaction with its native speakers?

The second part consisted of a mixed-method study that was conducted at the Black Hole Laboratory in CADIA at Reykjavik University. Six learners took part in this study. They were four female and two male, from six different countries, aged between 22-31, three permanent and three temporary residents, five were beginners and one false beginner³ in Icelandic. They were asked to play the first scene in *Virtual Reykjavik*. The playing session was recorded on a video camera in order to find out how much interference (if at all) there was from the instructor and how they reacted to the game. Immediately after playing, the learners were given a questionnaire printed out on paper with eighteen questions to fill in. The questionnaire was divided into three parts: (i) information about the participant; (ii) the game; and (iii) virtual characters. Afterwards, an interview was conducted with each participant. The following questions were asked: (1) Can you describe your general impression from playing the game?; (2) What did the game help you learn?; (3) How did you perceive the interaction with the agents?; (4) Can you describe how the agents behaved when they interacted with you?; (5) Was there anything eye-catching in the game?; (6) Did you find anything disturbing in the game?; (7) Is there anything else you would like to point out? The aim of the interview was to examine the learners' general perception of the game and their experience of playing it by focusing on these particular areas: the game, the interaction with virtual characters, the use of virtual characters' multimodal behaviour when speaking to the learners, and what the game helped them to learn. The answers from the questionnaires were collected in printed form, but the interviews were audio-recorded using the application Voice Memos on an iPhone and

³ A person who has lived in Iceland for a short time and has a very basic knowledge of Icelandic, but has started to study it from the beginning

transcribed into a Word-document. In addition, the playing sessions were recorded on a Canon EOS video camera, which turned out to be effective in providing information about the learners' reactions while playing the game. The results from both studies are presented in the following chapter.

Results

For a better orientation, the results have been divided into four main categories: skills, game characteristics, advantages and disadvantages, and the use of spoken language in face-to-face conversations.

Skills

According to the survey conducted in the first study, the results indicated that learners expect to practice similar language skills in *Virtual Reykjavik* as in a traditional language classroom, except for listening, which they expect to practice more in the application (see Chart 1). The learning experience after playing the game, however, indicated that the application helped them to practice speaking Icelandic (one of six learners) and learn cultural information about the buildings (two of six learners). Three of six learners did not feel they learned anything. Five of six learners reported that the virtual characters spoke in a clear and understandable way and it was easy to understand them, except for one novice-beginning learner, who had difficulties understanding them. As the game is only a prototype, it does not yet include any grammar help, and on account of that it does not provide any active feedback on mistakes or language errors. Reading was not specifically mentioned as part of learners' experience in the game, but two mentioned that they learned about the cultural sites when in "freeze mode" by opening pop-up windows and reading the cultural information about particular buildings/monuments. Some learners experienced difficulties in understanding the transcribed text of the dialogue in Icelandic, that appeared in a text window below/in the bottom, and for this reason they suggested that an English version of the same text should appear below.

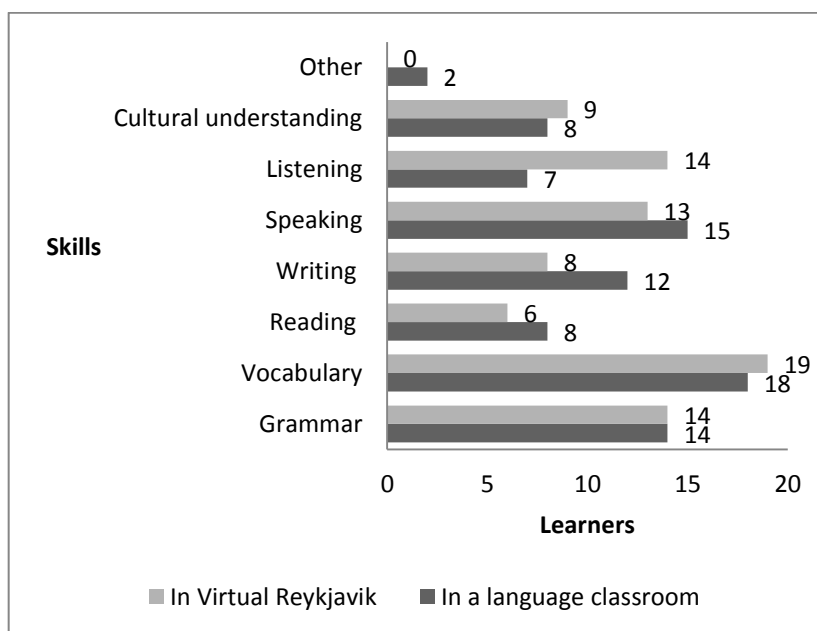


Chart 1: What skills learners expect to practice in Virtual Reykjavik compared to the traditional language classroom

Game characteristics

The survey in the first study indicated that learners, among others, expect the game to

have a good storyline with particular conversational scenarios for speaking practice, a voice recognition in order to be able to communicate with virtual characters that would take on the role of native speakers and interact with others in the game, for the characters to be funny and entertaining, perhaps be able to tell a joke; as well as to receive feedback on grammar and their choice of vocabulary, or suggestions for useful words or phrases appropriate to the context, and to learn practical information, e.g. about the city.

The second study informed about learners' experience. The game included one scenario with a simple storyline: the learner is a journalist, who is going to interview a music band, but needs to find directions to the building Hitt Húsið, where the music band is located. Half of the learners (three of six) experienced the game as enjoyable and exciting, because they could interact with virtual characters and listen to their answers. However, two of the six participants thought the game was frustrating and boring, mainly due the speech recognition's inability to handle improper pronunciation, soft or fast speaking, and due to the slow movement of the learner's avatar in the game. Moreover, they mentioned that the lack of introductory information about the game's goals and purposes, as well as the limitation to asking other questions than those presented in the tasks, caused frustration. One learner experienced the game as neither exciting nor boring.

Advantages and disadvantages

There are several advantages and disadvantages that the learners saw in the game. For instance, one of the game's advantages would be to build confidence when interacting with virtual characters, because, as some learners indicated, one is neither blamed for mistakes, nor does he/she need to be shy when speaking to virtual humans. Moreover, the ability of the game to keep learners focused on using the target language, without having the option of switching into English as is possible in real life, and thus practicing spoken communication skills are also considered very advantageous as training in addition to the classroom course.

As to the disadvantages, the learners expect from the game to receive less feedback on grammar and vocabulary than they would normally do in a traditional language class from a teacher, more laborious work with dictionary translating words they do not understand, and more individual learning, which they feel may cause isolation and lead to boredom.

Four of six learners experienced the game to be advantageous for practicing spoken communication skills. They mentioned that once the game is out and ready, it will make it easier to practice verbal skills with virtual agents in virtuality, rather than with real people in reality. Quoting from one learner: "The first step for learning languages is speaking and in Iceland it's really a big problem for learning; and if you are a beginner, it's really hard to speak [and communicate] with Icelandic people".

The use of spoken language in face-to-face conversations

In addition to the expectations and experiences, the survey informed about the learners' feelings when using Icelandic in face-to-face conversations with native speakers. Fourteen out of twenty-one learners (67%) feel negative about it. Not only do they find it difficult to understand natives, but they also feel insecure, stressed, embarrassed, childish when making mistakes, or as one learner indicates it is "bad for making anyone wait for me to stumble through what I'm trying to say". Some prefer switching into English and others do not even try speaking Icelandic. The survey indicated that they find it much harder to have a regular conversation in Icelandic. On the other hand, seven out of twenty one (33%) feel good and comfortable about it, even if they may be limited to conversations about "transactions in stores", or may prefer conversations on the phone. The stress is only eliminated, when the natives understand the learners. According to one learner, it is especially the old people that appreciate foreigners trying to speak Icelandic. After the

learners experienced playing the game, four out of six indicated that it is easier to speak with virtual characters in virtuality rather than with real people in reality. As one learner said: "The first step for learning languages is speaking and in Iceland it's really a big problem for learning, and if you are a beginner, it's really hard to speak with Icelandic people, (...) so that's [the game] really a nice point, so I am excited about that". For this reason, it goes back to the game's advantages mentioned above saying that once the game is ready it will enable learners practice spoken Icelandic at any time and from anywhere with a computer connected to the Internet.

Conclusion

The findings indicated that learners of Icelandic expect from *Virtual Reykjavik* to learn skills such as reading, writing, listening, speaking, grammar, vocabulary and culture, but with the emphasis on listening. Some experienced a learning effect in culture and speaking, whereas others reported they did not learn anything. Even though the learners expected the game to be fun playing, the only reported experience in this regard was when learners found it fun speaking to virtual characters and awaiting what they were going to say. The learners also experienced frustration and boredom, which was mainly caused either by the speech recognition's inability to recognize learners' fast or soft speaking, or moving options of their avatars in the game, and the lack of information provided about the goals of the game.

The learner's expected advantage of the game helping them keep focused on the target language and not switching into English was indeed experienced. They indicated that once the game is ready it would make it easier for learners to practice spoken Icelandic. As most of the learners feel insecure, distressed and intimidated when using Icelandic with native speakers in real life, the game can bridge this gap and become a practical tool for practicing Icelandic, and thus prepare learners for using it in real life. As Iten and Petko (2016) suggest, it is usefulness and simplicity rather than fun in playing games that is the predictor of a learning success (pp. 158-161). On account of this, *Virtual Reykjavik* has a great potential especially in the local context where practicing spoken Icelandic face-to-face with native speakers appears to be difficult. This study also triggers a further debate about the situation of learning less commonly taught languages in other countries, in which English is widely used as lingua franca for general communication purposes and native speakers often prefer using it above their own language when speaking to foreigners.

CALL in Context

This article discusses the usefulness of *Virtual Reykjavik*, which is an online language- and culture-training application for Icelandic, in a local context. Based on a short survey, it moreover informs about the situation when learners of Icelandic, who live temporarily or permanently in Iceland, experience difficulties in practicing spoken Icelandic face-to-face with local speakers. It might be due to the natives' often switching into English when speaking face-to-face to foreigners in real life. As the application uses Google speech recognition for Icelandic, which allows the learners to speak to virtual characters, and the IVONA voice synthesizer, which allows the virtual characters to speak to learners, spoken practice can be made possible online and with virtual characters.

In order to simulate real-life conversations, the virtual characters in the game speak and behave similarly to native speakers of Icelandic; they also use their bodies in conversations as real humans do in real life, and therefore appear more realistic. Learning language and culture via this application may be more useful especially for beginning learners of Icelandic who need to gain more confidence in the use of spoken language in real-life conversation. Once the game is fully developed, the learners will receive feedback on various aspects of

language, which will even more contribute to the contextualization of the learning process outside of the language classroom. Moreover, the learners' expectations and experiences support the view that such application can be fun playing and have a learning effect regarding language skills and culture.

Despite the learners being exposed to the target language culture by living in the country, many of them indicate they feel intimidated or nervous when speaking to natives. Therefore, the design of this tool appears to be very practical for bridging this barrier in the local context. This triggers another question whether a similar observation can be made in other countries.

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A mobile learning system to allow students developing their own learning resources

Bio data



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Abstract

In a context where language classrooms are plagued by high enrolment numbers and limited contact hours—hence, low exposure to the target language—we started exploring the possibility of designing a mobile learning system to provide students with additional language practice beyond the classroom. In this paper the authors share their experience with the design and implementation of a multi-lingual app, called *Guess it! Language Trainer* in a CEFR A1 level German language course. One of our main concerns, when designing *Guess it!*, was to develop a learning environment which allows students to actively participate in their own learning process, by sharing and jointly building their language knowledge with other learners. With this purpose in mind we designed a community-driven learning system that requires students first to learn vocabulary by guessing words through a given context; then to assess and, eventually report the words they have worked on and later, to create and propose their own words in context for one or more terms from the course syllabus. Once students have introduced their own words in context, these become part of the learning system—hence being available to the entire learner community. By designing an app that allows students to actively participate in the design of their own learning resources the authors were able not only to pay

tribute to the increasing demand of researchers and practitioners to design learner-centered environments, but also to provide a learning system that can easily be implemented and adapted to different learning contexts, taking into account students' language proficiency as well as collective learning preferences. In addition, the app allows teachers both, to monitor as well as analyse students' learning process by accessing students' logs —hence retrieving valuable information on learner behaviour and interaction patterns.

Keywords: MALL, learner-centered environment, community-driven learning system, peer-assessment, learning analytics.

Conference paper

Introduction

Regardless the enormous efforts language teachers make each day to provide their students with rich and diversified language input and practice in the target language, students often struggle to reach the language level they are required to have at the end of the course. Some of the reasons are that language courses, especially at the university, are usually based on a very low percentage of face-to-face hours, coupled with an extremely high percentage of independent and out-of-class learning hours. This makes it both difficult to provide students with enough language practice within the classroom as well as to attend students' individual learning needs.

The purpose of this paper is to show the potential of a mobile learning system, specifically designed for the current project, to support our German language learners (A1 level, CEFR) in their foreign language learning process out-of-class. The mobile learning system, we have designed, is called *Guess it! Language Trainer* and follows the principles of a social constructivist approach, considering learning an active and constructive process in which learners build their knowledge by interacting and exchanging information with other learners (Oxford, 2004; Berns et al., 2013; Palomo-Duarte et. al., 2016).

Based on the idea that the more interaction takes place among learners the more opportunities they get to enrich their language knowledge (Krashen, 1985; Long 1996; Berns et. al. 2016;), we have implemented a community-driven learning system that requires students first to learn vocabulary by guessing words with the help of a given context; then to assess and, eventually report, the words they have worked on and later, to create and propose their own words in context to illustrate the meaning of one or more terms from the course syllabus. Once students have introduced their own words in context these become part of the learning system—hence being available to the entire learner community.

The software, that has been used to implement *Guess it!* , follows the principles of a context sensitive and intelligent adaptive algorithm. The use of this kind of algorithm allows on the one hand, teachers to easily monitor students' learning process and, on the other, students to create their own learning resources according to their needs, interests and learning style. Some students might acquire new vocabulary more easily when associating it with already known words in another language (English, French, etc.), while others might acquire new vocabulary more easily when relating it to their own social context.

Method

Learning Design and Architecture

In order to implement the mobile learning system, a client-server architecture has been used, in which a server coordinates students' smartphones (tablets or laptops), while the teacher is provided with a web-based monitoring system (Palomo-Duarte et al., 2016).

By connecting the server through the Internet the system allows teachers to easily implement and update learning resources in line with the content previously seen in class. At the same time teachers can easily access student logs, trace back their interaction with the system and thus obtain valuable information to assess students' learning process.

Regarding the workflow of the app, students must first select the level, category (e.g. food-beverages; weather-seasons; weekdays-months, etc.) and number of words they would like to work on (Figures 1 and 2).

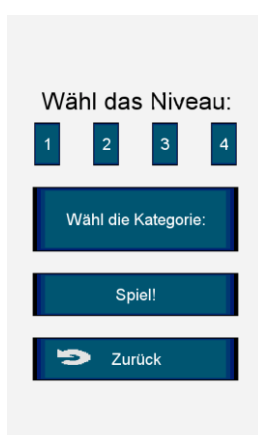


Figure 1. Menu to select levels



Figure 2. Menu to select categories

Next, students must guess words with the help of a given context (Figure 3) and then assess the provided words in context, by indicating whether words have been contextualized correctly or not. To help students focus on those aspects which are strictly related to the language requirements of their language curriculum (A1 level, CEFR) the designed system automatically delivers with each word in context a question, that has previously been designed by the language teacher in line with the course syllabus and students' learning needs (Figure 4). Each question focuses on a concrete language aspect: spelling, use of syntax or grammar (e.g. *Have the nouns been written correctly? Is the verb in the position? Has the preposition been used correctly?* etc.). Additionally, they are asked to report those words in context, they consider either offensive, difficult to guess or wrong in terms of content or linguistic aspects (Figure 5).

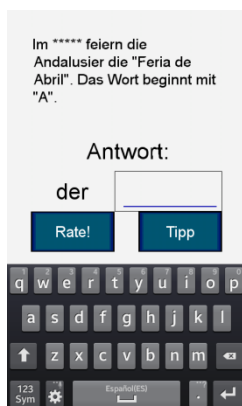


Figure 3. Guessing words

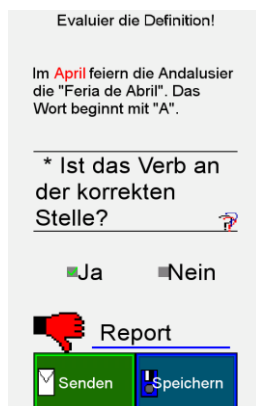


Figure 4. Assessing correctness

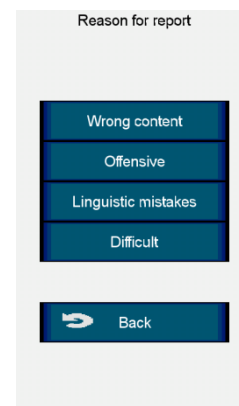


Figure 5. Menu for reports

Once the students have worked on a certain number of words (60, the first time they use the app, and from then on, 20) the system automatically provides them with a randomly assigned word from the app's dictionary, allowing each student to create and add his/her own word in context to the knowledge base.

As a result of this process, the server will contain different words in context as well as grades for each of the terms that has been entered in the knowledge base. Due to the implementation of a context sensitive intelligent and adaptive algorithm those words in context which received higher grades by the students will be displayed more often and vice versa.

Nonetheless, all words, that has been contextualized and added to the knowledge base, will be displayed (more or less frequently) and constantly be re-assessed by the students themselves. This way the authors aimed to ensure that in case a well contextualized word had received an unjustified lower grade and was therefore less used by the learners during their learning process, may sooner or later be displayed again, so that it could be properly assessed with a higher grade, turning into a more "popular" one among learners. This allows for a very dynamic game ecosystem in which students become directly involved in the development of their own learning resources, by adapting these to their learning preferences and needs (Berns et al., 2016).

Assessing Students' Foreign Language Learning Process

In terms of students' assessment, it is worth mentioning that the server program stores different kinds of data which aim to help teachers assess students' learning process and outcomes. The data which are stored by the server include the following: the words in context available for each term, the words each student guessed or failed as well as the assessment of each word in context students have worked on. Additionally, in order to monitor and assess students' learning process the teacher can access different learning analytics (Figure 6). The latter provide information on the use each student has made of the app (the number and frequency with which the different levels, categories and words have been worked on), the number and contextualized words each student has added to the app, the assessment their own contextualizations received as well as the assessment each student gave to the words in context, that has been added by their peers.

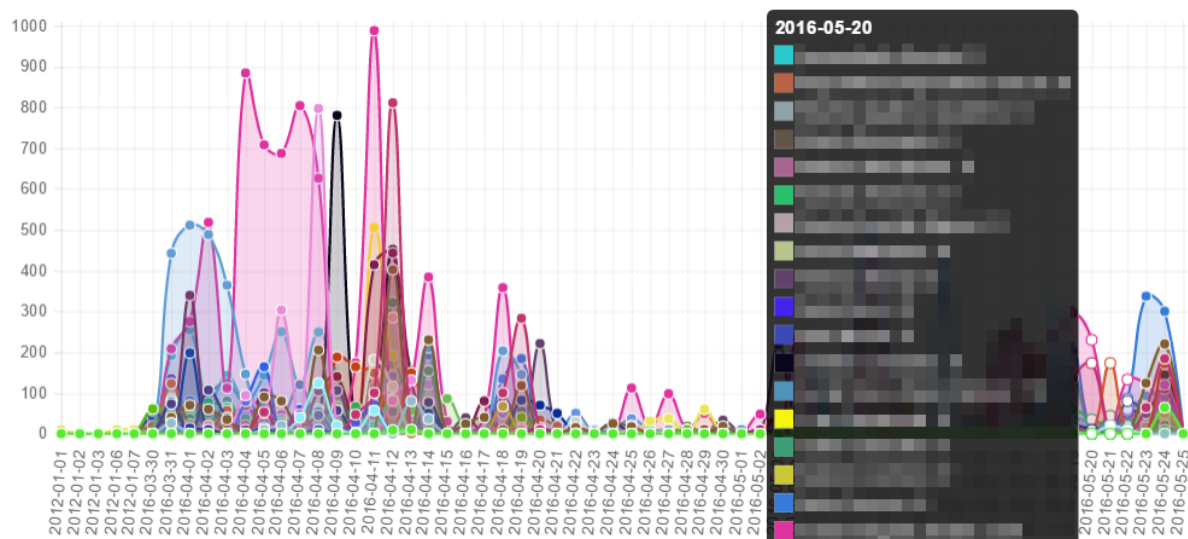


Figure 6. Statistic that indicates the number of words different students have worked on.

Thus, a report of the low-graded words in context can provide insights into the difficulties a specific student (or a group of students) might have regarding the target language. Another report with those words in context that wrongly received high grades can identify those learners who were unable to detect mistakes in the target language.

Discussion

The results of the learning experience were in general very positive, not only in terms of students' participation and creation of their own learning resources, but also in terms of students' assessment of both, teachers' as well as peer learning contents. It is noteworthy, that while the app started up with 282 words in context, which were previously introduced by the language teacher herself, the app ended up with 850 words in context. This means students created and added to the knowledge base a total number of 568 words in context, which is an average of almost 4 words in context per student.

Regarding students' assessment of the app's learning content, the mean difference between the teacher and student grades is 1.28 in a scale from 0 to 5 points. The difference between the teacher's grades and students' assessment range from 0 points (more than 32.000 assessments were exactly the same grades given by the teacher) to 5 (more than 4.800 times). In this second case, it was usually the teacher reporting and the students giving the maximum grade (only 22 times was the opposite). As for individual assessment only 11 students got a mean difference below 1 point when comparing their assessment to that of the teacher, 115 got between 1 and 2 points, and only 9 got between 2 and 3 (none of the students got more than 2,5 points of difference). Students assessed 85% of the words in context with more than 4 points out of 5, and 12% with between 3 and 4 points. So 97% of the contextualized words were assessed as good/very good for the students. Those words assessed with 0 points were automatically reported to the teacher. There were more than 11.000 reports. One hundred words in context were never reported. Some words in context were reported more than one hundred times, so there is little doubt that these must contain some kind of mistake (content, syntax, grammar, etc.). At the same time, other 395 words were reported occasionally (less than 10 reports), so probably the reporting students were wrong. Surprisingly, several students reported even words, which were contextualized and added by the teacher.

All in all there were 19 student reports considering word contextualizations as improper or offensive in terms of content, followed by 80 reports that indicated linguistic mistakes (syntax, grammar, etc.) and 7 which were considered as inaccurate.

Conclusions

Language courses at Higher Educational Institutions has often proven to fail when providing students with the language content and practice they need to acquire the competencies they are expected to have at the end of the term. To support students in their language learning process, especially outside class, we have designed a mobile learning system, based on a context sensitive and intelligent adaptive algorithm that allows students to actively participate in their learning process, by assessing and creating their own learning resources in line with their interests, needs and learning style. This way the authors aimed on the one hand to pay tribute to the increasing demand of researchers and practitioners to design learner-centered environments and on the other, to provide a learning system that can easily be implemented and adapted to different learning contexts, taking into account students' language proficiency as well as collective learning preferences. In addition, the app allows teachers both, to monitor as well as analyse students' learning process by accessing students' logs and thus retrieving valuable information on learner behaviour and interaction patterns.

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CALL in Context

How did the local context shape the design of our learning environment?

The extremely high number of students in our language courses along with the low percentage of face-to-face classroom hours increases the need for providing learners with additional language input and practice beyond the classroom. To complement students' classroom practice, which focuses primarily on oral interaction, language practice outside the classroom must include vocabulary and grammar learning, writing as well as critical reflection on the target language.

How to determine the role and shape of the most appropriate technologies for our context?

To help students getting the necessary language input and opportunities to practice and reflect on the target language, we were concerned about providing them with those technologies that allow them to easily access, interact as well as create their own learning resources, in line with their needs, interests, etc. Taking into account that our students are used to interact with their environment via mobile devices such as smartphones and tablets, we started exploring the possibilities of integrating such devices as regular learning tools in our teaching process.

To what extent can general theories such as Constructivism, Social Semiotics, Dynamic Complex Systems and Self-Determination Theory be applied to our local context?

In line with constructivist theory we conceive learning as an active and constructive process in which learners build their knowledge due to the interaction with others, by linking new information to prior knowledge. This means that the more interaction takes place between one individual and his environment, the more opportunities he/she gets to widen and strengthen his/her own knowledge.

To what extent do technologies afford context-dependent enrichment and personalization of the learning process?

Mobile technologies such as smartphones offer multiple opportunities for increasing such learner interaction and construction of knowledge. By designing an app that allows students to actively participate in the design of their own learning resources the authors were able both, to pay tribute to the increasing demand of researchers and practitioners to design learner-centered environments as well as to provide a learning system that can easily be implemented and adapted to different learning contexts.

What is the impact of context-dependency on the development and use of Open Educational Resources?

To allow students adapting learning resources to their learning needs and preferences, we have developed a mobile-learning system based on a context sensitive intelligent and adaptive algorithm. This way learning contents could easily be adapted to students' learning context.

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Exploring mobile assisted listening strategies by tracking learner behavior: Processes and outcomes

Bio data



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Abstract

This study aims to explore the listening strategies utilized by EFL learners with low-level language proficiency as they listened to a narrative text through a mobile phone. 44 Turkish speaking EFL learners were randomly assigned to either an experimental or control condition. The groups were provided with the listening text (story) and had the option of listening to the text twice. The experimental group was allowed to control the audio file through control tools such as rewind, forward, pause, whereas the control group was not allowed such tools and had to listen to the text straight through with no interruptions. The physical movements of the participants during listening were tracked and recorded in an online database. After listening, the participants were presented with a recall task and unannounced vocabulary tasks. The results indicated that participants who were allowed to regulate their listening process exhibited different listening patterns during first and second listening. Global and analytical listening patterns were preferred equally during the first listening while participants strongly preferred and utilized analytical strategies during the second listening. Outcome measures did not indicate significant benefits of learner-controlled listening in terms of text recall and incidental vocabulary learning in L2 listening. The teaching implications of the results will be discussed in relation to the needs of the students with low language proficiency in English as a foreign language learning context.

Conference paper

Introduction

Mobile devices such as mobile phones, tablets and PDAs provide innovative ways to practice and improve L2 listening skills through multimodal exposure to the spoken text inside or outside the classroom setting. These learning environments require learners to adopt a more self-directed, autonomous approach to their own learning (Luzon & Gonzalez, 2006) since they can regulate the listening process when receiving aural input in real time.

Although digital mobile technologies are emerging strongly in the field of language learning, there is little research on how learners interact with these technologies as their way of learning (Stockwell, 2008). There is no doubt that understanding how learners perceive, manage and control their listening on mobile devices allows us to gain insights about the strategies employed during listening. Analysis of listening strategy use through physical behavior and interaction with text can reveal whether students make use of flexibility in their own learning, whether they develop metacognitive or cognitive strategies, and what kind of listening they opt for in their autonomous, self-regulated listening (Desmarais, Laurier, & Renie, 1998). Few studies have utilized digital tracking systems to investigate learners' behaviors in interaction and involvement with the listening task through system usage variables such as a listening log of involvement, listening times and rehearsal times (Cottam, 2010; Hwang, Hwung, Shadiev, Wu & Chen, 2014; Rousset, 2011)

The primary aim of this study is to explore L2 learners' behavior as they listened to a narrative text on a mobile device with a view to make inferences about their listening strategies. A second aim of the study is to determine whether self-regulation during listening has an impact in L2 listening comprehension and vocabulary learning. It is hoped that tracking how learners behave while listening on a mobile device can help identify their listening strategies and reveal important insights for L2 listening methodology in a MALL context.

Self-regulated listening

Technology has the potential to promote learner autonomy by providing different types of control to the learner such as pacing of the material, as well as the choice, order, and representation of content (Scheiter & Gerjets, 2007). Such motional control (moving forward, backward or pausing) or help options may increase interest and motivation in learners (Alexander & Jetton, 2003; Deimann & Keller, 2006) and provide a flexible learning environment where learners' needs and learning styles are taken into account (Deimann & Keller, 2006; Plass & Jones, 2005; Plass et al., 1998; Scheiter & Gerjets, 2007).

When learners are allowed to self-regulate their listening process, they can control speech rate (Zhao, 1997; Robin, 2007) and have repeated exposures to a listening text by using control tools that allow them to pause, backward, or forward (Rousset, 2011) an audio or video file. Self-regulated navigation of the text or the listeners' capacity to exercise physical control over their listening (Rousset & Tricot, 2012) creates opportunities for learners to revise the content of the text and help them reconstruct it (Matthews & O'Toole, 2013, p. 3).

Zhao (1997) investigated the effects of the amount of listening control over speech rate and repetition. She observed a significant effect of control over speech rate on listening comprehension. However, no effect of repetition was detected. Pujola (2002) investigated listening strategy use on a web-based multimedia program for self-study and the use of help options in five forms (dictionary, cultural notes, transcript/subtitles and rewind controls, feedback and consultation with experts) with 22 adult learners of Spanish. The

results yielded no significant correlations among the use of help options, linguistic levels of listeners and perceived learning strategy use. Rivens-Mompean and Guichon (2009) explored how the aids for the multimedia setting were used to take notes from video material. The students were asked to write down key words as they listened to a video file. They were provided aids such as online dictionary and audio control buttons such as rewind and pause to take notes while listening to video file. The study concluded that the control buttons for video file were effective as listeners could manage their own pace and processing while listening.

Tracking L2 learners' behaviors during listening

Current specialized technology makes it possible to track listeners' behaviors without interrupting the listening process. This provides information about how listeners make use of content delivery and how they interact with the text (Azar & Nasiri, 2014; Chapelle, 2003; Desmarais, Duquette, Renie, & Laurier, 1998).

Online tracking allows to collect user behavior through mouse clicks, swipes or taps on the screen. Thus, the interaction between the listener and the text becomes observable. Such data can provide valuable information about the listening strategies utilized by the listener in an online learning habitat. For example, by tracking listener behavior, Roussel (2011) performed an online analysis of students' listening behaviors and their time spent on task to identify listening strategy use of listeners in a self-regulated system. She identified four different patterns of self-regulated listening: interrupted and uninterrupted, representing analytical and global listening, respectively. These two patterns have various subsets: (1) Students listen to the text globally in the first listening and then start analytical listening in the second, meaning that after an overall comprehension, they focus on the textual elements to confirm, reject or clarify their comprehension, which reveals their planning and monitoring strategies. (2) Students listen to the text analytically followed by one or more globally listening. This strategy often resulted in poor comprehension. (3) Students listen to the text once or several times globally without any regulation. This occurred with bilingual or high proficiency learners. (4) Students listen to the text only once utilizing analytical listening but without any global listening. This strategy was used by listeners with poor initial level of English. They employed actions and buttons in a more disorganized way, randomly and repeatedly. This disorder usually hinders high-level processing such as planning and monitoring.

Roussel, Rieussec, and Tricot (2006) investigated performance under three listening conditions: listening once, listening twice, and self-regulated listening. They observed that more idea units were remembered under the self-regulation condition. The difference in performance in the three listening conditions was less noticeable with high proficiency learners. The advanced group's frequent use of the action buttons such as stop and replay in self-regulated listening suggests that advanced-level learners knew what required verification or close attention as regards the text. Such patterns of movement by the listeners give insights into how metacognitive strategies can be implemented to boost comprehension, overcome listening difficulties, or meet the needs of listeners to ensure comprehension.

The present study

The present study aimed to explore L2 learners' interaction with a narrative audio text when they were allowed to self-regulate their listening process on a mobile phone. In order to collect online process data, a mobile assisted listening application was developed and optimized for Samsung Galaxy Mini devices. Each keystroke was synchronously sent to the web service and recorded in the database. Another goal of the study was to investigate

whether self-regulation during listening had an impact on listening comprehension, incidental vocabulary learning, and time-on-task.

The participants were 43 volunteer freshmen students studying at a state university in Turkey. They had completed one year of English Language Preparatory Program before the treatment. Based on the scores on the Oxford Placement Test (Allen, 1992), the participants were classified as lower elementary-limited users (CEF A2 Waystage).

The participants were randomly assigned to an experimental and a control group. In both groups, they were asked to listen to a 13.56-minute-long story taken from the website of Voice of America, an official American broadcast for non-natives. In the experimental condition, the participants were allowed to regulate the listening task through audio control buttons by going back and forth during listening. In the control, they were not given access to the audio control tools; they could only stop or repeat the audio file. Both groups were allowed to listen to the story twice.

Both online and offline data were collected. The online data consisted of the participants' keystrokes on the screen as they listened to the story, recorded and kept as log files. The offline data included a free recall task that the participants completed after listening to the story as well as three unannounced vocabulary measures which aimed to assess form and meaning aspects of target words: form recognition, L2 meaning production and L1 meaning production.

Results

The online data from the experimental group constituted the basis for the investigation of the participants' interaction with the audio file during listening. Their behavior was coded as global, analytical or segmented listening (see Table 1). The first two categories were observed by Roussel (2011) as well. The last category emerged from the data in the present study.

Table 1.

Frequency of Listening Strategies

	1st Listening		2nd Listening	
	N	%	N	%
Global	10	45.8	2	9.1
Analytical	10	45.8	17	77.3
Segmented	2	9.1	0	0.0
No listening	0	0.0	3	13.6

Global listening refers to listening to a text from the beginning to the end without any interruptions. Analytical listening strategy, on the other hand, involves listening to the text with more than one or two interruptions (Roussel, 2011, pp.107-108). Segmented listening involves several truncated listening sessions where the student does not listen to the end of the text.

As seen in Table 1, there were an equal number of participants who preferred the global or analytical strategy in the first listening. In the second listening, the participants opted for the analytical strategy in all listening conditions. Overall, the data suggests that analytical listening strategy was more preferred than global listening strategy.

Table 2 provides descriptive statistics on text recall and incidental vocabulary learning. The recall scores were compared through an independent samples t-test which revealed that the groups did not differ in terms of text recall, $t_{42} = 1.23, p > .05^4$. A one-way MANOVA on a linear combination of vocabulary measures yielded a nonsignificant difference between the groups (Wilks' lambda = .925, $p > .05$)⁵. As such the results suggest that self-regulation during listening does not facilitate either text recall or incidental vocabulary learning.

Table 2.
Descriptive Statistics for Text Recall and Incidental Vocabulary Learning

	Experimental		Control	
	Mean	SD	M	SD
Text recall	12.32	7.73	9.50	7.46
Vocabulary measures				
Form recognition	8.82	3.35	10.55	3.25
L2 form recall	10.18	4.03	10.77	3.98
Meaning recall	12.77	4.09	14.50	3.99
Bilingual synonym match	23.14	2.66	23.86	1.55

Table 3 provides the amount of time the groups spent on the listening task during first and second listening as well as the total time on task. The experimental group spent significantly longer time on the listening task during the first listening, $t_{42} = 3.22, p < .05$. On the other hand, the difference between the groups was not statistically significant either in terms the second listening, $t_{42} = 1.06, p > .05$ or the total amount of time spent on the task, $t_{42} = 1.74, p > 0.5$.

Table 3. Descriptive statistics for time-on-task

	No self-regulation		Self-regulation	
	Mean	SD	M	SD
1st Listening	0:14:53	0:00:35	0:18:49	0:05:41
2nd Listening	0:13:05	0:02:59	0:11:33	0:06:05
Total duration	0:27:59	0:03:16	0:30:23	0:05:34

Discussion

The findings indicate that an analytical listening strategy is preferred over global listening when learners are allowed to control their listening process. This may suggest that learners processed the text in small units and might have taken more time to construct meaning (at least in the first listening) when control over the pace of input was provided. It should be noted that half of the students listened globally in the first listening and switched to analytical listening when listening for the second time. Roussell (2011) argues that this suggests that after an overall comprehension through global listening, learners focus on the textual elements to confirm, reject or clarify their comprehension, which reveals their planning and monitoring strategies. The fact that the experimental group regulating their listening spent more time on task during the first listening might indicate that they were engaged with using this technical opportunity to help improve their comprehension when first exposed to the text. However, with regards to the second listening and the total

⁴ The assumption of homogeneity of variances was sustained.

⁵ The assumptions of homogeneity of variance–covariance matrices were sustained.

amount of time spent on task, there was no significant difference between groups. Presumably, there would be little reason to slow down the second listening. Those who understood the text might even cut short the second listening bringing the overall times down to match the control group which had no option on the speed of the second listening. This reveals that the time spent on a second listening opportunity and total time spent on task is not strictly correlated to the control options available to the listener.

The findings based on offline measures do not provide any evidence in favor of learner control. Specifically, the participants who were allowed to regulate their listening did not have significantly higher means than those who were not in terms of either text recall or vocabulary learning. This result is surprising since a distinctive feature of mobile devices is to provide learners with self-control over the input (Fuente, 2014). Such control is supposed to support learners in noticing and directing their attention towards a certain form and, in turn, facilitate learning in a range of contexts (Kukulska-Hulme & Bull, 2009). Fuente (2014) compared the effects of two mediums for delivery of listening text (learner-controlled mobile-assisted language learning/MALL vs. instructed-manipulated language learning/IMLL) on learners' noticing and type of processing (top-down vs. bottom-up). Fuente (2014) hypothesized that MALL instructional technology was more effective for attention-focusing than instructor-facilitated instruction, therefore, MALL settings would promote both higher levels of top-down (overall) and bottom-up (target structures and forms) processing, enhancing noticing and improving overall comprehension especially in the aural mode over instructed-manipulated language learning. Roussel (2011) also speculated that giving learners an opportunity to have control (self-regulation) over input improves the participants' information processing and "allows them to better handle incoming aural discourse" (p. 114). However, the findings of her study indicated that self-regulation did not enhance low proficiency learners' performance and so the degree to which self-regulating strategies improves listening performance of learners may depend on the learner's level of language proficiency. That is, regardless of whether or not learners are provided with flexibility to regulate their listening, their level of proficiency has a greater effect on comprehension. As such, the current findings are consistent with those of Roussel's (2011).

Conclusion

The study aimed to explore the listening strategies of EFL learners with low-level language proficiency in a mobile environment. The findings demonstrated the learner's preferences and their listening behaviors to listen to the text on a mobile platform when self-regulation was provided or unprovided. The researchers assumed that given flexibility of navigating listening platform, L2 listeners would make a difference in interaction with the content provided through mobile platform. However, the results show that to some extent when given control over pace, the listeners could work on the text more in the first exposure to the script than the second. Yet, the flexibility in control does not improve their listening comprehension and incidental vocabulary learning. The findings highlight the association of listening processes and listening strategies. Analytic listening might promote bottom-up listening strategies while global listening might enforce top-down strategies. Although learner control over the pace of listening might lower anxiety with listening in the L2, it may not necessarily promote interactive use of top-down and bottom-up strategies. As an implication of this study, we can say that teaching a combination of strategies is necessary and could be a resolution for successful listening comprehension (Goss, 1982; Rost, 1994; Vandergrift, 1998; Vogely, 1995). Through such strategy training, listeners can develop awareness of using integrated strategies for listening comprehension.

CALL in Context

This study explores listening strategies by using **tracking and logging; learning analytics**. It demonstrates listening strategies of low-proficient L2 listeners based on online and offline tracking data. Its implication will contribute to the existing studies, suggesting strategy training for success in listening comprehension on a mobile device.

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Contextual factors affecting the conceptualization, design and testing of an online platform for L2 listening skills development

Bio data



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Abstract

Teachers of language learners have at their disposal a number of free online sites to foster L2 listening skills development. Taking advantage of the tutorial capabilities of the computer, most sites encourage listeners to work independently with input texts that are

predominantly scripted, audio-based, and topically organized. Listeners are expected to replay, forward, and rewind audio segments and get immediate feedback on their performance. A handful of these sites go the extra mile and offer ancillary tools that allow listeners regulate their learning and/or recover from breakdowns in comprehension. As listeners advance in language proficiency, the availability of suitable sites is scanty. To address the learning needs of these listeners, teachers rely on authentic podcasts, lectures, and talks and develop complementary materials that range from comprehension questions to extensive listening projects, but these are not necessarily made available for others to use. Investment of time and effort might constrain the design of computer-based listening materials which has been traditionally intuitive and idiosyncratic and lags behind theoretically-and-empirically, if compared to the design of other language learning environments.

This presentation reflects on the design, development, implementation, and testing of the Improve Your Listening Skills platform (IYLS), a pedagogy-driven and CALL-informed, online environment suitable for L2 listening skills development. It responds to concerns about design practices of computer-based listening environments where there is not a unified theory of design. The flexible architecture of the IYLS platform addresses students' and teacher's contextual needs identified through a series of participatory design sessions. Although teachers are free to decide on input texts, the first set of texts uploaded to the IYLS clearly align to the context where the platform was deployed. Thus, input texts address the topic of technology in accord to course requirements; they belonged to the same genre-talks-and they shared a common communicative purpose: to make great ideas accessible to large audiences from a wide range of disciplines and cultures. In the IYLS environment, listeners interact with input texts and complete schemata activation, comprehension, and post listening exercises. They are also encouraged to interact with different types of help options. Teacher's set up new levels, design tasks, and develop comprehension activities that cater for students learning needs and interests.

Testing of the platform took place with 26 pre-service teachers of English from Chile in one individual session.. Data was collected through verbal reports. We discuss findings in four themes: guidance, ease of use, learning and control.

Conference paper

In this paper we reflect on the design, development and testing of the Improve Your Listening Skills platform (IYLS), a listening pedagogy-driven and CALL-informed, online environment suitable for L2 listening skills development. The platform was primarily designed for research purposes as we investigated input text characteristics that affected comprehension of L2 listening materials.

L2 Listening pedagogy driven considerations

L2 Listening pedagogy-driven considerations informed both, input text selection and activities design in the IYLS platform. We used a participatory approach to input text selection in which different stakeholders participated. Accordingly, the team was made up by one researcher, one classroom teacher and three students enrolled in the ELT program where the platform was developed. For input selection, we adhered to the guidelines advanced by Rost (2013) and Vandergrift & Goh (2012) who suggest that listeners should be exposed to a variety of texts types and genres. This with a view to help listeners gradually develop their comprehension skills. The topic selected, technology, is part of the syllabus for high-beginners and high intermediate-students at the ELT program where the platform was developed.

For listening activities design, we negotiated between what could be ideally done in a real life task and the affordances of the computer. Therefore, we developed schemata activation, comprehension and post-listening activities. The pedagogically-driven decision of presenting the pre-listening section, then offer continued support while listening to the talk itself, and finishing with the post listening activities (Richards & Rodger, 2001), encourage listeners to follow a sequential pattern. However, listeners in the IYLS are free to decide how to approach each talk. In the pre-listening section, listeners are presented with a set of schemata activation exercises through a series of drag and drop, predicting, and vocabulary activation activities. The while-listening section showcases two types of activities: Checking understanding and a dictation cloze. In checking understanding listeners are presented with four-item multiple-choice questions. Listeners are expected to listen to and choose the option that best answers the question from the video-based talk. In the dictation-cloze, listeners are asked to listen to a specific audio segment and type in the missing word and/or expressions to help them refine their scanning skills (Buck, 2001). The post-listening section features three types of activities: vocabulary practice, sentence completion and evaluating statements. All which were concerned to give the listener the chance to reinforce vocabulary and reflect on the structure of the talk. Complementarily, in the for extension activity listeners are provided with scenarios where they can explore in detail the context in which the technology described was developed, through a series of complementary readings, and/or documentary viewings.

Computer-based listening materials design considerations

CALL research also informed the design of the IYLS platform. We followed the guidelines of the CoDe framework, a theory-and-empirically-based framework for the conceptualization (Co) and design (De) of help options in computer-based listening environments (Cárdenas-Claros, 2014). The conceptualization component of the framework distinguishes four types of options: operational, regulatory, compensatory, and explanatory. *Operational help options* assist the user with the functions of the program. In the IYLS platform operational options are presented as a user manual that can be accessed before listeners start interacting with the platform. *Regulatory options* afford opportunities for listeners to self-regulate their learning. In the IYLS regulatory options are available at two moments: in preparation of task demands presented through listening tips, and upon task completion presented through feedback. *Compensatory help options* undergo any of the three types of modifications to make input more accessible to learners: aural-to-visual (transcripts, subtitles, captions), visual-to-visual (transcript to translation) and aural-to aural (audio/video control buttons and bars). In the IYLS environment, we offered aural-to-visual modification through transcripts, visual-to-visual modification through translations in the L1 and aural-to-aural modification through the audio/video control bar. *Help options of the explanatory type* accomplish two main functions: prompt learners' attention to key linguistic features of the input and provide enriched input. The explanatory options in the IYLS prompt learners' attention to key linguistic features of the input through hyperlinked elements and glossaries. Enriched input is provided through culture, biology and technology notes.

The design component of the framework introduces four guidelines for design of help options. 1) strive for simple and intuitive design, 2) provide different routes of interaction, 3) provide fewer rather than more help options and 4) minimize potential distractions. Thus, help options in the IYLS help options are a click-away from the users, are presented in a single bar and can be accessed at any time. Moreover, to encourage listeners to stay on tasks, enhanced input and related information open as a series of pop-up windows that deactivate as soon as listeners attempt to complete listening exercises.

System architecture

The IYLS platform has a student and a teacher module. In the student module, listeners select their level, interact with input texts and complete schemata activation, comprehension and post listening exercises. They are also encouraged to interact with different types of help options and obtain feedback on their performance. Also, as the IYLS platform falls into the category of an authoring suite or software that allows teachers with non-programming skills to create their own courseware, the teacher module allows L2 teachers to create new levels, design new tasks and develop comprehension activities that cater for students learning needs and interests. Teachers can also track student's interactions with the listening exercises unobtrusively.

Testing of the different components of the platform

The testing of the platform was multi-staged. The first stage dealt with testing of audio materials and took place with 6 learners of English and three language teachers from an ELT program in Chile who assessed the suitability of the texts for listening skills development for high-beginner and high-intermediate learners of English. In the second stage, schemata activation and comprehension activities were designed and tested with four language classes. Feedback was incorporated and activities were refined and improved. The third stage involved the testing of the platform. This was done by the eight members of the research team and was complemented with verbal reports gathered from 26 young adult learners of English representing two proficiencies: high-beginner & high-intermediate.

The participants completed the data collection for the main study in six individual sessions. On the final session, participants were asked to reflect and discuss different features of the IYLS platform that in their view promoted/hindered L2 listening development. Following Miles, Huberman and Saldaña (2014) verbal reports were transcribed and coded using thematic analysis. Reasons were merged into themes and factors and frequency counts were conducted after three rounds of analysis. Coding was done by three independent coders and inter-coder reliability was calculated at 0.92. We discuss findings along with integrated data in four themes: guidance, ease of use, learning and control (Table 1).

Table 1 provides a definition of each of the themes and a sample quote.

Table 4 Themes, definitions and samples

Theme	Definition	Sample
Control	The extent to which a learner is able to decide where, when, how and what features of the platform to access.	"I believe it's not too difficult to use it [the platform] since there is a pre, while and post listening and you complete them in the order you want. In other words, people can do it in the natural order or backwards, they may start with the body and then the arms. It allows people to interact with the platform as they please and still learn with it". Flavia, text unit L36
Learning	The extent to which the platform affords opportunities or hinders learning	"...I always use the key words because they give me an introduction to the topic, so it's easier for me to learn about it, to listen to it and to feel attracted to it, also to be more focused because I'd already know what it is expected" Betsy, text unit L66. "I never used it [the translation] because of personal preferences. I thought it wouldn't be of any help, or rather that it would help me understand in Spanish, but if I was to play the audio again in another context (English) I wasn't going to understand "and how do you say this in Spanish?" I was going to try to translate it so that doesn't help me" Angie, text unit L69
Ease of use	The degree of intuitiveness and ease of use of the platform for L2 learners.	"That is a great advantage really because in the very first session you learn how [the platform works" Neil, text unit L103
Guidance	The extent to which the platform offers assistance or causes confusion as to how, when, and what features of the platform (help options, feedback, etc.) should be used by the learner.	"The platform was very simple, very easy to use and comfortable. The fact that activities are guided... I mean you can do them before, while and after watching the video. Moreover, the questions and activities are sequenced, the help options are easy to spot, all answers have options... everything is neatly presented so one can work with [the platform] in an optimal way". Marco, text unit L68 P: [I would get rid of] the listening tips, I never use them. R: For this level? P Yes, for this level, as I said in the previous session, I believe that for someone whose level is beginner or who is not used to cope with listening texts , listening tips should be present, but for someone who is in pre-intermediate or intermediate level they should not be present." Rita text unit L114-116

CALL in Context

This paper aligns to the topic of the conference as the decisions for development of the platform at the level of input selection, task design and platform development attended to context. Genre of input texts as well as topic of the input align to the syllabus requirements at the ELT program where the platform was designed.

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The efficacy of an online writing system for the implementation of process approaches in EFL writing**Bio data**

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Abstract

This paper reports how the affordance of an online system influenced English writing teachers' commentary and students' knowledge of micro-process (the composing process) and macro-process (the process of learning to compose). The construction of the online system, OPWIS (Online Process Writing Interactive System) followed process writing approaches where writing instructions emphasize on the writing process involving drafting, revising, and editing. Additionally, OPWIS is equipped with a teacher commentary template, synchronous peer review system, and a dialogic feedback system for various writing activities. Finally, after drafting, receiving feedback from their teacher or peers, and revising, students can select their writing work in different stages and compile an e-portfolio in OPWIS to present and reflect their writing process. An exploratory study is conducted to examine how a college-level English writing course adopts OPWIS as the platform for writing activities and how the 25 non-English majored undergraduates in the course perceive the use of OPWIS for their writing process. The data are collected from weekly class observation, questionnaires, interviews, online interaction transcripts, and student writing work. The results of the study are expected to help researchers and practitioners gain a better insight of process approaches in an EFL context and the efficacy of OPWIS.

Conference paper

Introduction

Process approaches may have been one of the most adopted writing pedagogies in second language (L2) writing classrooms. Process approaches view writing as a "non-linear, exploratory, and generative process whereby writers discover and reformulate their ideas as they attempt to approximate meaning" (Zamel, 1983, p. 165). The process approaches aim to raise students' awareness of the notion that writing is a process and to help students master writing strategies, involving planning, revision, and reflecting (Ferris & Hedgcock, 2014). The popularity of the process approaches has received much attention in L2 writing research. However, most studies related to process writing have been conducted to target on specific components of a writing process (e.g. teacher comments, peer review) rather than to see writing process as a whole. As Li (2007) revealed, many studies have

investigated issues in “micro-process” (the composing process) while fewer studies have targeted the “macro-process” (the process of learning to compose) (p. 43).

With the rapid development of technology in the past decades, the integration of technology is credited to create a spectrum of ways in L2 writing (Bloch, 2008; Ware & Warshauer, 2006). Tools adopted for writing pedagogies can be from existing technology, such as word processing, corpus, the Internet, and Web 2.0. Course management systems (CMS) (e.g. MOODLE, Blackboard) have also been widely adopted in education and to some extent may facilitate writing instruction to deal with multiple drafting and revising stages. Their design and functions, however, may not meet the special needs of process approaches. Sophisticated technological, on the other hand, may support the construction of specific systems tailoring special needs for writing pedagogies to support or solve problems in teaching and learning of writing (e.g. Bloch, 2008; Yang, 2011; Warschauer, 2007). This paper reports the functions of an online system which was designed and constructed especially for process writing approaches. The second half of the paper is to present a study examining the efficacy of this system in a writing class. Two research questions are addressed.

1. How does the affordance of OPWIS shape an English writing instructor’s commentary and students’ process to write?
2. How do students perceive the use of OPWIS in their writing process?

Literature Review

Process approaches

The development of second language writing has been undoubtedly influenced and is parallel to the development in first language (L1) writing research and pedagogies (Silva, 1993). The process movement in L1 composition was first introduced to L2 writing by Zamel (1976) and Raimes (1979). They suggested that treating L2 writing pedagogy as a process, writing teachers should pay more attention to writing process and lower the focus on the surface-level errors. Nevertheless, the direct adoption of process-oriented approaches from L1 to L2 writing has raised some debates. For example, Reid (1984) argued that Zamel’s notion of meaning-making writing process (1983) could only fit to advanced students with sophisticated language proficiency, but not for inexperienced ESL learners who needed “rhetorical acculturation.” (as cited in Kamimura, 2000, p. 2). Krapels (1993) also advised the hazard to adopt findings directly from L1 research and pedagogy because the research contexts and learners are not the same.

The popularity of process approaches in L2 writing research and teaching have given rise to a great deal of L2 writing research related to process writing. Roca de Larios, Murphy, and Martin (2002) reviewed 65 studies related to process writing between 1980 and 2000. They categorized these studies into the following five areas: (1) theoretical frames used in L2 writing process oriented research, (2) the skilled-unskilled distinction in process writing, (3) the development of L2 writing, (4) the comparison between L1 and L2 writers, (5) the relationship between writing ability and L2 proficiency. Although the exhausted review in Roca de Larios, et al affords a glimpse into the L2 process writing research, they indicated five limitations, including problems related to the notion of skill in L2 writing, the need to study formulation as a process in its own right, the temporal character of composition, the cognitive mechanisms of transfer, and the situated nature of L2 writing.

Reviewing a strand of research on writing process, Li (2007) categorized the research into the micro-process (e.g. teacher comments, peer review) and the “macro-process” (the process of learning to compose). She found that studies related to process writing seem to have targeted on specific components of the composition process (e.g. teacher comments,

peer review) rather than to see writing process as a whole. The issues in micro-process practice explored by the studies involved the strategies used in composing process (e.g. freewriting, drafting, and peer feedback) and teacher feedback. Indeed, these research foci in L2 writing have indeed dominated most of the L2 writing literature. Each of these research foci can strand a series of studies exploring a specific component of the writing process from different aspects.

Technology and L2 writing

In the past decades, the development and widespread of technology have brought significant influence on writing (e.g. Bloch, 2008; MacArthur, 2006; Warschauer, 2007). Due to the diverse forms and functions that technology has been developed, L2 scholars tend to see its potential for different application in L2 writing. For example, viewing the written-based synchronous or asynchronous communication via networked computers/devices, computer-mediated communication (CMC), such as e-mail, text-messaging, or online forum, has been credited to provide an alternative writing activity in L2 writing classrooms (Warschauer, 2007). The unique forms of linguistic features through CMC have also been found as a new register which may raise L2 writers' awareness of register variation in traditional and CMC writing (Chang, 2012). Targeting the application of technology in writing process, McArther (2006) listed word processing, hypermedia, and computer-mediated communication (CMC) which can be used and may facilitate tasks in different stages of writing process. Beyond these technological tools listed in McArther, Bloch (2008) further indicated corpus linguistics and blogging as new technology which may benefit L2 writing.

Most of the existing technological tools are not specially develop for writing instruction. With effective use of technology, customized systems may help to meet special needs in writing process. For example, Kuo (2008) developed an online writing system, which included three main parts (writing practices, peer review, and e-portfolio). The online writing system aimed at providing a friendly and supportive writing environment. Yang (2011) designed a reciprocal peer review system as a platform facilitating student learning from each other. Chang (2011) constructed an online teacher commentary system as a platform for teachers easily searching for appropriate commentary types. The system further calculates the occurrence of the error types for students to diagnose personal writing problems. Chang (2012) further developed an online peer review platform, integrating synchronous writing pad and chat, facilitating students to do peer review in distance.

These applications of technology in L2 writing reflect a great potential that technology may bring to L2 writing, even more specifically, to writing process. Stapleton and Radia (2009) coined the term "Tech-era L2 writing" to describe the new process where the use of integrating technology is emerged in L2 writing. Constructing useful technology for specific writing purposes (e.g. process approaches) seem to be valuable to facilitate L2 writing. In the following section, the construction of an online system tailoring for process writing approaches is introduced.

Online Process Writing Interactive System (OPWIS)

The construction of OPWIC, initiated from my earlier projects and prototypes of various writing systems (Chang, 2011; 2012), follows process writing approaches in which writing instructions emphasize on the process of writing involving drafting, revising, and editing. Within the framework, the system creates an online platform by offering interfaces facilitating different stages of process writing and several related functions which are further described as follows.

Drafting, revising, and editing

The core activities in process approaches are multiple-drafting process. OPWIS allows teachers create various drafts under one assignment. Under each draft, through the function of annotation, students can annotate their questions or concerns about their writing before submitting their drafts. The teacher can respond to the annotations while commenting on students' writing. Furthermore, OPWIS helps to compare any changes made between drafts. After any two of writing drafts are selected, the text comparison of the two drafts is displayed by marking any changes/revisions made in the latter version. This function helps the teacher or students track the process of revised parts between drafts.

Teacher commentary template

OPWIS is equipped with a teacher commentary template displaying a series of built-in commenting codes based on four major commenting areas—content, organization, language use, and mechanics. These built-in commenting codes allow teachers tag writing problems or errors, add annotations about specific writing problems, give a grade, and make final comments from personal commenting database.

Synchronous peer review system:

Peer review has been an important and widely adopted activity in process approaches. OPWIS is equipped with a synchronous collaborative writing platform which allows students to edit each other's writing simultaneously and chat with each other about writing problems. Both text editing results and the chat logs are saved for later consultation.

E-portfolio:

To facilitate portfolio assessment, OPWIS integrates an e-portfolio approach allowing students to select and compile their writing work from drafts, peer review revision, teacher comments, and final editing. According to the process of revision under each writing cycle, students write a reflection reporting their progress or problems within a writing assignment and across various writing assignments. Then, a title page and a table of content are automatically generated by the system to complete the submission of individuals' e-portfolio.

A study to examine the efficacy of OPWIS

The second half of the paper reports a study examining how a college-level English writing course adopts OPWIS for process writing activities, how the teacher's comments are shaped by OPWIS, and how the students perceive the use of OPWIS for their learning to compose. The study is conducted in an elective advanced English writing course for non-English majors in a language center at a public university in northern Taiwan. The main objectives of the writing course are to learn paragraph and essay writing. Twenty-five undergraduates taking this course are required to hand in six writing assignments, each of which involves a writing cycle from drafting, peer reviewing, revising, to editing. OPWIS is adopted as the assignment platform, through which all the activities in the writing cycles are undertaken.

The 25 students are invited to participate in the study. Data are collected from weekly class observations, two questionnaires, a semi-structured interview with 7 to 8 students, online interaction transcripts in peer review, student writing work, teacher comments, and portfolio. Different data are analyzed in different approaches. (1) The questionnaires with Likert-scale items are analyzed with descriptive analysis. (2) Weekly class observation and semi-structured interviews are analyzed based on the themes emerged. (3) Students' writing work and portfolio, serving as secondary data source and the sources of interview questions, are analyzed based on the changes that students make in different stages. (4) Teacher comments are analyzed based on frequency of commenting categories.

The results of the study are expected to help researchers and practitioners gain a better insight of process approaches in an EFL context and the efficacy of OPWIS for the process approach.

CALL in Context

With the rapid development of technology in the past decades, integrating technology in education has become prevalent. Class management systems (CMS) may be one of the most widely adopted systems in classroom instructions. While the functions of most CMS may afford general functions of class activities, such as class announcing, teaching material uploading, homework submitting, class discussing, and class quizzing or polling, the standardized design may not tailor to specific class activities, such as activities in process writing approaches to help learners to learn from the composing process. The self-developed online writing system—OPWIS introduced in the paper is constructed and specifically designed based on process approaches for English writing classrooms. Different from most class management system (CMS), the functions of the system are tailored for specific activities such as multiple drafting, peer reviewing, revising, teacher commenting, and portfolio assessing. The affordance of the system and the design of the process-based writing context are hypothesized that the affordance of OPWIS may shape writing teachers' course design and instruction and students' learning process. The construction of the system is actually initiated from my earlier projects, in which two specific systems—teacher commentary system and peer review system were constructed and designed to cope with special needs in L2 writing courses. OPWIS is the integration of the two main systems, and more functions are added to facilitate L2 writing, especially writing courses adopting process approaches. The introduction of the system and an exploratory study to examine its efficacy will contribute to the literature of computer-assisted language learning and L2 writing from the aspects of how the affordance of a special designed technological system may shape English writing instruction and learning.

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Teaching and learning academic writing via an online dialogic feedback system: Tripartite perspectives

Bio data

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Abstract

The trend of globalization has led to the spread of English-medium instruction (EMI) programs in higher education in many non-English-speaking countries. China, one of the biggest global markets, has launched EMI programs in many universities. Although various issues have been examined in the literature, few studies have been conducted in the context of China. While most Chinese students receive traditional English instructions in their K-12 schooling before entering an EMI program, it remains unknown how they meet the challenge of high demand of English for disciplinary learning. The study aims to explore how 40 business students in an EMI business course write essays in their disciplinary domain, how their disciplinary professor perceive the demand of the students' English written competence for their disciplinary, and how an English writing teacher's feedback through an online writing system may influence the students' learning how to write for their disciplinary domain. A mixed method with quantitative and qualitative approaches are adopted to collect data from interviews with the disciplinary teacher and several students, a questionnaire, and students' writing work. The results of the study are expected to help researchers and practitioners gain a better understanding of the mediation of adequate facilitations from English teaching and technology in teaching and learning in EMI programs.

Conference paper

Introduction

Under the trend of globalization in the past decades, higher education in non-English speaking countries has been meeting the challenge of internationalization. Such internationalization have brought "highly commendable reform initiative[s]" in higher

education (Hu, 2009, 47). One of the observable changes in educational systems and teaching approaches may be the adoption of English-medium instruction (EMI)(e.g. Hu, 2009; Jensen & Thøgerson, 2011; Kirkgöz, 2009; Vinke, Snippe, & Jochews, 1998). The notion of EMI, viewing English as a lingua franca, aims to integrate disciplinary learning and English proficiency to attract foreign students and to prepare students for an international market (Vinke, Snippe, & Jochews, 1998). Europe has launched many EMI programs in the higher education (e.g. Costa and Coleman, 2013; Vinke, et al., 1998). In recent years, EMI has also rapidly expanded in the higher education of Asian countries (e.g. Hu, 2008; 2009; Hu & McKay, 2012; Kim, Son, & Sohn, 2009). In China, for example, EMI programs for various subjects (e.g. information technology, business) have spreaded in higher education (Hu & McKay, 2012; Hu & Lei, 2014).

A growing body of studies, mostly conducted in European context, have explored various issues of EMI (Dalton-Puffer, 2012; Hu & Lei, 2014). Previous research has been interested in exploring the effects of EMI on language learning (e.g., Aguilar & Muñoz, 2014; Tazel, 2011) or on disciplinary learning (e.g. Hellekjær, 2010). These findings have yielded inconclusive results. With the significant increase of EMI in the Asian context, very limited studies on EMI has been conducted in China (e.g. Hu & Lei, 2014; Lei & Hu, 2014) and in Korea (Kim, 2011; Kim, et al., 2009). More research on EMI in Asian context is, therefore, called to gain a better understanding of EMI under various contexts since context is a crucial factor in the joint language and disciplinary learning (Hu & Lei, 2014). While most studies have emphasized on the examination of the effectiveness of EMI, few studies have attempted to further explore how most students who only receive traditional English instructions in their K-12 schooling transit to EMI programs and how they meet the challenge of high demand of English for disciplinary learning.

The study aims to explore how 40 business students in an EMI business program respond to the request of essay writing in their disciplinary domain, how their disciplinary professor perceive the demand of the students' English written competence to their disciplinary learning, and how an English writing teacher's feedback through an online writing system may influence the students' learning how to write for their disciplinary learning.

Methodology

This paper presents a 14-week online project which aims to help a group of post-secondary Chinese students in an EMI program in China learn how to write short essays for one of their disciplinary courses. The EMI business program launched in a public university in Southern China is leagued with a university in the United States. Students in the joint program complete the first two-year courses in China, continue the rest of the courses in the American university, and gain a bachelor degree from the American university. To prepare the students transit to the study in the United States, all the courses follow the business curriculum design in most business schools in American university systems. EMI is fully adopted in all the courses in the program.

The study is conducted in three macroeconomic courses taught by a professor from Taiwan who received his doctoral degree in the United States. The economic courses are a required course in the first year. Eighty students enrolling in the three macroeconomics courses. Forty students voluntarily participated in this study. During the data collection, all of the students from the three courses are required to submit four writing assignments, two before the mid-term examination and two after the mid-term examination. Each assignment involving two to three questions requires the students to write short essays in English responding to the questions. The four assignments are accounted for 40% of the final grade. According to the macroeconomics professor, the purpose of the assignments is twofolds: one is to urge the students to demonstrate their comprehension to the content

knowledge they learn in the course; the other is to urge them to learn how to express their content knowledge in written English.

To help the students learn how to write short essays in their disciplinary domain, an English instructor in Taiwan, also one of the researchers, serves as a writing consultant providing feedback related to English writing skills and gives suggestions to improve their writing for their disciplinary domain through an online writing system, OPWIS. The online platform, specially designed for writing instruction, is equipped with a dialogic feedback system allowing annotation of questions initiated by the students and teachers' responses to the questions and a built-in teacher commentary platform allowing writing teachers indicating specific writing errors or problems.

All of the students from the three courses are required to submit a hard copy in class before the deadline of each homework. Aside from the hard copy submitted in class, the participant students are also required to submit an electronic version of their assignments to OPWIS. The writing teacher comments on their assignment with constructive suggestions focusing on their English writing problems and academic writing skills. While submitting their assignments, the participant students are encouraged to further annotate any writing concerns or difficulties on their text on OPWIS. The writing teacher may particularly address the annotated parts while commenting on the assignments.

A mixed method with qualitative and quantitative approaches is implemented to explore how the students write the short essays to meet the requirement for their disciplinary courses, how their disciplinary professor perceive the demand of the students' English written competence to their disciplinary learning, compared to those who do not receive the writing intervention, and how the English writing teacher feedback and the online system mediate the commenting activity to help the students learn academic writing skills for their disciplinary domain. The data are collected from two rounds of interviews with the disciplinary teacher, one interview with seven to eight students, one questionnaire to the forty students, and all of the student writing work. The quantitative data from the Likert-scale items in the questionnaire is analyzed with descriptive statistics. A paired sample t-test is conducted to examine the scores of individual students' writing assignments. Finally, a ground theory approach is adopted to analyze the qualitative data by identifying the themes merged from the interviews and open-ended questions in the questionnaire.

The results of the study will help researchers and practitioners identify teaching and learning issues generated in EMI programs from tripartite perspectives. Pedagogical implications drawn from the results may suggest necessary English instructions to help students with adequate English competence to meet the challenge of EMI programs.

CALL in Context

In the past decade, the trend of globalization has initiated the internationalization of higher education around the world and has further accelerated the spread of English-medium programs in many universities in Europe, Asia, and other areas in the world. China, one of the most important global markets, has launched many EMI programs in many universities. However, traditional English instructions in China has been criticized not to satisfy the anticipated demands for advanced English proficiency that students should be equipped in EMI programs (Lei & Hu, 2014). The study, initiated from a disciplinary teacher's observations about his students' English proficiency and content knowledge in an EMI programs, aims to explore a group of students' English competence to meet the challenge of disciplinary learning under EMI and aims to explore the effect of an English writing teacher's feedback on students'

English competence. The development of networked technology in the past decades is credited to solve the educational problems beyond physical and time boundaries. In this study, a self-developed online writing system is adopted to create an online environment mediating three parties—the students in the EMI program, the disciplinary teacher, and the English writing teacher—in the EMI scenario. The study, situated in a complex context where both disciplinary and English teachers are from Taiwan, the students are from China and the students are learning how to acculturate the academic English and English for specific purposes. The online system creates another context where the students from the EMI program learn academic writing from the English teacher. Thus, the online context, language and disciplinary learning conjoint context, and the cultural contexts from both teacher and students interplay in the study.

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E-textbook for an intensive academic writing course in an English for Academic Purpose (EAP) programs: Design-based research

Bio data



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Abstract

This study introduces a Moodle-based e-textbook for an on-campus intensive academic writing course in an English for Academic Purposes (EAP) program. It employs a design-based research (DBR) framework to investigate what role of this e-textbook plays in the language learning experience of the course. The study is conducted with 74 students in three different classes for a short period time, 10 weeks.

Reading and writing modes have been changed due to innovative technology development by using handy electronic devices. This change influences on the way course materials are presented and the way students, in turn, access learning materials and prepare their study. As the personal device has emerged as a learning platform, the e-text book has evolved as the corresponding learning interface with tools and services available from within the platform and from external connections (Gu et al. 2015). In an EAP context, EAP teachers face two questions regarding the use of the increasing available technologies. The first is how they can prepare students for studying in such a technology-rich environment. The second is how teachers can use technology to enhance their teaching of EAP (Walker 2014, p.582). DBR can help to change the focus of research from 'what works?' questions to 'how can we make this work and why?' motives. This study indicates some benefits of the electronic version as compared to a printed version, and highlights the potential possibilities of answering these two questions.

The results show that the e-book enhances student learning experiences in three important areas of learning: 1) an e- textbook facilitates writing (i.e., E-textbook effectiveness); 2) it promotes a student's engagement in language learning (i.e., Student engagement); and 3) it improves students' learning outcome in critical thinking and writing (i.e., Learning outcome). The findings also suggest that the successful adoption of e-textbooks requires instructors to actively and effectively engage students in using e-textbooks, and provides some useful ways this can be accomplished. Further, a set of practical and usable design ideas is provided to enhance how students use an e-textbook, and how to develop the course materials to maximize the rich plethora of technologies available as a way of 'blended teaching'.

Conference paper

As the use of portable digital devices has increased considerably, reading and writing modes have been changed to become more fluid and more convenient. It is common to read books via electronic devices, and to also use these devices for writing purposes. These changes affect language learning and teaching context. The course materials delivered electronically and virtually are an expansion of learning and teaching space. E-textbooks are a more affordable option to all students in higher education institutions. More than 20 countries use e-textbooks in educational institutions (Gu, Wu & Xu, 2015). In the UK, 22 electronic textbook design guidelines were proposed by the 'eBook on Screen Interface (EBONI)' Project (Wilson & Landoni, 2002). In the US, Affordable College Textbook Act was introduced in 2013.

Along with these digitally driven changes, the concept of English for Academic Purposes (EAP) has also progressed and evolved in various ways. Recently Hadley (2015, p.23) characterizes EAP as "tertiary level English instructional training that enables learners to improve their language proficiency within higher educational institutions irrespective of the country within which that instruction takes place." Li and Wang (2016, p. 12) point out that EFL students studying overseas find difficulties in not only using English but also unfamiliar academic contexts, thus "requiring EAP to teach a range of academic skills in addition to linguistic systems". It will be necessary for students to continually adapt to new technologies and those literacy practices in their learning (Walsh, 2010).

As the personal device has emerged as a learning platform, e-text books have evolved as the corresponding learning interface with tools and services available both within the platform and their external connections (Gu, Wu & Xu, 2015). Although the increased widespread use of e-Textbooks in education has been anticipated due to its flexibility, accessibility, interactivity, and extensibility (Daniel & Woody 2013; Woody, Daniel & Baker, 2010), how e-Textbook in EAP affects teaching and learning remains unclear. Thus, this presentation will focus on two research questions below:

- What role does the e-textbook play in the experience of EAP students in an academic writing course?
- Does the e-textbook enhance the learning experience, and improve academic writing?

CALL in Context

- How to determine and implement the most appropriate technologies in the context of an online academic writing course.

The context is an EAP program delivered on StudyDesk, a Moodle-based, virtual learning platform. Determining which technologies and how to make best use of them is based primarily on learning objectives. The determination is also based on how often, and how successfully, such technologies would be inserted and taken advantage of in delivery of the course. These decisions (how often and how successfully new and innovative technologies will be introduced) are reliant on individual lecturers and course examiners. This research suggests that the introduction of an electronic textbook (e-textbook) allows program administrators a variety of continuous improvement options. By tracking use, student, instructor and examiner training segments could be developed. Continual updates and new technologies could be seamlessly introduced. The long-term goal, founded on design-based

research, would be the possibility of codifying a flexible and responsive set of e-textbook design principles.

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Learners' Uptake of Writing Feedback: Using Corpus as a Learning Aid?

Bio data



Karen Chung-chien Chang is currently teaching at National Taipei University. Her research interests include CALL related topics, learner autonomy, composition studies and translation/interpretation.

Abstract

With much interest in EFL writing, my ongoing research covers the themes of corrective feedback, online writing instruction, learner engagement, and learner autonomy. Three past research projects focused on how teachers' corrective feedback helped students foster learner autonomy, how students perceived learning writing through an online format, and how students' self-regulatory behaviors impacted their task engagement in writing revision. Two current projects cover examining the effectiveness of providing writing feedback in learners' L1 and the treatment of writing anxiety. In Taiwan, writing instruction only began to receive more attention in the recent two decades, shifting from a product-oriented to a process-oriented approach. In the process-oriented teaching approach, providing students with feedback for the purpose of writing performance improvement has started to gain much support among writing instructors. However, providing writing feedback, no matter it is done manually or electronically, remains a very time-consuming task for teachers. Aiming at helping students to learn how to correct their own mistakes, this study incorporated both teacher-provided feedback and the training of using a corpus as a learning aid. To raise students' awareness of the problematic areas in their writing, indirect corrective feedback, on selective errors, was provided by the instructor. Then, with training, the students were instructed to make use of an online corpus to address the errors/mistakes in their writing. In this process, two features stood out. First, the students, after receiving teacher feedback, had to make conscientious efforts to address their weaknesses. Although the students were encouraged to use the corpus, their levels of participation varied. Their reasons for taking part in this activity were analyzed through a questionnaire developed under the framework of Self-determination Theory to shed light on their development of learner autonomy. Second, the students' uptakes of teacher feedback and their levels of self-correction were calculated through the comparison between two drafts in four different projects. In addition, to understand how students corrected their own errors through the help of a corpus, a talk-aloud protocol was employed. The findings showed that most of the students demonstrated quite high levels of autonomy in their use of the corpus for self-correction. These students believed writing ability would be highly important for their future success, took pride in the identity of "good writers," and appreciated teacher-provided advice. Furthermore, the

findings indicated that teacher-provided indirect feedback functioned as an important guiding factor to raise students' awareness of their weaknesses.

Keywords: writing feedback, indirect feedback, use of corpus, learner uptake

Conference paper

Introduction

In Taiwan, writing instruction only began to receive more attention in the recent two decades, shifting from a product-oriented to a process-oriented approach. In the process-oriented teaching approach, providing students with feedback for the purpose of writing performance improvement has started to gain much support among writing instructors. Despite the belief that feedback should, to a certain degree, help students improve their writing quality, writing teachers have faced the challenges of how much feedback they should provide without impacting their students' confidence levels and how explicitly feedback should be provided. In addition, even when feedback is selectively given, such a process of identifying and marking students' errors (either explicitly or implicitly) has remained a time-consuming task. With the advent of corpora as resources for language learning, this study aims at exploring if a corpus can enhance students' uptake of teacher-provided indirect feedback. Through highlighting the problematic areas in students' writing and providing students with training in using a corpus, the instructor/researcher hopes to raise her students' awareness of the problematic areas in their essays. Moreover, through guiding her students to make use of corpus, the researcher aims to investigate if a corpus can function as a tool for the students to correct their errors and improve their uptakes of teacher-provided error feedback.

Literature Review

This literature review is divided into two parts. The first section covers previous studies on error feedback, especially on how feedback is provided, for feedback, provided in different manners and levels of explicitness, may affect how learners respond to the feedback in their revision. The second part focuses on past corpus studies related to writing to provide background information regarding how corpora have functioned as aids for students' language learning.

Teacher-Provided Corrective Feedback

When providing feedback to students' writing, teachers face different choices. Two main approaches are direct and indirect corrective feedback. The former mainly involves addressing students' errors directly by giving them the correct answers, whereas the latter includes marking errors (with underlines or circles), providing hints (such as grammar reminders or error codes), or supplementing detailed explanations or references. Both major approaches have gained support from the teaching community. Some argue that providing students with direct feedback helps them know the correct usage and foster their understanding of relevant rules. However, other writing instructors as well as researchers are in favor of indirect feedback, for they believe that indirect feedback functions as important guiding points to students in the pursuit of finding ways to improve their weaknesses. In such a pursuit, more cognitive load is required for students to address errors in their writing, leading to a longer retention of pertinent information.

In providing students with feedback for improving their writing performance, major points of discussions are related to the types of errors and the time-consuming nature of the task. First, past research has shown that students benefit from clear, selective, prioritized, and contextualized feedback on their weaknesses (Bitchener, 2008; Bitchener et al., 2005; Ellis et al., 2008; Ferris, 2006; Hartshorn et al., 2010; Russell & Spada, 2006; Sheen, 2007).

Because of such findings, teachers are advised to focus on certain features in their students' writing.

However, teachers may still encounter difficulty in adopting this approach. Take Taiwan for example. In reality, most college English curricula in Taiwan require students to take a maximum of two years of General English, with little or no emphasis on writing. Most English majors are required to take two to three years of writing courses. In such a learning span, students' weaknesses in writing may not be fully addressed if teacher feedback only targets at a few types of errors each semester. While past research has focused on the usage of prepositions and demonstratives, there are often more important problems to tackle in students' writing. Second, marking errors and providing explanations in a more comprehensive scale consumes much time, a common difficulty for many writing instructors.

Therefore, echoing the suggestion made by Evans et al. (2010) in finding out a better and more effective approach of guiding students to write better, this study employs teacher-provided indirect feedback and corpus instruction to investigate students' behaviors in using a corpus and their uptakes in error correction when using a corpus to facilitate their essay revision.

Corpora, As Aids To Language Learning

In the past two decades, the studies on corpora as resources for issues related to linguistics are many. This section has selected the studies mainly pertinent to writing instruction and learning. Past research has established that corpus technology, as a resource which integrates vocabulary, grammar, and discourse patterns, bears great potential to serve as an aid to writing instruction (Gledhill, 200; Hyland, 2002, Jabbour, 2001; Tribble, 2002). More recently, some studies have been carried out to explore students' experiences in using corpora in their writing process. Todd (2001) and Gaskell and Cobb (2004), in their respective studies, have found that learners were able to make corrections based on concordance evidence. Yoon and Hirvela (2004) studied ESL students' behaviors and attitudes in using corpora. Their findings have indicated that the use of corpus helped their students acquire commonly-used patterns of words and increase the students' confidence in writing. In their 2006 study, Lee and Swales examined doctoral students' use of specialized and general corpora. The doctoral students participating in the study were reported to have increased their knowledge about disciplinary writing. In addition, Gilmore (2008) conducted a study in which he encouraged the students to make use of two corpora, the BNC and COBUILD online corpora, to aid their redrafting process. In the students' essays, sentential, lexical, and grammatical problems were highlighted. The second drafts were collected and the students' responses in using the corpora were collected. The comparison between the first and second drafts submitted by the students showed much improvement on the second drafts. More specifically, a high percentage of the revised content (61.14%) was rated as more natural, and 95% of the students commented on online corpora as useful resources to aid their redrafting process. In another study, Yoon (2008) investigated how the use of corpora might impact students' writing process. The findings have shown that corpus use helped the students solve immediate writing problems, heighten their language awareness, and cultivate a habit of checking their writing. Besides, the students learned to take responsibility for their writing; their confidence in writing increased and they demonstrated a higher level of autonomy.

Though past studies have pointed out the positive influences that corpus use can have on students' drafting and revising processes, the current study specifically looks into the level of helpfulness of corpus use on the participants' revision and the rationale behind the participants' corpus-use behaviors.

The Study

This section includes three parts: participants, research design, and data collection tools. First, the participants were sophomore college students who were taking the course of academic writing. A total of 28 students (24 females and 4 males) took part in this study. Second, the study lasted for eighteen weeks in which the students were required to complete four different writing projects. For all writing projects, a process approach was employed. Specifically, in each writing project, the students had to submit three drafts, and the instructor would provide corrective feedback to guide them in the revision process. In this study, for the purposes of raising students' awareness of the problematic areas in their writing and guiding students to use the introduced corpus, corrective feedback was provided in an indirect format. Problematic areas were highlighted, and the students were instructed to correct the problems with the aid of the corpus.

Last, data collection tools included one questionnaire, students' revisions, and an interview. To understand the students' reasoning in using the corpus for improving their writing, the Learning Self-Regulation Questionnaire (LSRQ) was administered. The questionnaire asks the respondents why they engage in a certain learning-related behavior and is formulated with 14 statements covering two subscales: Controlled Regulation and Autonomous Regulation. In this questionnaire, seven statements are related to autonomous regulation, and another seven are linked to controlled regulation. In addition, to understand the usefulness of the corpus in aiding the students to revise their essays, the revised drafts were examined. In this study, each student completed four projects with three drafts for each project. However, only the first and second drafts received teacher-provided feedback, for in the third drafts, grades were assigned. To examine how the students made use of the corpus to address the problematic areas in their drafts, the teacher-commented, first drafts were compared to the students' revised second drafts. Take Lulu's (pseudonym) drafts for example. She submitted her first draft and received teacher-provided comments (the teacher-commented, first draft). Then, with the help of the corpus, she made attempts to address all the comments and completed her second draft. In this study, these two drafts were compared. In the comparison of the two drafts, three steps were carried out to investigate the helpfulness of the students' corpus use. First, the original total of teacher-provided comments was tallied. Next, the instructor read the students' second drafts to examine and tally the problematic areas that had been addressed through corpus use. Then the final step was to calculate the percentage of error correction. For this calculation, the total of the successful correction was divided into the original total of the received error feedback. Furthermore, interviews were held with all 28 participants to gain insight of their corpus-use experience.

Findings And Discussions

The section of findings is arranged in the sequence of students' uptakes of error feedback through corpus use, their rationale for engaging in using the corpus for error correction, and their evaluation of this corpus-use experience.

Students' Uptakes of Error Feedback through Corpus Use

In this study, the students' uptakes of the comments provided by their teacher were examined through their drafts. Table 1 compiles the results collected from the students' drafts (the first and the second drafts) for Project 1 and Project 2 (see details in Table 1 in Appendix A). In the revision from draft 1 to draft 2 for both projects, the students demonstrated quite good use of the corpus in addressing the errors in their first drafts. Take Project 1 for example. Among all participants, the correction percentages resulted from the use of corpus can be roughly divided into two categories. Thirteen students had correction percentages between 20% and 40%, and 15 of them had correction percentages between 41% and 60%. Then, in Project 2, the percentages were very similar, with 18 students'

correction percentages between 20% and 40%, 8 students' between 41% and 60% and 2 students' above 60%. Though the percentages fluctuated a bit between the two major groups, what can be observed from the students' progress in the two projects was that the use of corpus helped them correct their errors and functioned as a resource for learning and self-improvement.

Rationale for Active Engagement in Corpus Use

To understand why the students participating in this study actively engaged themselves in corpus use, the Learning Self-Regulation Questionnaire (LSRQ) was administered, and the results were compiled into Table 2 (see more details in Appendix B). As the Factor Analysis of the 14 statements in the LSRQ indicated that the students' responses could be examined from three angles, the following analysis focuses on the motivating factors for the students to use the corpus, the external factors for their active corpus use, and their use of the answers found in the corpus for error correction.

To begin with, in the first dimension of the factoring motivating students' corpus use, a very high percentage (96.4%) of the students perceived corpus use as a good way to improve their writing skills. In terms of their rationale for using the corpus for revision, 82.2% of the students wanted to be perceived as good writers, and all of them stressed the importance of doing well in writing. Furthermore, when asked about why they would continue using a corpus, all participants wanted to challenge themselves in becoming better writers; 96.4% of them expressed a sense of pride gained from continuously improving their writing; 92.9% felt it would be interesting to apply the skill of using a corpus to their future career, and 82.1% of the participants felt excited about learning new expressions and acquiring word patterns.

In the second component (related to questions 2 and 5) and the third component (related to questions 4 and 6), the students' responses revealed that although their participation was grade-oriented, their motivation was still strongly connected to their desire of improving their writing skills. More specifically, the students' responses to Question 2 indicated that only 3.6% of them were concerned about the negative perceptions from others when failing to use the corpus, but 92.8% of them stated that they would feel bad if they could not make good use of the corpus for improving writing in their responses to Question 4. In addition, although 85.8% of the participants actively used the corpus for revision because of their desire for a good grade, all of them still made this decision in the belief that the corpus could help them improve their writing. From this viewpoint, the students seemed to have become conscientious in selecting the help they needed for their self-improvement in writing.

Last, the participants' responses to questions 8 and 10 revealed why they incorporated the answers found in the corpus for error correction. Among all participants, 64.2% of them chose to incorporate the suggested answers from the corpus not just because it was an easier approach but because they wanted to improve the quality of their writing. What can be inferred from such responses is that the students had filtered the collected information in order to make the best choices for correcting their errors. Yet, all of the students pointed out that they would probably feel a sense of guilt had they chosen not to make use of the corpus. This unanimous response seemed to indicate that the students were aware that the corpus introduced in their writing course had a potential to aid their improvement.

Students' Evaluation of the Corpus-use Experience

Interviews were conducted to investigate how the students evaluated this corpus-use experience. The participants were asked to evaluate, describe, or comment on using the

corpus as a learning tool. The following responses were several excerpts taken from the interview transcriptions. One student illustrated this experience as following.

Learning to use the corpus can be described as a journey which was characterized with a lot of confusion at the beginning because I didn't know how to obtain the information I was looking for. However, with different tries, not only was I able to find the suitable expressions, I also became more familiar with the corpus itself.

Three other students used the word "novel" to describe this learning experience simply because they were never exposed to a corpus before. One of them said, "I didn't know the existence of corpora before and never thought of using it to find the expressions, collocations and different word choices before." Another student elaborated on the "inspiring" nature of the corpus introduced in this course.

I often started out with one word and found more advanced word patterns. Then I searched the more advanced word patterns only to find more different expression. For me, a corpus is like that Russian doll which has multiple layers inside.

Naturally, some students found corpus use as quite a time-consuming task. Because their errors were highlighted by the instructor, the students knew they needed to find the correct usage. "Sometimes, I had to make several tries before I could find anything useful. I had to remind myself to be patient. I think patience is very important for anyone trying to use it as a resource." Another student explained that this experience has taught him a new lesson about revision.

I have learned to leave more time for essay revision because working with a corpus takes a lot of time. When new expressions are found, it is necessary for me to read through them first before I can decide when the expressions are what I was looking for.

Out of the 28 students participating in this study, 15 of them used the analogy of "learning to catch fish themselves" on this journey of learning how to use the corpus.

Conclusion And Future Direction Of Studies

This study was inspired by an attempt to reduce the time that writing instructors often had to spend on providing corrective feedback, especially when they needed to provide students with lengthy explanations on the errors identified in students' drafts. With highlighted comments on their errors, the students in this study were instructed to make use of a corpus to help them address the errors. This attempt has generated quite positive outcomes. The participants in this study have demonstrated good uptakes of the error feedback, and they felt very positive about this learning experience. What can be learned from this pilot study is that, with enough guidance, students can learn to broaden their English expressions and word patterns to solve the problems in their own drafts. However, it is of great importance for students to become familiar with how their instructors mark the errors. That is, in order for students to have greater uptakes of teacher-provided error feedback, students need to know not only how to navigate themselves through a corpus but also what their teachers' comments may mean. For future studies, attention can be directed to how students respond to different features of a corpus so more effective lessons can be created to train learners in corpus use.

CALL in Context

In this study, a corpus was used to guide the students in their revision. Moreover, to know why the students engaged in corpus use as a way to improve their writing, the Learning Self-Regulation Questionnaire was administered. From the perspective of the Self-

Determination Theory, this study attempts to understand how students made use of a corpus to bring about changes to their writing improvement.

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Flipping writing classrooms via constructivist telecollaboration to enhance cross-cultural sensitivity, critical thinking, and language learning

Bio data



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Abstract

Language and culture are both indispensable if an individual would like to function well in the modern global society, whether via verbal communication or through written interaction, thus leading to the importance of the cultivation and development of both linguistic and cultural competence. Despite previous literature already proving the positive nature of

constructivism, the value of telecollaboration, and the benefits of flipped classroom, a critical investigation into the current EFL practice indicates that cross-cultural sensitivity is still being treated as peripheral to language instruction and that conventional writing pedagogy is yet to be innovated in order to motivate students to love EFL writing. Therefore, the current study aimed to probe into the effectiveness of a writing class on EFL learners' cross-cultural sensitivity, critical thinking, and writing proficiency in a flipped, constructivist learning context via telecollaboration. The participants were 48 sophomore English-majors in two required English Composition classes, with each one paired up with two American undergraduates. A mixed research method adopting multiple sources of data collection was employed, including pre- and post-tests on two genre (descriptive essay and argumentative essay), one questionnaire ("Intercultural Sensitivity Scale"), the instructors' in-class observations, students' reflective journals, their weekly log entries, and in-depth interviews. The results revealed that the pre-class learning activities (reading relevant materials, answering comprehension questions online, reviewing instructional videos) and the constructivist dynamism linking students with different cultural backgrounds for knowledge co-building significantly enhanced the students' writing proficiency. Such enhancement was evidenced by their increased demonstration of critical thinking and improvement in global issues (ideas, organization, voice) as well as local issues (conventions, sentence fluency, word choice). Active intercultural communication in the provided telecollaboration platform also contributed to significant enhancement of their cross-cultural sensitivity, as shown in their positive perceptions of interaction engagement, respect for cultural differences, interaction confidence, interaction enjoyment, and interaction attentiveness.

Keywords: constructivist learning, flipped learning, intercultural telecollaboration, cross-cultural sensitivity

Conference paper

Introduction

In most ESL writing classes, conventional approaches to language teaching and learning have been teacher-centered and lecture-based. Such activities, however, have not effectively encouraged students to love writing in a foreign language. One potential solution to this lies in the introduction of genuine cross-cultural interaction between EFL learners and native speakers, since language and culture are interrelated and indivisible (Heidari, Ketabi, & Zonoobi, 2014). Nevertheless, the interaction of culture and EFL pedagogies has been insufficiently implemented and remained as an underexplored issue (Kearney, 2010). In this vein, the idea of establishing an online collaboration fits in such an emergent call, since its constructivist nature enables learners to develop socially and intellectually through the interaction with and help of other people (Vikneswaran & Krish, 2016), where knowledge is shared, explored, developed, and co-built as the result of social interaction with others (Pritchard & Woollard, 2010). Previous studies have shown the positive effects of online cross-cultural interaction on learners' development of competence, intercultural communication and sensitivity (O'Connor, 2012; Wang, 2011).

One of the alternatives to facilitate online collaboration is to implement flipped learning, where students acquire writing knowledge at home by viewing self-produced instructional video clips prior to class, have online interaction with other learners, and practice the writing skills in physical classes. Studies have shown the positive effects of flipped learning on learning performance (Baepler, Walker & Driessen, 2014; Chen Hsieh, Wu, & Marek, 2016; McLaughlin et al., 2014). Figure 1 illustrates the theoretical framework of the current study.

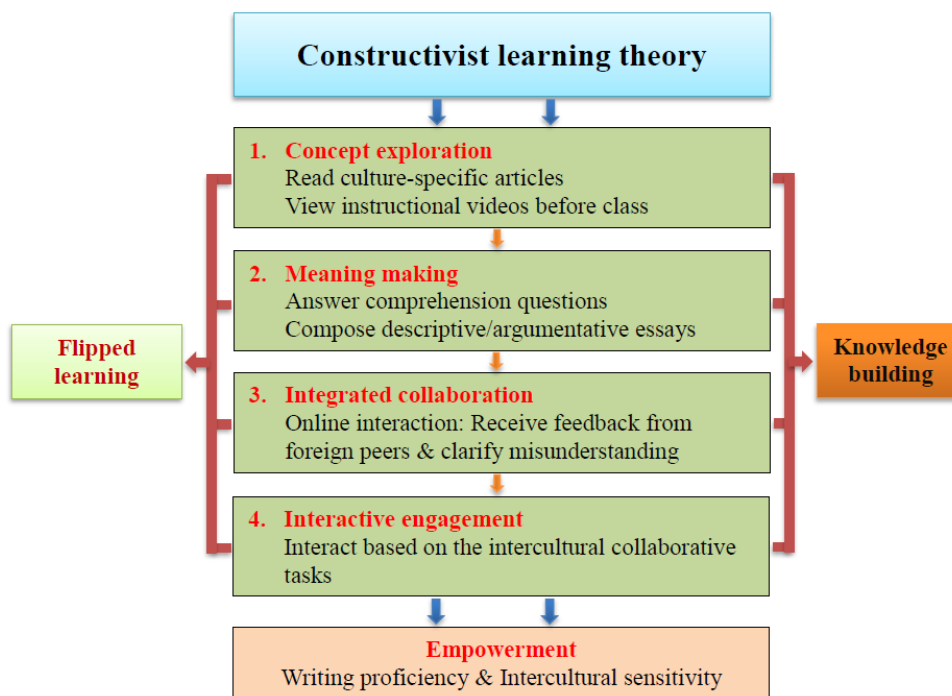


Figure 1. Theoretical framework of the intercultural collaboration

While learning in intercultural contexts receives much more attention, and online learning platforms as well as flipped learning are integrated into the field of language education, studies concerning how to innovate conventional instruction so that EFL learners are provided with opportunities of intercultural communication remain scarce. Therefore, this study was designed to enhance EFL learners' writing proficiency and sensitivity to the target culture via a flipped, constructivist telecollaboration. According to the purposes of the study, the following research questions were formulated to guide the exploring procedures:

1. Did the intercultural writing collaboration enhance EFL learner's writing outcomes?
2. Did EFL learners improve their intercultural sensitivity in the intercultural writing collaboration?
3. What were the students' overall perceptions about the intercultural collaborative interaction?

Methods

Participants

The target population of this study consisted of 48 sophomore English-majors from two Intermediate English Composition courses at a four-year academic university in central Taiwan, with each one paired up with one American e-pal.

The reading materials and the instructional videos

Two reading materials were co-written by instructors from both Taiwan and America, with holiday chosen for descriptive essay and parenting selected for argumentative essay. The two articles were carefully organized with general introductions to aspects salient enough for the students to distinguish the similarities/differences of different cultures. The instructional videos made by the instructor provided the students with guidance related to descriptive as well as argumentative essay writing.

Research Design

Multiple sources of data were collected to examine the effectiveness of the flipped constructivist telecollaboration. Figure 2 shows the alignment among the issues explored, research questions, and data collection.

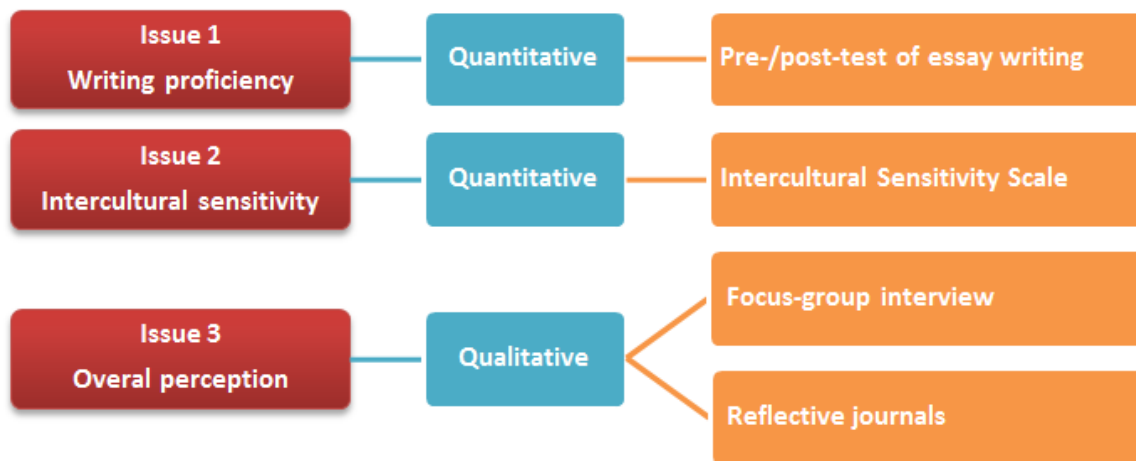


Figure 2. Issues explored and instruments employed in the current study

Data analysis

To examine the participants' overall writing proficiency the participants completed the respective pre- and post-test of the descriptive and the argumentative essay. The participants' essays were graded by three EFL writing instruction experts using the 6+1 traits writing assessment model that includes ideas, organization, voice, word choice, sentence fluency, conventions, and presentation. To probe into the participants' intercultural sensitivity, the 24-item Intercultural Sensitivity Scale developed by Chen and Starosta (2000) was employed. Self-developed focus-group interviews with protocols and reflective journals were employed to explore the students' perceptions of their overall learning experiences in the course by focusing on cross-cultural interaction with foreign partners and similarities or differences observed between different cultures.

Results and discussion

The learning activities and the constructive feedback from foreign peers effectively helped the participants to gradually familiarize themselves with the unique structures of the writing genres, thus enhancing their overall learning outcomes. The intercultural collaboration also helped the students to develop socially, intellectually, and critically via the interaction with their foreign partners, echoing findings in previous studies that online intercultural interaction improved EFL learners' English writing proficiency (Lin & Chine, 2009; Lundstrom & Baker, 2009).

The intercultural sensitivity survey revealed that the students' responses fell into the upper-intermediate category, and that the mean score of the post-survey were significantly higher than that of the pre-survey. The result echoed previous studies in that the online intercultural exchange enhanced the participants' intercultural sensitivity (Liaw & Master, 2010; Zheng, Young, Wagner, & Brewer, 2009).

With students' overall cross-cultural learning experiences collected via focus-group interviews and reflective journals, most of the students in Taiwan thought that they enjoyed the interaction with their partners since they not only had the opportunities to understand another culture in greater depth but also received constructive feedback that helped them

to enhance their writing skills and quality, echoing the findings of previous studies (Bijami, Kashef, & Nejad, 2013; Luw & Law, 2012).

Conclusion

The results of this study revealed that the intercultural writing collaboration created an appropriate context for learners with diverse cultural backgrounds to communicate effectively and interact in greater depth, leading to subsequent enhancement of writing proficiency, intercultural sensitivity, and mutual respect for as well as acceptance of different cultures. While intercultural collaboration is an appropriate instructional design in an EFL context, step-by-step guidance and timely encouragement that helps students to take accountability of their learning process and to recognize the final sweet outcomes is prerequisite to successful maintenance of the given instructional design.

CALL in Context

The paper examines the role of the local context of the Taiwanese learner in light of how intercultural telecollaboration and flipped classrooms could be integrated into an EFL writing class, which was deeply rooted in Constructivism. This close examination of the local context further helps shape the design of the learning environment in this particular EFL context and better understand the affordances of technological applications in a flipped telecollaboration for EFL learners. As the students in Taiwan interacted with their American partners via those constructivist learning activities adopted in the study (concept exploration, meaning making, integrated collaboration, and interactive engagement), such technology-based cross-cultural collaboration facilitates the contextualization of an authentic learning, eventually contributing to empowering EFL writers in the aspects of identification and appreciation of cultural differences, critical thinking, and writing proficiency.

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Providing a personalized context-dependent environment for appropriate use of emotion vocabulary

Bio data



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Abstract

Appropriate use of synonyms is a challenging task for many language learners. It is especially true for emotion words. Little exposure to emotion vocabulary leads to language learners' limited vocabulary size and weak knowledge of paradigmatic relations of emotion words, such as gradation or intensity. Thus, learners tend to use general emotion words or superordinate terms (e.g., "happy") rather than specific terms or hyponyms (e.g., "thrilled") to describe their feelings. Studies show that effective emotion vocabulary learning occurs in context. However, existing reference tools such as dictionaries or thesauri seem unable to offer effective help. Indeed, the emotion words suggested by these tools are accompanied by either little or no contextual information, or seldom include explanations of how they are to be used. As a result, emotion words selected by the learner are likely not contextually appropriate. To address this issue, we propose personalized context-dependent emotion vocabulary learning by developing the RESOLVE system. The system is able to suggest the appropriate synonymous emotion words based on the learner's context. Importantly, usage information about the suggested emotion words—including scenario descriptions, definitions, and example sentences—is provided, which is crucial to vocabulary knowledge development and appropriate use of emotion words. To explore whether and how RESOLVE helps

language learners with contextually appropriate emotion word use, we carried out a six-week experiment with 48 EFL college students. We compared their writing tasks in the pre- and post-tests to examine the appropriate use of emotion words. Moreover, a questionnaire was developed to elicit learner perceptions on their RESOLVE experience. The preliminary results showed that our learners substantially benefitted from the tool support.

Conference paper

Appropriate use of synonyms is a challenging task for many language learners. It is especially true for emotion words (Pavlenko, 2008). Little exposure to emotion vocabulary leads to language learners' limited vocabulary size and weak knowledge of paradigmatic relations of emotion words (Altarriba & Basnight-Brown, 2012; Dewaele & Pavlenko, 2002; Kaneko, 2003), such as gradation or intensity (Clare & Ortony, 1988; Dewaele, 2005; Karlsson, 2014; Miller & Charles, 1991). Thus, learners tend to use general emotion words or superordinate terms (e.g., "happy") rather than specific terms or hyponyms (e.g., "thrilled") to describe their feelings. Researchers suggest that effective emotion vocabulary learning occurs in context (e.g., Altarriba & Basnight-Brown, 2012; Haastrup & Henriksen, 2000; Nagy & Gentner, 1990). However, existing reference tools such as dictionaries or thesauri seem unable to offer effective help. Indeed, the emotion words suggested by these tools are accompanied by either little or no contextual information, or seldom include explanations of how they are to be used. As a result, emotion words selected by the learner are likely not contextually appropriate. To address this issue, we propose personalized context-dependent emotion vocabulary learning by developing the RESOLVE system (W.-F. Chen, Chen, Chen, & Ku, 2016). The system is able to suggest the appropriate synonymous emotion words based on the learner's context. Importantly, usage information about the suggested emotion words—including scenario descriptions, definitions, and example sentences—is provided, which is crucial to vocabulary knowledge development and appropriate use of emotion words.

To explore whether and how RESOLVE helps language learners with contextually appropriate emotion word use, a writing task was conducted with 48 Chinese-Speaking EFL students. In addition, a reflection questionnaire was developed to elicit learners' opinions on the tool support. The study was conducted outside of class time and lasted for six weeks, including the time for a proficiency test, a pre-test (one week prior to the treatment), and a post-test (one week after the treatment). Two native-speaker judges were invited to evaluate learners' writings. To truly reflect learner performance, the results of the two judges' evaluations were reported respectively.

The average learner scores in the pre- and post-tests were used as performance indicators. The first row of Table 1 shows that all learners achieved expected gains. ANOVA results revealed that there was a significant difference between learner performance on the pre-test and post-tests (Judge 1: $F(1,64)= 9.67$, p value=0.003 and Judge 2: $F(1,64)= 9.92$, p value=0.002). This indicates that both judges agreed that the participants benefitted from the tool support.

Table 1. Participant performance on pre- and post-tests

Participants	Judge 1		Judge 2	
	Pre-test	Post-test	Pre-test	Post-test
All	3.18	4.88	3.64	5.48
Highly proficient	4.33	4.60	4.40	5.73
Less proficient	2.22	5.11	3.00	5.28

Full marks=6.00

We further examined the performance of students with differing proficiency levels. The scores of a proficiency test (M.-H. Chen & Lin, 2011) were used to separate the learners into the highly and less proficient groups. As can be seen from the second panel in Table 1, after the treatment, less proficient learners achieved almost the same or even higher levels of performance in the emotion wording task than their counterparts. The significance of the improvements of both groups was further quantified by ANOVA: the first judge's evaluation showed a significant difference between both the highly and less proficient learners ($F(1, 31)=9.76$, p value=.004) whereas according to the second judge no significant difference existed between the two groups ($F(1, 31)=.71$, p value=.405). Despite this disagreement between the two judges, the less proficient students showed marked improvement.

Table 2. Survey results of participant perceptions on RESOLVE

Item	All	High	Less
Appreciated the usability of the system	78.8%	80.0%	77.8%
Benefited from the suggested synonyms	69.7%	66.7%	72.2%
Were satisfied with the number of synonyms	66.7%	53.3%	77.8%
Benefited from the usage information of suggested synonyms	69.7%	80.0%	61.1%

On the other hand, we also explored students' reflections on the effectiveness of tool support based on their questionnaire responses. The responses of learners at different proficiency levels to the questionnaire were also analyzed (Table 2). Student responses indicated appreciation for both the system functions and the information provided. Nearly eighty percent of learners appreciated being able to directly consult the synonyms and usage information without switching visual focus between webpages while composing their writing. Regarding the information RESOLVE provided, about two thirds of learners were satisfied with the emotion synonyms, the number of the synonymous emotion words and the usage information. The usage information facilitates learners' use of emotion words and promotes language proficiency, in particular by use of example sentences; these augment contextual information and illustrate lexical usage in real-world environments, and aid in understanding of the contextual words (Chen et al., 2014; 2015). In short, positive student comments showed that RESOLVE achieved this goal. Participant responses were consistent with their performance in the emotion writing task discussed above.

On the whole, in view of the limited emotion vocabulary of learners and the limitations of existing reference tools, we promote personalized context-dependent emotion vocabulary learning. Taking advantage of the computer technology, the RESOLVE system is able to

suggest the appropriate synonymous emotion words based on the learner's context. The experiment results showed that learners gained substantial benefits from the tool support.

CALL in Context

Context-dependent learning and personalized learning has recently received considerable attention in language learning. Contextual information plays a vital role in determining the semantic similarity of synonymous words. On the other hand, personalized learning makes language education more learner-centered. By taking advantage of computer technologies, personalized and contextualized learning can be effectively achieved. To realize this goal, we developed a context-aware synonymous word suggestion system, RESOLVE, applying machine learning technology, which is one important approach in the field of computational linguistics or natural language processing. In view of its ability to learn from and making predictions on data, our system is capable of generating contextually appropriate emotion words. The suggested synonyms are ranked based on the given context. This synonym ranking suggests the extent of their appropriateness. The main contribution of this exploratory study is to facilitate personalized context-dependent emotion vocabulary learning. It is worth mentioning that although the focus of the current study is emotion vocabulary learning, the RESOLVE system can be easily adapted for other synonym learning.

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The Design of A Blended EFL College Writing Course

Bio data



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Abstract

Due to the importance of English written communication in the era of Internet, more and more colleges in Taiwan offer English writing courses for their students to improve their English writing ability. Literature on teaching L1 and L2 writing provides writing teachers with a lot of instructional ideas. The advent of computer later not only influences but also changes writing teachers' ways of instruction. With the prevalence of social media, such as Facebook, Twitter, Google+ , etc., nowadays, writing teachers do not lack instructional ideas because practitioners are willing to share their experiences on the forums. However, not all of the kindly suggestions are generalizable or applicable to a local context. Especially when L1 and L2 writing are most of the time lumped together while in essence they are different. To develop a suitable EFL college writing course for English majors here in Taiwan, the teacher-researcher in this article gathered information through questionnaire and classroom observation from a pilot study and refer to L1 and L2 writing theories and models. A blended writing course which integrates traditional classroom activities and technology was then proposed based on the data analysis and literature review. Some classroom activities in this course include various brainstorming techniques, practice of topic sentence & conclusion, prompt collaborative narration by the whole class in order to reinforce brainstorming techniques and the coherence of writing, etc. After determining the role and shape of the most appropriate technologies, five types of technologies are utilized: (1) *blogs* (for students to free write, write for a real audience, turn in their assignments, build up hyperlinks for learning to write, and), (2) *instructor-made multimedia files*, e.g. PPT and audiovisual files (to provide supplementary materials other than textbooks), (3) *utilization of the e-learning system, Moodle* (for the teacher to manage the class and archive the course files), (4) *useful websites for learning to write* (to provide supplementary materials and develop learner autonomy), and (5) *mobile-assisted language learning (MALL) materials* (to provide supplementary materials and also develop learner autonomy). It is hoped that the attempt will provide some useful guidelines for Taiwanese EFL writing teachers who wish to integrate technology into their conventional writing courses.

Key words: EFL, blended learning, course design, computer-assisted English writing

Conference paper

Introduction

Developing an EFL writing course in the era of Internet, it is inevitable for teachers to think about incorporating technology with established classroom structures and make it a blended one. Though being enthusiastic for experimenting a blended writing course, most of the time, teachers are at a loss for finding an appropriate *design* model to follow. As a matter of fact, according to Wold (2011), the design model for informing teachers of the essential elements of a blended writing course has not been found yet, let alone dictating the proportions of each element. Other than that, there have been debates on the differences and similarities between L1 and L2 writing (e.g. Flowerdew, 2000; Kennedy, 2001; Spack, 1997; Noor, 2001; Wang, 2012). This makes writing teachers even more disoriented when trying to adopt an appropriate *writing model*. This article discusses the theories related to EFL writing instructional design with a focus on how the contextual factors affect the course design and the process of developing the blended writing course.

Background and Rationale

L1, L2 Writing Model, & CALL Model

By raising a number of differences between L1 and L2 writing, Grab (2001) states that "At present, there are no specifically L2 theories of writing development nor are there strongly predictive models of writing for L1 contexts" (Silva & Matsuda, 2001, p. 46). In order to consider the possibilities for developing a theory of L2 writing, after analyzing two descriptive writing models, one proposed by Hayes (1996) and the other by Grab and Kaplan (1996), Grab (2001) finally turned to a *conditions approach* because he thought that it was a good way to embrace a large set of components about L2 writing that would need to be accounted for (p. 54). A *conditions approach*, in fact, echoes Egbert, Hanson-Smith, & Chao's (2007) call for the theory of SLA in developing a general Computer-assisted Language Learning (CALL) model (Appendix A). Egbert et al. (2007) argued that educators did not need a discrete theory of CALL to understand the role of technology in the classroom and believed that a clear theory of second language acquisition (SLA) and its implications for the learning environment would well serve the goal. In a similar vein, Grab suggests researchers to follow Spolsky's (1989) lead for SLA and categorizes conditions on writing development. The major categories for conditions on learning to write are as follows:

1. Knowing the language,
2. Knowing how to use the language (communicative competence),
3. The human learner,
4. Individual abilities and preferences,
5. The social context,
6. Attitudes and Motivation,
7. Opportunities for learning and practice, and
8. Formal instructional contexts.
9. Processing factors,
10. Cultural variability
11. Content and topical knowledge,
12. Discourse, genre, and register knowledge (p. 53).

Computer-Assisted English Writing & Blended Language Learning

The computer as a writing tool and communication medium has changed how and why people write as well as changed the teaching practice among teachers. With its variable affordances at different times, computer has been used to help learners improve their writing from *word processors* (Akyel & Kamisli, 1991; Neu & Scarcella, 1991; Pennington & Brock, 1992; Phinny, 1991; Phinny & Mathis, 1990; Beck & Fetherston, 2003), *computer-*

mediated communication (CMC) (Pennington, 2003; Camacho, 2008; Fellner & Apple, 2006; Hung, 2007, Amer, 2006; Warschauer, 1996b; Huang & Hung, 2008; Mahdi & El-Naim, 2013; Huang & Hung, 2008; Mahdi & El-Naim, 2013; Hyland, 2003; Lin, 2009; Chen, 2016; Stoddard & MacArthur, 1993), *Internet* (e.g. Marcoul & Pennington, 1999; Warschauer, 2004), to *Web 2.0's blogs* (e.g. Campbell, 2003; Stanley, 2005; Fellner & Apple, 2006; Soares, 2008; Bakar, 2009; Nishikiori, Wang & Woo, 2010; Murray & Hourigan, 2008; Farmer, 2004).

As defined by Bonk and Graham (2006), blended learning means the synthesis of a wide variety of learning methods. Nowadays, according to Norm (2012), blended learning mostly combines Internet and digital media with established classroom structures. In the field of foreign language learning and teaching, due to the validation of the effectiveness of technology in recent studies, blended instruction has been increasingly adopted by practitioners. Studies conducted for teaching and learning English as A Second/Foreign Language (ESL/EFL) show that computer-assisted language learning (CALL) can *motivate learners* (e.g. Mahmood et al., 2014; Polat et al., 2013; Vinther, 2011; Warschauer, 1996b), *develop learner autonomy* (Chik, 2014; Fuchs & Muller-Hatmann, 2012; Yang, 2015), *reduce anxiety* (Kessler, 2010; Phinney, 1991a; Ritter, 1993), *increase learner participation* (Gonzalez-Buennno, 1998; Miceli et al., 2010; Peterson, 2010) and *class interaction* (Bahrani, 2011; Beatty, 2003), and even *raise learners' metalinguistic awareness* (Chen, 2016).

The Course Design

The proposed EFL writing course is a one-year required course for English majors. For the syllabus design, in principle, the teacher-researcher followed the suggestions from the conditions approach (Grab, 2001), the CALL general model for optimal language learning environment (Egbert et al., 2007) and research on computer-assisted writing as mentioned in the above. The following steps showed how the contextual factors were taken into consideration to design the syllabus.

Students' Needs Analysis

Before coming up with specific course objectives, the instructor analyzed the students' current and future needs as follows.

1. To have intelligible written communication that is indispensable in the era of social media
2. To be able to write literature papers and other English reports as an English major
3. To cope successfully with future standardized writing exam, such as TOEIC, TOEFL, IELTS and GEPT
4. To be competitive in hunting a job with adequate writing ability after graduation

Findings from A Pilot Study

The teacher-researcher also used a questionnaire to gather information on *the effectiveness* of a pilot study and inquired the students on *the most important elements of an EFL writing course* which were categorized into (1) the use of multimedia, (2) in-class activities, (3) off-class activities, (4) writing practice, (5) interaction, (6) teacher feedback, (7) writing portfolio. The results showed that most of the students thought that the learning activities were relevant to the needs of their study (mean scores 4.24/5.0) and they enjoyed the learning activities (mean scores 4.21/5.0). Among the seven categories of the most important elements of an EFL writing course, the students ranked *teacher feedback* (88%) as the first important element, followed by *writing practice* (81%), *off-class activities (blogging to write)* (80%), *the use of multimedia* (77%), *writing portfolio* (67%), *interaction* (65%), and *in-class activities* (64%). Overall, the students showed positive attitudes toward blending the online, offline, and in-class activities (mean scores 4.31/5.0) .

The ten *classroom observation logs* kept by the teaching assistant showed similar findings to the results of the questionnaire. Nevertheless, according to the logs, *interaction* seemed to be more valued by the students and facilitative to their learning. Interaction not only helped the students become more attentive to the class but also turn them into active learners.

Determining course objectives

The writing course (English Composition I.) is a required course for the English-major participants. In order to have something consistent for the writing teachers to follow while allowing flexibility, the English department has set a general guideline for English Composition I. Stated explicitly in the guideline, it reads "This course aims to develop students' effective paragraph and short essay writing skills. Reading and writing will be linked closely in the course. By the end of the academic year, students are expected to (1) write accurately and appropriately on a selected range of topics/modes, (2) revise, edit, and correct their own work as well as provide feedback to their peers' work, (3) improve their writing on the aspects of content, organization, sentence structure/grammar, vocabulary/spelling, and format."

The first goal in the instructor's teaching plan for this course, therefore, is to develop the students' English writing skills as to fulfill the requirement of the department and the students' current needs. Judging from the students' future needs and findings from the pilot study, the second goal is to help students become autonomous learners as to continue learning to write. For the first goal, the students need to be aware of the characteristics of English writing, including linguistic, stylistic, and rhetorical features. They are also expected to transfer the learnt knowledge and skills in this course to other courses and standardized writing tests, such as TOEIC, TOEFL, and GEPT. For the second goal, it is hoped that the course will motivate the students to advance their writing skills on their own after the course of study with the affordances of the course materials.

Selecting materials and activities

Two textbooks, *At a glance: Sentences*, and *At a glance: Paragraphs* (Brandon, 2012), will be used to build up the students' basics regarding sentence making and paragraph writing. The former focuses on grammar, rhetoric, sentence variety, sentence combining, diction, capitalization, punctuation, and spelling ; the latter guides students through the process of prewriting and writing paragraphs and provide model short essays in specific and combined rhetorical modes. To compliment the textbooks, the instructor will utilize multimedia such as instructor-made PowerPoint (PPT) files or useful online materials to emphasize some key points in each module. During the course of study, activities will be selected "according to their appropriateness for the goals of the course, the materials, the learners' language proficiency levels, needs and their different learning styles" (Nunan, 1989). For example, general activities will include various brainstorming techniques, practice of topic sentence & conclusion, prompt collaborative narration by the whole class in order to reinforce brainstorming techniques and the coherence of writing, etc. Personalized activity will include free writing on blogs that allows for fluency practice.

Determining teaching methodology and the use of technology

The teaching method of this course adopts the process-oriented approach to English writing. Though standardized writing exams assess students' final learning outcome, it is widely known that only through constant practice on a good writing process can students be guaranteed to have a good performance on the exams. This course is also learner-centered. The instructor considers herself as a guide, facilitator, and writing counselor. Meanwhile, because the instructor regards language learning as a socially constructed outcome, she will

also adopt the socio-cultural approach (Chen, 2010; Hannafin, Land, & Oliver, 1999; Vygostky, 1978) to get both the students and herself involved in the approach of collective scaffolding. Specifically, two types of scaffolds will be employed in the class as recommended by Minh & Canh (2012:45), teacher-assisted scaffolding and peer-assisted scaffolding. The former will include step-by-step instruction, modeling, language focus exercises, teacher-student conferencing, and teacher written feedback. The latter will include collaborative writing and peer-review. Besides, referring to the findings of the pilot study, five types of technology will be blended into this writing course: (1) *blogs* (for students to free write, turn in their assignments, build up hyperlinks for learning to write, and interact with the class), (2) *instructor-made multimedia files*, e.g. PPT and audiovisual files (to provide supplementary materials other than textbooks), (3) *utilization of the e-learning system, Moodle* (to manage the class by way of language management system), (4) *useful websites for learning to write* (to provide supplementary materials and develop learner autonomy), and (5) *mobile-assisted language learning (MALL) materials* (to provide supplementary materials and develop learner autonomy).

Determining assessment methods

Following the suggestions of Brown & Hudson (1998), Shohamy (1998) and Kurt (2009), this course uses multiple sources of assessment in order to obtain a comprehensive picture of students' actual progress and writing performance. Multiple sources in the study include exercises on sentence structures (to review the basics), free writing (to encourage fluency practice), genre-structured writing (to learn the conventions of genre writing), prompt writing, (to practice ideas generalization), collaborative writing (to learn to negotiate meaning with their peers and write collaboratively), timed-writing on computer (to help the students cope successfully with future standardized writing exam) and revision (to make the students aware that writing is a recursive process).

APPENDIX A

A CALL Model for Optimal Language Learning Environments (OLLE)

Conditions for Optimal Language Learning Environment
1. Learners have opportunities to interact and negotiate meaning
2. Learners interact in the target language with an authentic audience.
3. Learners are involved in authentic tasks.
4. Learners are exposed to and encouraged to produce varied and creative language.
5. Learners have enough time and feedback.
6. Learners are guided to attend mindfully to the learning process.
7. Learners work in an atmosphere with an ideal stress/anxiety level.
8. Learner autonomy is supported.

(Egbert, Chao, & Hanson-Smith, 2007)

CALL in Context

In the era of Internet, writing teachers do not lack instructional ideas because practitioners are willing to share their experiences on the forums by social media. However, not all of the kindly suggestions are generalizable or applicable to **a local context**. Especially when L1 and L2 writing are most of the time lumped together while in essence they are different. To develop a suitable **EFL** college writing course for English majors here in **Taiwan**, the teacher-researcher in this article gathered information through questionnaire and classroom observation from a pilot study and refer to L1 and L2 writing theories and models. A blended writing course which integrates traditional classroom activities and technology was then proposed based on the data analysis and literature review.

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Task-based Language Learning and Technology: A Journey of Pixar Animation for five EFL Students

Bio data



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Abstract

Guided by several frameworks, such as the procedural syllabus (Prabhu, 1987), the interaction hypothesis (Long, 1983, 1989), the output hypothesis (Swain, 1990), the limited capacity hypothesis (Skehan, 1998), and the cognition hypothesis (Robinson, 2003), task-based language learning (TBLL) was considered as a “strong version of the communicative approach” (Larsen-Freeman & Anderson, 2011, p.150). Thus, for many teachers, researchers and methodologists, engaging learners with meaningful and interactive tasks offered a promising possibility to bring back the fundamental concepts of communicative language teaching. The paper intends to report how the researcher employed a TBLL approach to advise five Applied English majors from one Technology University to complete a one-year graduation project. The tasks performed by the students including a written report to introduce the history of Pixar animation studios and 14 films of Pixar animation, such as Toy Story, A Bug’s Life, Up, Ratatouille, etc. In addition, two artifacts, a picture book with the classic words selected from the 14 films and a 20-minute length of video with the state-of-the-art scenes sorted out from the 14 films, were created. The procedures regarding how these students started to read the stories of Pixar Animation, watched the Pixar animation films and decided to complete a graduation project about Pixar animation will be explained. Next, how the students learned English by means of watching movies and using the software, Power Director, to edit the short video consisting of five main themes displayed in the 14 films will be elaborated. Furthermore, a focus group conducted to collect the five students’ reflections on the one-year-long journey of Pixar animation research and their experiences of engaging in the task-based and technology-enhanced language learning will be shared and discussed. The findings support Rod Ellis’ (2012) argument that task-based instruction is suited to EFL contexts since it ensures learners to have more opportunities to experience the L2 under real-operating conditions.

Key Words: task-based language teaching/learning, communicative language teaching, Pixar animation, technology-enhanced language learning

Conference paper

Introduction

Tasks have been considered as a pivotal role in second language acquisition and language pedagogy for more than 20 years. It is obvious in the abundance of publications relating to task-based language learning (TBLL) (see e.g., Baralt, 2010; Bygate, Skehan & Swain., 2001; Ellis, 2003, 2009; Keck, Iberri-Shea, Tracy-Ventura, & Wa-Mbaleka, 2006; Kim, 2008; Mackey & Goo, 2007; Robinson, 2001, 2005, 2007, 2009, 2011; Samuda & Bygate, 2008; Skehan, 1998; Skehan, 2008; Skehan & Foster, 2001; Willis, 1996; Willis & Willis, 2007). Especially, Top-tier journals, such as *Language Learning*, *Studies in Second Language Acquisition*, *International Review of Applied Linguistics*, *The Modern Language Journal* and international conferences, such as The Annual Conference of American Association for Applied Linguistics (AAAL), The International Applied Linguistics Association Congress (AILA), TESOL International Convention & English Language Expo (TESOL Convention), all include papers dealing with issues of task-based language teaching and learning and research. More than that, one biennial International Conference on Task-Based Language Teaching (TBLT) was further initiated in 2005 by the Centre for Language and Education (Faculty of Arts, University of Leuven) and is organized every two years at different locations around the world where task-based educational ideas are investigated and put into practice. Several books, for example, *Task-based Language Learning and Teaching* (Ellis, 2003), *Teachers Exploring Tasks in English Language Teaching* (Edwards & Willis, 2005), *Investigating Tasks in Formal Language Learning* (Garcia-Mayo, 2007), *Task in Second language Learning* (Samuda & Bygate, 2008), *Second Language Task Complexity* (Robinson, 2011), have provided overviews of task-based language teaching, learning and research concerns. When talking about the roles of tasks in second language acquisition, several major theoretical frameworks for TBLL should be pointed out.

Theoretical frameworks for TBLL

The first framework for TBLL, Procedural Syllabus, was proposed by Prabhu (1987). In his Bangalore project, a task-based procedural syllabus was implemented. According to Prabhu, task-based teaching help operate language learners' conscious part and subconscious part of mind. Conscious part of mind is to work out the meaning of language content, while subconscious mind is to perceive, abstract or acquire the linguistic structures and further to internalize the linguistic rules and which is considered as a kind of cognitive formation. When learners are put intensively in their effort to work out the meaning of content, their subconscious abstraction of language structures will be enhanced. Prabhu's cognitive rational is similar to Krashen's (1982) 'comprehensive input' in which the effort to work out meaning-content is necessary and considered as the primary force to promote the incidental learning of implicit knowledge. In Prabhu's Bangalore project, explicit grammar instruction was avoided because Prabhu considered teaching descriptive grammar was not able to promote "a deployable internal system of rules (Prabhu, 1987, p. 73). In addition, Prabhu did not use group work either in the classroom because he argued that learner-learner interaction could not enhance the development of interlanguage but lead to fossilization.

Long's (1983, 1989) Interaction Hypothesis and Focusing on Form was contrast to Prabhu's framework According to Long, the learner to learner interaction-task is important, because it does not only provide a way for input to be made comprehensible, but also serve as a context for learners to attend to the forms they feel confused in the input and output through meaning negotiation. The learner-learner interaction also helps learners speed up the mapping of the connection between form and meaning and prompt the interlanguage changes. Long also drew on Schmidt's (1990) argument that attention to the linguistic structures of utterances (forms) with experiencing the awareness to notice them were essential to learning to claim that a focus on form could "overtly draws students' attention to linguistic elements as they arise incidentally in lessons whose overriding focus is on meaning or communication" (Long, 1991,

p. 46). Some researchers, such as Doughty and Williams (1998), described a series of teaching techniques to focus on forms and hoped to improve the problematic forms in the input for learners to become appropriate forms in the learners' output through task performances.

The third framework related to TBLT is the Swain's (1995) Output Hypothesis. She argued that driving learners' attention to output whether the output occurs in interaction between learners or not facilitated learning. She further claimed that production of the target language causes learners to engaging in syntactic processing and by doing so, the learners acquire a language. Also "in producing the target language... learners may notice a gap between what they want to say and what they can say, leading them to recognize what they do not know, or know only partially" (p. 126). Therefore, the tasks to push learners to produce language provide chances to learners to test their hypotheses about the correct forms of the target language and to metalinguistically reflect on the linguistic forms.

Based on Swain's Output Hypothesis, Skehan (1998) proposed The Limited Capacity Hypothesis. He suggested that production requires attention to forms but the human attentional capacity is limited. He distinguished three aspects of productions, fluency, accuracy, and complexity. Fluency involves the capacity of a learner to mobilize his inner system to communicate with others in real time. Accuracy is the ability of the learner to handle whatever level of interlanguage complexity he has so far achieved. Fluency requires the learner to use the interlanguage structures that are the highest level of development. According to Skehan, the capacity of human information processing is limited, and therefore the capacity limits prevent learners attending to both two aspects of production, such as accuracy and complexity, at the same time when the tasks are cognitively demanding. Finally, learners have to "trade-off attention" (Robinson, 2011, p. 12) to one aspect of production (e.g. accuracy) at the expense of the other aspect of production (e.g. complexity). For this, Skehan has described task design is also seen as a way to promote "balanced language development" (p. 13) in the areas of accuracy, fluency, and complexity of production.

Robinson's (2003) Cognition Hypothesis proposed a contrasting position. He argued that attentional capacity limits are not a satisfactory explanation for learners' breakdowns in attention to speech production. Providing learners with increasing complexity along various dimensions of tasks, such as increasing the amount of reasoning in a task, promotes learners' ability to monitor their production more vigilantly and leads their speech to greater level of grammatical accuracy and syntactic complexity. Therefore, he suggested offering learners sequencing tasks from less cognitively demanding to more demanding increase opportunities for "attentional allocation to language form" (Robinson, 2011, p. 13). In order to well operate the sequencing tasks in a task-based syllabus, Robinson proposed two principles: "(a) Sequencing should be based only on increases in cognitive complexity, (b) increasing resource-dispersing dimensions of task complexity first (to promote access to current interlanguage), then increase resource-directing dimensions of complexity (to promote development of new form-function mappings, and destabilize the current interlanguage system)" (p. 16). In this manner, learners do not have to "trade-off" attention to accuracy against attention to complexity of production (p. 14).

Guided by the above frameworks, the researcher (also the project advisor) employed the TBLL spirit into her "Project Approach Course". This course has been offered to the students of the Applied English Department in KSU (Kun Shan University) since 1995. It is a course taken by all KSU students a year before they graduate. Therefore, for KSU Applied English majors, the "projects" completed within the course are treated as graduation projects, which are as important as "graduation theses" for general college or university graduates. The purpose of this course is to involve Applied English students in problem-solving investigations and other meaningful tasks, and allow students to work autonomously and cooperatively to construct

their own English knowledge with integrating other skills to create innovative but realistic products. The following paper first introduces how the author made use of the “Project Approach Course” with the spirit of TBLL to lead five EFL Applied English majors with medium level of English proficiency on an one-year journey of “Pixar Animation” culminating in a plentiful harvest. After one year of hard work, the five students accomplished a picture book with the classic words selected from the 14 films and a 20-minute length of video with the state-of-the-art scenes sorted out from the 14 Pixar animation films. After that, the researcher shares the results of a focus group conducted to collect the five students’ reflections on the one-year-long journey of Pixar animation research and their experiences of engaging in the task-based and technology-enhanced language learning project.

The Journey

During the first meeting with the five students in the spring semester of 2014, the research/advisor introduced the purpose of the “Project Approach Course” and the time length to finish a task-a graduation project to these 5 students. After the meeting, the five students were allowed to go to the library or internet to search for any topic they felt interested in within two weeks. After two weeks, each of the five students brought one or two topics with proposals back to the second meeting and brainstormed on those proposals. It took about four hours of discussion for them to sort out one topic that they all agreed to go on. When they decided the topic “State-of-the-art Films: Pixar Animation”, they started doing background reading. Therefore, they set up the schedules of group meeting and meeting with the advisor to discuss the reading. When they finished the reading, they discussed the time of watching the movies together, the related products they could develop, and the tasks of the group members. Then, they went on the journey. The following displays the students’ main tasks completed with the one year journey.

Methodology (of students’ project)

Deciding the topic

Many people like to watch Pixar films, and so do us. Therefore, when we decided that we could have an opportunity to introduce Pixar movies in our own way, we were so excited and cherished the chance to let more people understand how great Pixar films are. First, we hoped to explore the intention of each Pixar film and how it reflects the situations of nowadays society exactly. All the roles in the 14 films were created to stand for some characters in the real world by the imagination of the Pixar team members. We also hoped to do something which could show our imagination and creativity. Therefore, we decided to produce a short video by making use of theme lines to edit the state-of-the-art scenes selected from the 14 films. We also decided to make to a picture book to include the state-of-the-art words selected from the transcripts of the 14 films.

Searching for the information of Pixar Animation and watching the films

After deciding the topic, we went to the internet to look for any information related to Pixar animation. After we got sufficient material about Pixar animation and finished reading the related material, we started to watch the 14 films. We rented the 14 films from the video shop and watched each of the 14 films carefully with taking notes. After we went through the first round of watching the 14 films, we distributed the task; that is, each member had to be in charge of reporting important findings from three or four Pixar films to the other members. The important findings included the main theme of each film, the state-of-the-art scenes and words of each film. After the step, we worked together to discuss and sort out the important theme categories of the 14 films. Finally, we created five theme categories demonstrated in the 14 films, which were *love, friendship, wit, humor, and touching*.

Sorting out five main themes for editing a video

Having sorted out the five main themes demonstrated in the 14 films, each of us had to watch again the assigned films and select the state-of-the-art scenes that fit the five main themes to produce a short video. Before doing that, we had to learn how to use the software “**Power Director**” to download the suitable episodes. This software was introduced by our project advisor’s friend, Mr. Wang. It was not an easy task for us to learn to use the software. When downloading the suitable scenes, each of us had to take notes on the exact time of film flowing and therefore, we also had to listen to the transcripts again and again to jot down the exact words said by the characters. It took us many hours to learn to use the software. After we could use the software to complete the task, each of us cut down five scenes from each film and totally we cut down about 70 scenes. Then we watched all the 70 scenes with our advisors and selected 5 state-of-the-art scenes for each theme to produce the short video. The selections are shown in the video. The following editing job was even challenging for us.

Editing the video

Before editing the short video, we had to arrange the scene displaying order for this video and calculate the time exact for each brief scene. The time limit for each scene is around 30 seconds and suitable background music for each scene was also combined into the video. After the scene flowing arrangement was completed, the transcripts for each scene needed to be typed and added. The short video contains two parts and is about 20 minutes long. Part one displays a quick shot for the 14 films. The arrangement of the 14 films was according to the evolution of the world. The order of the arrangement is: *WALL-E, Finding Nemo, A Bug’s Life, Brave, Toy Story, Ratatouille, Up, The Incredibles, Monsters University, Monster, Inc., The Cars and WALL-E* again. Part Two displays the five main themes, *Love, Friendship, Wit, Humor and Touching* and their representative scenes.

Creating the picture book with the state-of-the-art words

The transcripts from the state-of-the-art scenes were all transcribed and were discussed by all the group members with our advisor and Mr. Wang to sort out the state-of-the-art words for each film. In addition, the picture of each scene with representative words was also edited into the picture book with the state-of-the-art words.

THE MEANING OF THE JOURNEY

The power of task-based language learning and technology-based language learning in the journey

In the one-year course, the researcher/advisor oversaw a task-based language learning (TBLL) with technology journey in which five students created a short video demonstrating five main themes with the selected state-of-the-art scenes from 14 Pixar animation films and a picture book with state-of-the-art words from the selected scenes as their vehicles to go from “plateau to the next slope” (Fried-Booth, 1986, p. 8). According to Fried-Booth, the beginning language learners may make great advances, but the intermediate learners (like the level of the author’s students) often reach a “plateau” where there is little “incentive” to move on. At this crucial point, project-based learning (or TBLL) can offer the power to enhance the students’ learning motivation as Fried-Booth states:

The motivation lies in the project (task) itself. The student is – at last- offered the opportunity of using the language skills already acquired, in a situation which is new, challenging, and real. The project draws not only on the familiar and predictable, but also on the unfamiliar and the unpredictable. This is the incentive to ‘go on’ from the plateau to the next slope. (1986, p. 8)

The opportunity to develop students' language skills and technology literacy

In addition to motivation, TBLL in the journey also offered an opportunity for students to develop all four language skills. For example, after the initial stage when the students worked on selecting topics, negotiating content, and distributing tasks, the students set out to search for the reading materials, reading them and discussing them. Next, they started the journey of creative video production and went through the process of watching movies, brainstorming, theme selecting, revising, reading and editing. During the stage of producing artifacts or creations, they practiced using a kind of new software for video editing.

The experience to allow students to pursue learning autonomously and collaboratively

Using TBLL in the journey afforded students a learning experience in which they could construct their own knowledge, improve the "plenty" of their learning, keep their interests and stimulate their initiative (Thomas, 1998a). For example, in the project doing, the students took part in a community of inquiry and investigation and from the perspective of the Constructivism, investigations allowed students to pursue learning autonomously. As Tomas (1998b) suggests, the students directed their own work, took control over their own learning and simulated the professional work of the scholars, researchers, illustrators, programmers, writers, and practitioners. Furthermore, in the journey, the students learned to work with peers to make decisions about the goals to accomplish, to set work priorities, to allocate time, to use multiple resources and to negotiate solutions to the problems. Therefore, the collaborative learning was fostered through such "coherent, meaningful, and purposeful activities" (Brown et al., 1989, p. 34). From the collaborative learning, as Thomas (1998a) states, the students' "internalization of concepts, values, and modes of thoughts, especially those related to cooperation and conflict resolution is promoted" (p. 3).

Teach the way you like to learn

By having the opportunity to actually do projects with different students, the course advisor (the researcher) experienced "developing empathy for her own students and for the trials and tribulations that her students experienced during the one-year of project doing" (Borgia & Mc Clellan, 2003). Through this process, the advisor learned the teaching philosophy "teach the way you like to learn, not the way you like to teach" suggested by Rogoff (1997). For an experienced teacher like the researcher, it is very easy to fall into many pitfalls of traditional instruction, such as playing a role as a guru or an expert to tell students what to do. However, as an advisor in the TBLL course, the researcher learned to give up the role of knowledge dispenser to answer all questions. At the same time, she served as a listener, a participant, and a facilitator.

Conclusion

Granted that the plentiful harvest of the journey did leave the researcher with tangible evidence of students' efforts and creativity and with a feeling of having "empowered" students, the more fascinating aspects of the journey were seeing the "recalcitrant" students work hard on the projects, seeing not so clever but diligent students created a short video and a picture book and seeing low-motivated students become enthusiastic about learning. In addition, in the role of an observer in this journey, the researcher did clearly see the students grow up through interpersonal interaction in small groups, obtain confidence in a non-threatening environment and build the bridge between language taught and language used. Furthermore, through completing the project, that the students managed to expand their horizons regarding English, overall language learning and about the value of imagination and creative thinking was the true result of the journey.

CALL in Context

•To what extent can general theories such as Task-Based Language Learning (TBLL) and Technology-supported Language Learning be applied to our local context?

Guided by several frameworks, such as the procedural syllabus (Prabhu, 1987), the interaction hypothesis (Long, 1983, 1989), the output hypothesis (Swain, 1990), the limited capacity hypothesis (Skehan, 1998), and the cognition hypothesis (Robinson, 2003), task-based language learning (TBLL) was considered as a “strong version of the communicative approach” (Larsen-Freeman & Anderson, 2011, p.150). Thus, for many teachers, researchers and methodologists, engaging learners with meaningful and interactive tasks offered a promising possibility to bring back the fundamental concepts of communicative language teaching. With the spirit of TBLL, the researcher (also the project advisor) advised five EFL applied English majors with intermediate level of English proficiency into a Pixar animation world in her “Project Approach Course”. This course has been offered to the students of the Applied English Department in KSU (Kun Shan University) since 1995. It is a course taken by all KSU students a year before they graduate. Therefore, for KSU Applied English majors, the “projects” completed within the course are treated as graduation projects, which are as important as “graduation theses” for general college or university graduates. The purpose of this course is to involve Applied English students in problem-solving investigations and other meaningful tasks, such as learning to manipulate a new software, etc. and allow students to work autonomously and cooperatively to construct their own English knowledge with integrating other skills to create innovative but realistic products.

•To what extent do technologies afford context-dependent enrichment and personalization of the learning process? What are the routines and models for doing so?

According to American psychologist James Jerome Gibson’s Affordance theory, the ways we perceive the environment inevitably bring us to some kinds of actions. Affordances, or clues in the computer or internet environment that indicate various possibilities for action to enhance language learning, are perceived in a direct and immediate way with no sensory processing. Examples include: YouTube, Facebook or Twitter, etc. Affordance Theory has various implications for design, human-computer interaction, visualization, etc. Some believe that good design makes affordances explicit. Watching Pixar animation films and making use of the software “Power Director” to create realistic products provides a learning model: Technology affordance brings learning action. In the one-year task-based language learning journey, students watched and discussed the 14 Pixar animation films repeatedly and learned how to use the software “Power Director” to download the suitable episodes. During these tasks they learned a big amount of English vocabulary, sentences, and idioms and learned how to express their opinions to peers and interact with peers successfully in English. They finally created a picture book with the classic words selected from the 14 Pixar animation films and a 20-minute length of video with the state-of-the-art scenes sorted out from the 14 films. The students grow up through interpersonal interaction in small groups, obtain confidence in a non-threatening environment and build the bridge between language taught and language used through watching films and learning how to use the software “Power Director” to download the suitable episodes.

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Learner attitudes and vocabulary gains with the implementation of digital IRS in a flip classroom learning context**Bio data**

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abstract

Technology has been utilized and adopted as a medium of language teaching and learning across different physical institutional barriers. In this study, a flip classroom norm with the aid of digital Instant Response System (IRS), an immediate feedback system for teachers to monitor students' performances during the class period, were adopted, along with the follow-up learning packages were regarded as a technology enriched learning context. We investigated learner's attitude toward the learning context as well as learners' linguistic competence (i.e. vocabulary gains). Two classes in a college in Taiwan, fifty students each with a semester timeframe, were included, homogeneous (refer to HOM class) and heterogeneous (HET class) one. "HOM class" is an intact class with similar ages of students and same major. "HET class" is made of by several small proportions of the students from distinct intact classes. The reason to choose these two types of classes is based on the principle of design-based research, in which we eager to find out within these two types of classroom compositions, what does the learner as an independent individual manifest toward the learning context and on the other hand, what does he/she manifest when learning with capable peers in a group. What are their vocabulary gains during the learning process in terms of the use of pre-fabricated instructional videos made by the teacher, TED talks and Youtube clips? Learners were required to watch the short instructional videos uploaded on Moodle before the formal class time, outside the classroom. During the class, they were assigned to do vocabulary exercises in a form of quizzes, learning lists and linguistic tasks either by individuals or groups. There were also information-gap activities and open-ended questions which sufficed massive amount of time of group discussion and interaction. To motivate learners to engage themselves in this reciprocal learning process, IRS was implemented to ascertain that learners receive their immediate feedbacks or test results. Data collected demonstrated a preliminary result from an attitude questionnaire: HOM class gave more positive feedbacks toward learning context than HET class did. The advanced 5% of highest vocabulary scores from individual learners lied in groups which invited more active discussions and engagement.

In this study, we draw from a complexity theory perspective that language learning is a dynamic, nonlinear and open ecosystem with inclusive of self-organization and interaction. Language learning aligned with the use of technology creates fluctuated but interconnected "Nested ecosystems" (Bronfenbrenner, 1979). Within this ecosystem, the role of context is especially important, particularly learner's attitude to variation. In responding to the question "To what extent can general theories such as Constructivism, Social Semiotics, Dynamic Complex Systems and Self-Determination Theory be applied to our local context?" complexity theory can give the answer from the standpoints of this study. In this study, manipulating technology as a prerequisite learning tool as well as encouraging peers' interaction as the learning scaffold, we provide enriched context for the learners. We are interested in the attitude of individuals toward the context as well as the connection and interaction with the significant others. The complexity theory highlighted the dynamic and open nature of context, and so learner's self-organization and co-adaptation (Larsen-Freeman & Cameron, 2008) are key mechanisms for learning to occur. In order to discuss and share ideas with peers, learners, as a group member, need to preview the lessons on Moodle and to co-adapt later with their own, others and the environment. The way the learner regard him/herself as an integral part of the group and a contributing individual influences the performances of the groups. That is, learners' attitude toward the local context matters.

To answer another question: "How to determine the role and shape of the most appropriate technologies for our context?" we investigate whether these enriched contextual elements, (i.e. flipped instruction, IRS and follow-up learning activities) assist learner's willingness to learn autonomously. Before determining the appropriate technologies for the context, we need to find out whether social dynamic environment plays a role in implementing such technology (in here flipped classroom). So, focusing on homogeneous and heterogeneous groups would give us some clues on how self-organization and co-adaptation emergence by the learners, as well as the vocabulary learning process through different timescales (i.e. across a semester). Educational implication can be drawn based on the preliminary result that HOM group felt safe and secure with group discussion and were more willing to engage in group discussion; while HET group were more hesitate in devotion of group works because they felt they were not well-acquainted or well-connected with other group members. Also, learners can download IRS device as an APP and use their cellphone as a remote control to answer the questions. In hem group, due to the uncertainty toward the group members, they were reluctant to use their cellphone; their co-adaptation mechanism could not function appropriately and motivation was relatively lower than the hot group. For educational implications, for a class which is composed by heterogeneous members, to mediate this learning situation, the role of technology can be shifted as remedial instruction. Furthermore, ice-breaking activities can be implemented to initiate social connections or minimize the group works until learners are ready.

Conference paper

Introduction

In this study, the vocabulary acquisition and learner attitude of college students within a flip classroom context with the aid of digital IRS are discussed from a complexity theory standpoints. Investigating toward two distinct groups of students, homogeneous and heterogeneous ones helps us pinpoint the importance of different ways of learning patterns. Many ESL/EFL instructors have been disappointed or to some extent frustrated with the performance of their students in terms of the improvement of English ability (in this case, the amount of vocabulary gains). With the abundant and enriched input we impose, students seem not produce the equivalent output that we expected. A paradigm shift on

Applied Linguistics and Second Language Acquisition involves regarding second language learning not as a linear pattern or as a cause and effect mode, rather it is a dynamic and open ecosystem which contains the nature of multilayers' interaction and co-adaptation (Johnson, 2006; van Lier, 2004). Students' vocabulary gains may come from conventional ways of instruction (i.e. teacher-centered instruction with drills and exercises); however, we particularly put spotlight on students' interaction with each other with the utilization of digital IRS (Instant Response System) and their attitudes toward the learning context, a flip classroom one, which reflect from their vocabulary scores.

CALL and Complexity theory

Considering CALL as a promising alternative other than teacher-dominated instruction helps students engage in more learner-centered autonomous vocabulary learning within flip classroom context; we then investigate the context from ecological perspective in complexity theory. Technology assisted language learning makes learning possible with the idea of affordances for learning (Johnson, 2006; van Lier, 2004). Just as van Lier described "relationship between an organism (a learner in our case) and the environment that signals an opportunity for or inhibition of action" (p.4). This kind of affordances in CALL environment and flip classroom context tacitly create a bridge between knowledge construction and meaning interchange. Three phases were accounted for CALL development, "Restricted, Open and Integrated" CALL (Bax, 2003, as cited in Soleimani & Alaei, 2014). The first phase lied in the 1970s-1980s and the technology was mostly utilized with GTM and ALM. "Open CALL", the second phase during the 1990s, emphasized technology-assisted instruction for communicative purposes which also considered accuracy and fluency as learning second language 's ultimate goal. The third phase, "Integrated" CALL is what we are now, which regards language as "a socio-cognitive process and focuses on content-based materials and authentic discourse" (Soleimani & Alaei, 2014, p. 22). In this phase, except for accuracy and fluency, agency is also an important factor in learning language (Bax, 2003). CALL is seen as an integrated part of the ESL/EFL syllabus and the instructional materials are authentic, real-time and immediate and should encourage learners' sense of agency (responsibility) (Thomas, 2009). The engagement and participation among learners may create chaotic and fluctuated ecosystem, for learners interact with online materials on the one hand, and accomplish group tasks or do discussions with peers on the other hand. From complexity perspective, learning in technology-based context is not a linear and cause-and-effect system; rather it contains unpredictable or predetermined characteristics (Larsen-Freeman & Cameron, 2008). The role of context and environment is significant, in particular the attitude to variation (Larsen-Freeman & Cameron, 2008). Each individual is unique and may construct his/her learning context. Within this dynamic, social and open ecological system, individuals may create his/her microsystem. In other words, the ecological complex system is all interconnected. In this study, we adapt complexity theory, particularly in ecological CALL context as a design-based research, that is, design for learning, which is "context sensitive and respond to immediate opportunities and learner initiatives and serendipity" (Blin and Jalkanen, 2014, p. 155).

The Research Context

There are two groups of students, thirty each in a junior college, homogenous group (HOM) and heterogeneous one (HET), which refer to an intact class and a class from different groups of students, respectively. In other words, in HOM class, students regard themselves as 'true classmates' as a whole, where they have the class rule and same mentor, while in HET class, students were not so acquainted with each other, they were distributed in a same class because of their relatively equivalent English proficiency level. Both are compulsory courses and meet for once a week.

The data are drawn from students' vocabulary scores within a digital IRS system (called ZUVIO) as well as their attitude questionnaire toward the instruction context. Students need to view what the instructor provided online before the start of the class, such as Youtube clips, teacher-made videos, supplementary vocabulary lessons etc. in which the target vocabularies were embedded. When students came to the class, they underwent a vocabulary quiz, where students' answers were submitted through digital IRS system. Then they would form as groups to discuss the learning list and do exercises or activities the instructor offered online through ZUVIO as well. The target vocabularies in each vocabulary test and group work are almost the same, which means students faced the target vocabularies in distinct forms of exposures and in different types of "assessments". This flip classroom context with the subsequent exercise hopes to encourage students to learn English autonomously but at the same time obligatorily.

The data

Students' three-time vocabulary scores as well as group scores were examined and analyzed by ANOVA and Spearman's rho Correlation. The target vocabularies for each test either individually or cooperatively were almost the same. HOM group yielded significant effect ($p=.00$) (Table 1); while HET group did not have significant effect ($p=.180$) (Table 3). The result showed that through viewing instructional videos online, HOM group students' vocabulary performances had significantly differences in terms of their consecutive vocabulary tests, HET group did not though. However, as we went through their individual mean scores, as shown in Fig1. and Fig 2., both groups had progressed from test one to test three, the positive influence of online view was still there.

From a complexity theory perspective, the result of the test is not a linear effect; however, the valid data result may indicate that flip classroom context had some impact on vocabulary learning with operationalized online materials. We then investigate deeper into the correlation between group scores (i.e. from group work for problem-solving and/or task-based learning lists and information-gap activities, etc.) and individual learner scores. First, in HOM group, through the data we found out there was a positive moderate to highly correlation between individual learner scores with their own group scores, $r=.783, .726, .673, p \leq .001$ (see Table 2), meaning that the individual learner plays an important role in group works and group discussion. The positive correlation demonstrated that the higher engagement and devotion to the group work, the higher scores each member of the group could get and vice versa. The self-organization and co-adaptation in HOM group was constructed and formed through learners' active participation and regard their group as a social entity (Larsen -Freeman & Cameron, 2008). The cooperative situation kindly forces the learners' took their agency (responsibility) to deal with their learning environment and initial conditions (Larsen-Freeman, 1997), and their identity could be recognized by other members. It also echoes with what Lave and Wenger proposed (1991, cited in Johnson, 2006), the trajectories. Trajectory is a notion seeking to describe the "dynamic nature of participant engagement with a community" (Johnson, 2006, p.25). The HOM group students thought of themselves as integral part of the community and most importantly, they considered flipped context by using ZUVIO as fun and interactive modes of learning, therefore, they would devote more time to group works. The complex ecosystem is reactive to changes in context, and sooner or later individuals in this system co-adapt with it and the significant others (in this study, other group members) with the process called "soft assembly" (Larsen-Freeman & Cameron, 2008, p. 204). Dr. Larsen-Freeman and Cameron explained this process with an example of horse-riding experience, which the horse adapts to changes in the position of the rider. In HOM group, learners adapt their position and stand to communicate and cooperate with group members in order to fulfill vocabulary learning tasks; this was the process of soft assembly. "These local

adaptations to contextual conditions are the foundation for emergent change, that is, development, on a longer timescale" (Larsen-Freeman & Cameron, 2008, p. 204)

Then, in HET group, the correlation between individual and group scores are relatively low, $r=.294, .293, .241, p \leq .001$ (see Table 4), indicating that individual's performance did not aligned closely with their own groups' performances. The weak correlation suggested that learner's individual vocabulary test scores could not reflect on their own group scores, even though the target words were almost the same. Individual's high or low grades did not influence their own group's performance and vice versa. In complexity theory perspective, the context is changeable and fluctuant. Individuals are also an important factor to contribute to the context, say the relationships with other learners and the teacher (i.e. the social context) and the role the learners play in the context. The complexity theory view of language acquisition has shifted from causality and prediction to the role of context and environment, especially the attitude towards variation (Larsen-Freeman & Cameron, 2008). From the data, we found that there was a strong correlation between individual performances and group performances in terms of vocabulary gains in HOM group; while in HET group the situation was the opposite. As mentioned before, the complexity theory focuses the role of the context and the attitude the learner brings to it. We hope to find out how these two groups feel about the learning context (i.e. flip classroom) as well as group works with others. Adapting an attitude questionnaire might give as a way to look closer to one of the angles in these multifaceted and dynamic system. The data were analyzed by Spearman's rho correlation and the result demonstrated that the attitudes toward the learning contexts on preview online videos and the preference for diverse teaching methods are positive in both groups (see Table 5 and Table 6). There was, however, slightly low correlation between question six teacher-centered instruction and other questions in HOM group ($r=.465, p \leq .001$). Students in HOM group seemed not in favor of teacher-centered instruction; while there is a strong correlation between teacher-centered instruction and overall learning result and experience in HET group ($r=.842, p \leq .001$). In terms of IRS creates more interaction and overall learning experience, there is slightly weaker correlation ($r=.451, p < .001$) than other correlations. The correlation between devotion to group work and group discussion (communication) is moderate ($r=.553, p < .001$).

Table 1. Vocabulary performance in HOM group
One-way ANOVA

	<i>df</i>	F	Sig.
Between groups	2	12.172	.000
Within groups	88		
sum	90		

Table 2. Spearman's rho correlation between individual scores and group scores in HOM

	Individual score	Group score1	Group score2	Group score3
Individual score	1.000	.783**	.726**	.673*
Group score1	.783**	1.000	.763**	.601**
Group score2	.726**	.763**	1.000	.745**
Group score3	.673*	.601**	.745**	1.000

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Table 3. Vocabulary performance in HET group
One-way ANOVA

	<i>df</i>	F	Sig.
Between groups	2	1.755	.180
Within groups	88		
sum	90		

Table 4. Spearman's rho correlation between individual scores and group scores in HET

	Individual score	Group score1	Group score2	Group score3
Individual score	1.000	.294**	.293**	.241*
Group score1	.294**	1.000	.688**	.698**
Group score2	.293**	.688**	1.000	.724**
Group score3	.241*	.698**	.724**	1.000

** Correlation is significant at the 0.01 level (2-tailed)

*. Correlation is significant at the 0.05 level (2-tailed)

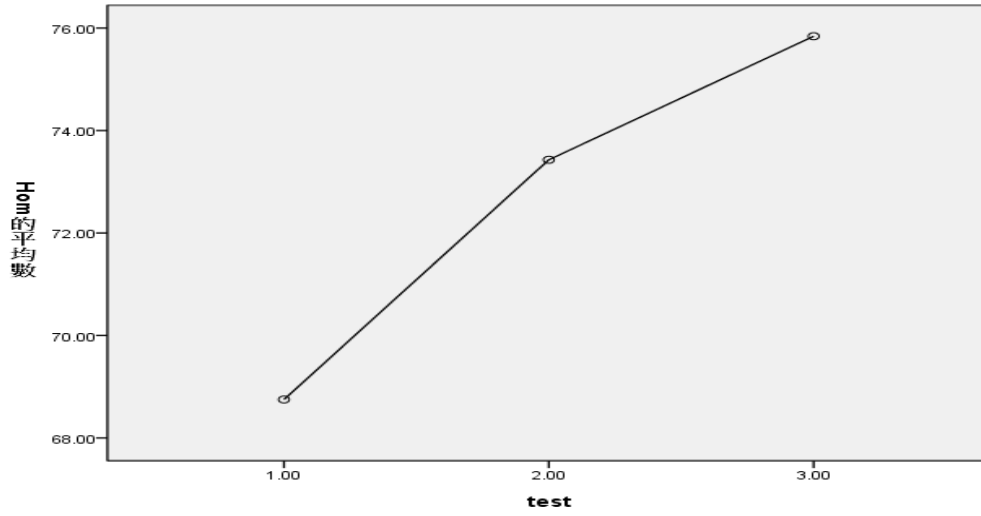


Fig1. HOM individual mean scores through three tests

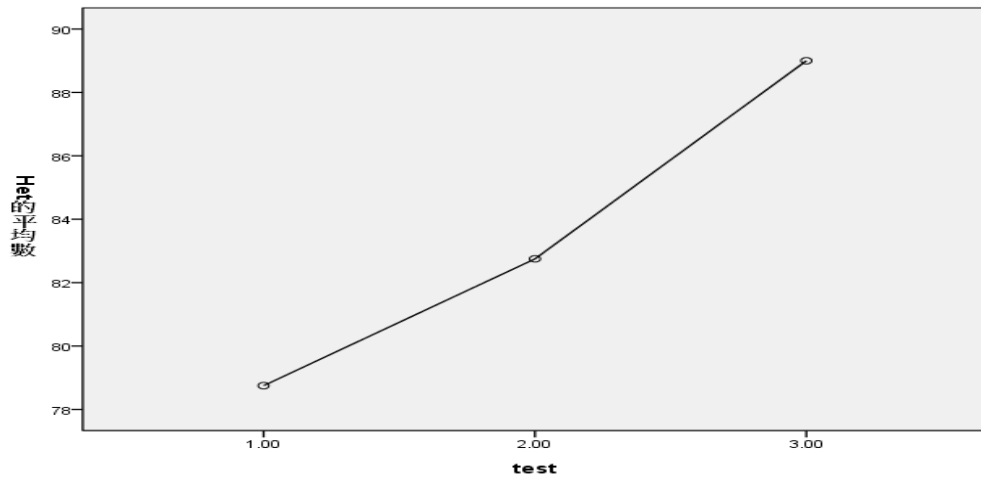


Fig 2. HET individual mean scores through three tests

Table 5 Attitude Questionnaire in HOM group

Spearman's rho correlation

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Q1	1.000	.828**	.840**	.953**	.880**	.465**	.947**	.909**
Q2	.828**	1.000	.926**	.857**	.947**	.552**	.899**	.841**
Q3	.840**	.926**	1.000	.897**	.947**	.504**	.879**	.898**
Q4	.953**	.857**	.897**	1.000	.932**	.448**	.962**	.969**
Q5	.880**	.947**	.947**	.932**	1.000	.533**	.914**	.918**
Q6	.465**	.552**	.504**	.448**	.533**	1.000	.454**	.421**
Q7	.947**	.899**	.879**	.962**	.914**	.454**	1.000	.933**
Q8	.909**	.841**	.898**	.969**	.918**	.421**	.933**	1.000

** . Correlation is significant at the 0.01 level (2-tailed)

Q1: Online view

Q2: devotion to group work

Q3: IRS creates more interaction

Q4: diversity of teaching

Q5: IRS makes learning funnier

Q6: teacher-centered instruction

Q7: overall learning experience

Q8: group discussion/work

Table 6 Attitude Questionnaire in HET group

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Q1	1.000	.662**	.704**	.812**	.732**	.830**	.726**	.543**
Q2	.662**	1.000	.726**	.771**	.903**	.818**	.621**	.553**
Q3	.704**	.726**	1.000	.835**	.976**	.872**	.451**	.717**
Q4	.812**	.771**	.835**	1.000	.850**	.737**	.851**	.845**
Q5	.732**	.903**	.976**	.850**	1.000	.905**	.435**	.724**
Q6	.830**	.818**	.872**	.737**	.905**	1.000	.842**	.488**
Q7	.726**	.621**	.451**	.851**	.435**	.842**	1.000	.770**
Q8	.543**	.553**	.717**	.845**	.724**	.488**	.770**	1.000

** . Correlation is significant at the 0.01 level (2-tailed)

Discussion and Conclusion

Complexity theory perspective offers an alternative way to look at the unsolved or unanswered question in language teaching and learning norms, for example, why this teaching activity works at this class but not at the other or why this teaching method does well in class this year but not next-year class. The learning context is fluctuated and open to new connection. In this study, because of the nature of homogeneity of HOM group, students are more acquainted and familiar with each other than HET groups. In many cases, heterogeneity provides better learning experiences than homogeneity, because learners are

novel to each other and may maintain curiosity and may be afraid of losing face. However, this is not that case in this study. Thanks to the lack of familiarity, the learners in HET group were more reluctant to cooperate with others than HOM groups. Although HET students thought digital IRS was fun and interesting, they were hesitate to use it, as a result, lost chances to get better grades. As observing from group discussions in both groups, I found most of the groups in HET class were lack of eagerness, drives and gears to be involved in the discussion. They were passive receivers, relying on the group leader or the capable peers to click the answer online to ZUVIO.

The complexity theory perspective showed that over a relatively long timescale, the facet we investigate may perform differently. As for this study, we have tried one semester and the situation for HET group was up and down “constantly”, although overall they enjoyed diverse teaching methods, including online learning and they still consider their learning experience fulfilling and had learned a lot. For educational implication, it might be helpful to corporate more mini-icebreaking activities for them to be familiar with each other. More blending learning could be used in this kind of class and technology such as digital IRS could be implemented as an alternative way of submitting answers and responses for remedial purposes, such as take-home exam or assignments.

CALL in Context

In this study, we draw from a complexity theory perspective that language learning is a dynamic, nonlinear and open ecosystem with inclusive of self-organization and interaction. Language learning aligned with the use of technology creates fluctuated but interconnected “Nested ecosystems” (Bronfenbrenner, 1979). Within this ecosystem, the role of context is especially important, particularly learner’s attitude to variation. In responding to the question “To what extent can general theories such as Constructivism, Social Semiotics, Dynamic Complex Systems and Self-Determination Theory be applied to our local context?” complexity theory can give the answer from the standpoints of this study. In this study, manipulating technology as a prerequisite learning tool as well as encouraging peers’ interaction as the learning scaffold, we provide enriched context for the learners. We are interested in the attitude of individuals toward the context as well as the connection and interaction with the significant others. The complexity theory highlighted the dynamic and open nature of context, and so learner’s self-organization and co-adaptation (Larsen-Freeman & Cameron, 2008) are key mechanisms for learning to occur. In order to discuss and share ideas with peers, learners, as a group member, need to preview the lessons on Moodle and to co-adapt later with their own, others and the environment. The way the learner regard him/herself as an integral part of the group and a contributing individual influences the performances of the groups. That is, learners’ attitude toward the local context matters.

To answer another question: “How to determine the role and shape of the most appropriate technologies for our context?” we investigate whether these enriched contextual elements, (i.e. flipped instruction, IRS and follow-up learning activities) assist learner’s willingness to learn autonomously. Before determining the appropriate technologies for the context, we need to find out whether social dynamic environment plays a role in implementing such technology (in here flipped classroom). So, focusing on homogeneous and heterogeneous groups would give us some clues on how self-organization and co-adaptation emergence by the learners, as well as the vocabulary learning process through different timescales (i.e. across a semester). Educational implication can be drawn based on the preliminary result that HOM group felt safe and secure with group discussion and were more willing to engage in group discussion; while HET group were more hesitate in devotion of group works

because they felt they were not well-acquainted or well-connected with other group members. Also, learners can download IRS device as an APP and use their cellphone as a remote control to answer the questions. In hem group, due to the uncertainty toward the group members, they were reluctant to use their cellphone; their co-adaptation mechanism could not function appropriately and motivation was relatively lower than the hot group. For educational implications, for a class which is composed by heterogeneous members, to mediate this learning situation, the role of technology can be shifted as remedial instruction. Furthermore, ice-breaking activities can be implemented to initiate social connections or minimize the group works until learners are ready.

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A case study of making multimodal digital videos in the EFL settings**Bio data**

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Abstract

The main focus of this study is on the local context of learners that students have the ownership of the language use and the digital videos in entirety by designing and sharing the local context. To familiarize EFL learners with local context, the study adopts a multimodal approach to developing digital videos by exploring local cultures or places and help students be situated in the local context. The impact of the study will shed light on what new multimodal representations could offer and what role language and literacy researchers could play in multimodal composing. The results will address the concerns about utilizing authentic local context in the peripheral countries.

Conference paper

The purpose of the study is to break monomodal generic forms in the classroom and incorporate a range of multimodal resources into pedagogy in order to help students foster multiliteracies in the EFL classroom. In the process of meaning making, the students utilize the six design elements of digital literacies to convey meanings and make the local context more explicit.

This study reports on the processes of EFL learners making digital videos by engaging in the local context which took place in the fall semester 2016 in a Taiwanese university. Informed by the multiliteracies pedagogy of New London School (1996) and the theory of social semiotics (Jewitt, 2008, 2012; Kress, 2003), the study centers on multimodal learning and attempts to analyze the outcomes of using multimodal resources in the local context. Modified by the framework of Hafner (2014, 2015), the digital projects are centered around Taiwanese culture and tourism, particularly those highly neglected and under-explored aspects, such as farming industry and traditional pastry, which needs more sophisticated language use and multimodal devices to convey meanings effectively. The purpose of making digitally-mediated videos is to help students foster their critical thinking abilities and language skills. The videos are uploaded to YouTube Channel, which also provide ample opportunities for students to engage in Taiwanese tourism and culture.

The participants were English majors in a Taiwanese university, who took Public Speaking course aiming to sharpen students' presentation skills. The participants were composed of

30 students divided into 6 groups and were assigned to explore a particular local context as the topic of the group digital video. The students in groups were scaffolded by the instructor regarding the topic selection, the multimodal design and the audience awareness based upon the local context. Data collected included the digital videos, the students' reflections and perceptions as well as individual interviews. The results indicate that students express heightened awareness of local context and are more reflective about the issues in the local context. In addition, students became more critical and reflective about using semiotic devices when they realized the importance of audience awareness; they also knew how to rely strategically and rhetorically on multimodal resources in terms of visual design and content. Pedagogical implications are offered for language practitioners and researchers. Detailed investigations of multimodal pedagogy in terms of instructional tips and learning processes will be presented for future research.

Specifically, this study investigated the following effects:

First, to investigate the EFL learners' perceptions about multimodal composing instruction. To enculturate language learners into multimodal composing, the local context would be a more familiar topic for learners to foster autonomy and develop digital literacies. For instance, learners expressed strong interest in the ownership of making the videos in the local issue by looking up relevant information and observing existing videos, locally and professionally made. More specifically, the materials and language use are authentic, a notion well favored by the EFL students.

Second, to investigate how students utilize multimodal resources in the process of composing. To illustrate the meanings in each local contextualized video, the students should consider how multimodal resources would contribute to effectiveness of the digital video based upon the six design elements proposed by New London School. This is done with a rubric-based pedagogy, which guides the students with more varieties of resources. Local context has been the target of language learning with the help of multimodal resources to make communication more effective.

Third, to investigate the affordances and challenges when using multimodal composing approach for Taiwanese college students. Explicit multiliteracies pedagogy should be deeply implemented in the curriculum. Close connection between the educational contexts and reality should be established so that meaning-making should be the target objective for EFL learners. By making the digital videos based upon the local context, students felt proud and understood the significance of communication via social semiotic devices. Local context provides a venue for language learners become more autonomous with a sense of ownership, who simply use a foreign language to express local context. However, more instructional tips and more interdisciplinary and integrated multimodal approach should be clarified to allow learners to be more context-dependent.

CALL in Context

The purpose of the study is to break monomodal generic forms in the classroom and incorporate a range of multimodal resources into pedagogy in order to help students foster multiliteracies in the EFL classroom. In the process of meaning making, the students utilize the six design elements of digital literacies to convey meanings and make the local context more explicit.

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Leveraging cinematic 360° video for diplomatic language training

Bio data



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Abstract

Learning to use language in a professional setting is perhaps one of the most challenging tasks for the non-native speaker. However, materials geared specifically towards high-level diplomatic language use are uncommon. The University of Maryland Center for Advanced Study of Language (CASL) recently teamed with UM's Institute for Advanced Computer Studies (UMIACS) to create a state-of-the-art cinematic virtual environment prototype for advanced language training. The 360° video re-creates the immersive experience of being at an embassy party in Moscow, where a learner must actively listen to high-level (ACTFL level Superior) native speaker conversations in Russian involving realistic diplomatic

language use (i.e., nuanced conversation on political topics such as immigration). The scenario was designed and loosely scripted based upon input from a former U.S. political officer in Russia and second language acquisition researchers with Russian expertise. Primary speaking roles in Russian were performed by members of a local Russian acting troupe (native speakers) using language that is targeted and prompted. The prototype was reviewed by a focus group of five university Russian language instructors who provided initial feedback on its pedagogic potential. The group appreciated the natural, nuanced language, cultural nonverbal cues, and active listening required by the multi conversation scenario, a feature not commonly found in pedagogical materials. Follow-up feedback from target learners is planned.

Conference paper

Learning to use language in a professional setting is perhaps one of the most challenging tasks for the non-native speaker. However, materials geared specifically towards high-level professional language use, such as in diplomacy, are uncommon. Recent advances in the quality and affordability of virtual reality (VR) technology offer a potentially powerful way of contextualizing professional language use by enabling the creation of targeted pedagogical materials for learners with a professional focus. Recently, an interdisciplinary team of language researchers at the University of Maryland Center for Advanced Study of Language (CASL) and research programmers at UM's Institute for Advanced Computer Studies (UMIACS) collaborated to develop a state-of-the-art cinematic virtual environment prototype for advanced language training. Filmed in 360° video and spatial sound, the prototype recreates the immersive experience of being at an embassy party in Moscow. In this paper, we describe the rationale for using 360° video, the process we used in creating the prototype module, and initial feedback from language instructors.

Task-based theories of second language acquisition (Doughty & Long, 2003) posit that learners require authentic input akin to being immersed in an environment with native speakers; that is, input should not be "canned" language exercises such as those typically found in traditional textbooks. To be effective, language knowledge (e.g., grammar, vocabulary) must be practiced within the context of real-world language use to allow students to make the connection between the linguistic form (e.g., a particular sequence of words) and its meaning. For this reason, many researchers extol the benefits of study abroad for language learning (e.g., Freed, 1995; Segalowitz & Freed, 2004); however, immersive training abroad can be logistically challenging and cost prohibitive for many language learners. Although there have been a number of projects that have sought to leverage digitally-animated worlds (e.g., Second Life) to virtually bring the outside world into the classroom, these efforts tend to fall short of providing the rich, human experience of being surrounded by speakers of another language. As opposed to these digital worlds, the use of 360° video allows for the capture of native speakers using language in "real time," allowing learners to reap all of the advantages of being exposed to real human language models.

The use of virtual reality for language learning is certainly not new. In an early descriptive meta-analysis, Schwienhorst (2002) reviewed both low-end (primarily text based) and high-end (immersive) VR tools in second-language learning. The virtual environment Second Life has been leveraged in an attempt to provide an immersive language learning experience for students, and there is some evidence that learner self-efficacy beliefs are improved through such use (e.g., Henderson et al., 2009; Henderson et al. 2012). In a study of task-based simulations with a linguistically diverse group of English as Foreign Language learners, J. C. Chen (2016) reported that the use of the Second Life contributed positively to learners'

feelings of engagement and motivation. Other researchers have created their own virtual environments for specific instructional purposes, such as Croquelandia, an immersive environment designed to target second language pragmatic abilities (Sykes, 2008). Y. L. Chen (2016) designed virtual scenes of a department store to study the effects of VR environments on linguistic development and cognition; they showed that virtual environments facilitate the process of acquiring English, as they allow contextual learning. These three-dimensional computer graphics environments are by far the most frequent form of virtual environment used for second language acquisition. These digital worlds allow language learners to interact with other humans or artificial intelligences in a target language using digital avatars. Although simulated environments allow learners rich interaction with their surroundings, the limitations of current computer graphics technology preclude such software from conveying the realism that is critical to higher-level language training.

For our representative implementation, we elected to record a real-life language environment using 360° cameras and omnidirectional microphones. As opposed to existing VR technology that relies on virtual 3D environments and avatars, we chose to stage a target language interaction and capture video and audio in real time. Using video ensures that the contextual details of the interaction will be reproduced to a level of detail that is not yet possible with digital avatars. In particular, the facial expressions, microexpressions, and body language of the speakers will be preserved. This information can provide subtle cues about an interlocutor's emotional state, and is vital for understanding the communicative intention of face-to-face encounters, such as the use of language for diplomacy (Wong, 2016). Without preserving such cues, it is difficult to produce the complex foreign language scenarios needed to train advanced language learners, particularly those entering careers which rely on negotiation skills. In fact, workshops offering training in reading facial expressions have been offered to various government agencies (Matsumoto & Hwang, 2011).

We felt confident that the features of 360° video should increase the learner's *presence* – i.e., “the subjective experience of being in one place or environment, even when one is physically situated in another” (Whitmer & Singer, 1998, p. 225) – which is related to the focus of attention. It has been suggested that intercultural encounters themselves naturally lead to increased presence due to a heightened awareness on the part of the participant. An empirical study of questionnaire responses about intercultural experiences in the real world found that statements related to “vividness,” “broad awareness,” and “immediacy” loaded on a “presence” factor, whereas “control” and “naturalness” loaded on a “flow” factor; critically, presence led to greater recall of details of the experience (Fontaine, 1992, p. 487). Even in otherwise successful projects, the lack of pragmalinguistic information provided by digital avatars has been noted by participants as a deficiency (J. C. Chen, 2016). Video is still the best medium for capturing the subtle nuances of human interaction, and 360° video can provide the most immersive experience. In a comparison between regular video, panoramic slide show, and panoramic video, Dalvandi, Riecke, and Calvert (2011) demonstrated that panoramic video provided participants with the greatest feeling of presence. Similarly, panoramic video scenarios depicting uncomfortable workplace interactions have been shown to produce more arousal than merely imagining the scenario (Macedonio, Parsons, Diguiseppe, Weiderhold, & Rizzo, 2007). In addition, 360° video can be combined with spatialized sound, which has been demonstrated to improve the sense of presence over non-spatialized sound (Kobayashi, Ueno, & Ise, 2015). We hoped that the broad range of sensory stimuli available through 360° video and spatial sound should provide a similar sense of presence as a real-world encounter.

Having settled on the most appropriate technological approach, we turned our attention to developing the content for our prototype. We had been approached previously by a language program looking to create a virtual experience for their learners, some of whom

would go on to diplomatic posts. We recognized that despite an abundance of materials for beginning learners and tourists, materials for more advanced learners are generally lacking. To this end, we decided to focus on a seemingly innocuous language use scenario that can actually be quite challenging -- a cocktail party at an embassy. On the surface, a cocktail party seems like a purely social event. For diplomats, however, such parties offer unique opportunities to glean information and make acquaintances that might not be possible in more structured settings.

Once the general setting of an embassy cocktail party had been determined, team members interviewed a subject matter expert (SME) who had been deployed to a US consulate in Russia as a political officer. The goal of this semi-structured interview was to understand a typical social embassy event in Russia, such as a cocktail party, and to identify the types of target language tasks involved, particularly those which can be challenging for a non-native speaker of the language. Information about the planning process, where such an event would be typically held, who would be invited to attend, and what types of conversational topics one might expect in such a setting were noted. The team also consulted a written account of life in an embassy (Dorman, 2003) to get a feel for the types of roles and responsibilities of other embassy employees. Our design goal was to create a pedagogically exploitable piece of content based on a cocktail party at a US embassy in Russia.

For the purposes of the prototype, two target conversations were planned, one at a medium level of challenge (ACTFL Intermediate/Advanced) and the other geared towards proficient language learners (e.g., ACTFL Advanced/Superior). The first conversation takes place between a local Russian instructor and an American scholar, visiting the area to deliver a lecture at Moscow State University. To overcome their lack of a common language, they enlist the help of third party guest, a native speaker of Polish who also speaks English and Russian, to act as an informal Russian/English interpreter. Much of the conversation revolves around a *samovar*, a traditional Russian tea set, that is on a table near them. Because of the participants involved, this conversation features extensive code-switching and both native and non-native Russian speech. In contrast, the upper level conversation takes place entirely in Russian and is concerned with the issue of immigration and refugees. The two native-speaking Russian participants represent an aide to a conservative State Duma (parliament) member and a journalist for a left-leaning publication respectively. The third participant in this conversation is the American political officer at the embassy, a proficient speaker of Russian as a second language. His unstated goal is to understand the Russian position on an upcoming UN resolution on international refugees. This conversation features native and non-native Russian speech. Throughout the development of the scenarios, the team consulted frequently with the SME to ensure that the planned conversations were reasonable for the target environment.

Primary speaking roles in Russian were performed by members of a local Russian acting troupe (native speakers). Although we originally intended to have our actors completely improvise their dialogue, it became clear during planning discussions that they would feel more comfortable with a loose script, at least initially. As the scenarios were fleshed out, a rough outline for each conversation was developed. The outline provided the basic flow of the conversation as well as specific vocabulary suggestions that might be appropriate for some of conversational turns. In addition to the outline, the actors were given biographies based on real people, their political views, and some background reading about the events to be discussed. Prior to the filming session, the actors read the loose script for rehearsal, though they were asked to improvise and use their own words for the actual filming, while staying within character. The actors internalized the biographies and views of their characters, not their lines. Thus, the language of the prototype can be considered targeted and prompted, but not scripted. This approach provided a nice balance of control over the

conversations (making the filming more efficient by ensuring the desired content) without sacrificing the characteristics of spontaneous speech (e.g., intensive listening by conversation participants, false starts, self-correction, overlapping speech).

Filming took place in a rented room in the University Alumni Center that had been dressed with various Russian props to give the impression of an embassy location. All actors were instructed to dress in a manner appropriate for a cocktail party. The prototype was filmed with two camera rigs using commodity hardware (Samsung Gear 360⁰ cameras and Zoom H2N digital audio recorders). Using two rigs facilitated the recording of the two conversations simultaneously. The location of each camera rig would become the viewpoint for the learner in the final product, with the camera lenses recording the visual field and the digital recorder capturing the audio. Because 360⁰ cameras have no "blind spots," the researchers and technical crew also participated in the filming as extras. This allowed us to monitor the performance while adding to the ambiance of the cocktail party. All of the action was recorded as a single, unbroken take lasting approximately eight minutes. A total of three takes were filmed, each with the same general conversational flow, but unique realizations of the conversations each time.

The audio and video from the best take were processed through a production pipeline developed by UMIACS to enable teleporting between conversations in real-time during playback using Oculus CV1 headsets. The learner can look in all directions within the virtual environment, and the spatial audio reacts as one would expect in the real world -- as the learner turns his or her head, audio is attenuated corresponding to the learners' position. Features such as fast forward, rewind and pause are controlled by a simple handheld device, and enable learners to navigate through time to revisit or skip content. Adjacent views are indicated from the viewer's perspective with a small camera icon superimposed on the scene; looking at the icon and pressing a button on the handheld controller allow easy access to other views in the recorded environment. We posited that these features would enhance the sense of virtual presence, since the viewer can actively navigate within a scene, while experiencing photorealistic visual and directional auditory details.



Figure 2. Flattened image from embassy video

After the prototype module was assembled, we invited a focus group of five university Russian language instructors to provide initial feedback on its pedagogic potential. None of the instructors had prior experience using virtual reality in their classes, though two had collaborated in the past to create traditional video-based materials. The instructors were asked to watch the video two times through the VR headset. For the first viewing, they were asked to teleport freely between the two conversations and to provide feedback on the immersive experience in general. For the second viewing, they were asked to concentrate on the high level conversation, focusing both on the level and naturalness of the language as well as the potential use of such a video for pedagogical purposes. In terms of the experience, all of the instructors were extremely impressed by the quality, authenticity, and richness of the conversations and the level of engagement felt in the virtual space. The group appreciated the natural, nuanced language, cultural nonverbal cues, and active listening required by the multi conversation scenario, a feature not commonly found in pedagogical materials. When asked about potential pedagogical applications, the instructors mentioned training for understanding speech in noisy situations. Follow-up feedback from target learners is planned. We also plan to conduct an experimental study with the goal of identifying differences in learning outcomes and experiences between those who received input through a 360-degree cinematic video versus those who viewed the same material through a regular 2D video. Any quantitative or qualitative differences in performance or experience between these two groups, if found, will inform further improvements to the effective use of the 360-degree video technology for language learning.

The prototype was also demonstrated for a group of instructors and division heads at the US Department of State Foreign Service Institute (FSI), the primary language training center for US diplomats. Though we did not capture individual feedback at the demo, the prototype was quite well received, particularly by Russian instructors who could envision immediate uses for the prototype in their classes. Additional target language use scenarios, such as attending briefings and visa interviews were suggested as potential future modules.

Given the positive feedback we have received so far, we consider our prototype environment as a successful proof-of-concept. Building on this framework, we expect future iterations of this idea to take fuller advantage of the virtual environment. Currently, only purely digital environments have the advantage of mobility -- a learner can navigate a digital avatar freely within Second Life, for example. While we filmed our prototype with two cameras, there is no limit in principle to the number of cameras that could be employed for a future module. With sufficient coverage, one could create an environment with far more than two vantage points, allowing the learner increased mobility within the virtual space while still maintaining all of the advantages of authentic language content provided by film.

CALL in Context

The use of virtual reality in the form of 360° cinematic video can help contribute to the contextualization of learning for individuals preparing for language use contexts that are not well-represented in traditional learning materials. Professionals entering diplomatic service are very mission-focused, and must be able to carry out their duties in a wide range of formal and informal contexts. To address this need, we leveraged the attributes of cinematic video to create a virtual environment for learners that will give them the experience of being immersed in a language use situation similar to one that they may experience in the future. Because we are re-creating an authentic scenario based on future job needs, this project shows how technology can contribute to the contextualization of the learning, a major conference theme.

Although the technology helps to create an immersive experience, the real contextualization of the learning is only possible by crafting the learning context with the help of a subject matter expert to ensure that target language needs and not just technology were appropriately addressed. Basing the prototype scenario on a realistic target language task helps to further contextualize the target language for the learner. In addition to mimicking a realistic environment, the prototype also contains additional task elements often lacking in traditional learning materials, in particular the presence of speech in noisy conditions and rich pragmalinguistic information. Due to the fact that multiple conversations are happening in the same space, accentuated by the use of directional sound, the learner must intently focus attention on the particular conversation that they are trying to follow and avoid being distracted by the other sounds in the room. This type of overlapping speech is seldom found in commercial materials, and can be challenging for language learners. The availability of visual cues, such as gestures and body language, provide additional insight into the real intention behind a speaker's words, particularly important when dealing with higher-level conversations. Taking advantage of the 360° nature of the environment, the learner is free to focus on either the speaker or the reactions of the listener during repeated viewings.

In this way, the use of 360° cinematic video, coupled with a task-based approach to materials design, offers a great potential in contextualizing learning for those students acquiring language for professional use.

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Digital literacies in the Japanese university context: preparing for a study abroad program

Bio data



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Abstract

Study abroad programs provide excellent opportunities for language students to accelerate their language studies and acquire cultural capital (Byram & Feng, 2006) in foreign contexts. Research on students returning from study abroad programs and culturally different classrooms however, has revealed that this is not always the case. One recommendation is for language teachers to focus on developing digital literacies (Kinginger, 2011) in order to bolster a more positive academic and culturally-inclusive study abroad experience. In light of the reported poor digital literacy levels among first-year Japanese students (see Lockley 2011; Murray & Blyth, 2011), the researchers of this ongoing study are attempting to determine if these findings also apply to Department of Tourism and Hospitality Management students at their private university in Tokyo, and if so, does it restrict them from accessing and engaging in different educational cultures and social settings while studying in a foreign context? The impact of the authors' local, Japanese university context and its effect on the participants in this study is inconsistent; some participants reported engaging with digital devices and demonstrating digital literacies in their classes, yet others reported little or no engagement with digital tools and infrequent, often basic, integration of digital literacies. The researchers of this current study are trying to determine the most appropriate technologies and roles that successful application of digital literacies can play in the participants' academic context. This paper reports on a three-stage investigation of digital literacies in an Australian study abroad context: (1) a preliminary screening of returnee students (n=73) from the 2015 cohort, (2) a digital literacies evaluation of the 2016 first-year cohort (n=112), and (3) a review of

digital tools usage and digital literacies integration in the Australian context by the 2016 returnee cohort (n=78). Key findings indicate that digital literacy levels among first-year students are alarmingly low upon entering the researchers' university; compared to their local, Japanese university context, students are required to use a computer more frequently and consistently in the Australian context; and, limited attention is being given to practice using digital tools or demonstrate digital literacies prior to the study abroad experience.

Conference paper

1. Introduction

This paper reports on the researchers' investigation into how prepared Japanese students in the Department of Tourism and Hospitality (DTH) are for a one-year study abroad program in Australia. In this overall review, a three-stage (See Figure 1) investigation is considered:

1. A preliminary screening of 73 returnee students (2015 cohort)
2. A digital literacies evaluation of the 2016 first-year cohort (n=112).
3. A review of the use of digital tools and digital literacies integration in the Australian context by the 2016 returnee cohort (n=78).

This article will first describe the study's participants, followed by a summary of the relevant literature and then each of the four research stages will be described, including a summary of important findings.

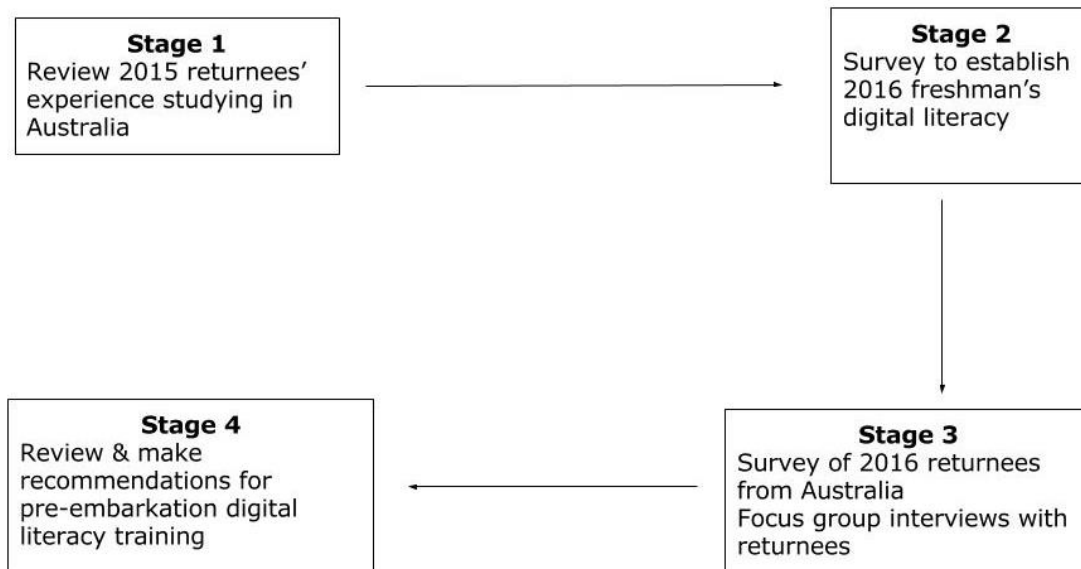


Figure 1. Digital literacy review for DTH students plan

2. Participants

Unlike most of their peers in the other departments on campus, all DTH students are required to attend five English classes per/week for a duration of 50 minutes. The DTH students attend an English for Academic Purposes (EAP) class five days per/week, an independent English study class one day per/week, and a fifth class focused primarily on preparation for the TOEIC test. As was mentioned in the introduction, the DTH students have an opportunity to study abroad for one year, and that has largely driven the unique design of this intensive, five-day English program. To qualify for the study abroad program, students must satisfy one requirement: achieve a score of 500 or higher on the TOEIC test. For the three semesters prior to their Australian study abroad program, students in the DTH were taught English by faculty members from the Center for English as a Lingua Franca (CELF). All teachers were told to focus on academic skills and TOEIC training, and although not strictly prescribed, teachers were encouraged to employ computers in the classroom and provide opportunities for students to use computers for learning purposes. Furthermore, and arguably central to this current study, first-year students who join the DTH are required by the Department to purchase a personal computer.

3. Literature Review

3.1 Digital literacy

Using digital technology and developing digital literacy in the twenty-first century (Goodwin-Jones, 2000) has become crucial and teachers are being tasked to effectively help students expand and exercise their digital literacy skills. Traditionally, 'literacy' has long been defined as the ability to read and write, whereas the term 'digital literacy' appears to be more complex. The United States Department of Education (1996) defined digital literacy as having computer skills and the ability to use computers and other technology to improve learning, productivity and performance. Barrette (2001) along with Corbel & Gruba (2004) argue that digital literacy contains two fundamental components: a) ability to control basic computer operations, and b) using one's understanding of computers for problem-solving and critical thinking. More recently, Dudeney, Hockly and Pegrum (2014) identified digital literacy as being able to make use of technologies at one's disposal and understanding the social practices that surround the use of new media.

3.2 Japanese student literacy

Although often perceived as a digitally-connected (Gobel & Kano, 2014) or technologically advanced country, digital literacy levels among Japanese youth are reported to be slipping behind other developed countries. This trend has been recognized by the Japanese Ministry of Education, Sports, Science and Technology (MEXT) in 2011 and they mandated the inclusion of information computing technology (ICT) in all high school curriculums in response. Later in 2015 however, the Organization for Economic Co-operation and Development (OECD) released another critical assessment of the literacy of Japanese youth, noting that 25% (ages 16-29) lacked basic computer skills. One explanation could be that Japanese schools have not reacted to the MEXT mandate to implement ICT training. In fact, contemporary reviews of freshmen Japanese university students have corroborated with this argument as they found that many Japanese students are not using ICT in high school and most high school graduates have low levels of digital literacy and confidence using digital tools (Gobel & Kano, 2014; Lockley & Promnitz-Hayashi, 2012; Lockley, 2011; Murray & Blyth, 2011).

3.3 Digital literacy and study abroad

For DTH students studying in Australia, poor digital literacy may be limiting language learning opportunities (Murray & Blyth, 2011), chances to engage in Australian culture (Kinginger, 2011), and their ability to function in the foreign society (Brine, Kaneko, Heo, Vazhenin & Bateson, 2015). ICT skills were identified by Jarman-Walsh (2015) as crucial for

students studying abroad because they often work independently to solve personal and academic-related problems. Developing multimedia and social networking literacies have also been recommended for study-abroad preparatory programs because students can learn how to: (a) access resources and strengthen relationships (Jarman-Walsh, 2015), (b) practice informal communication with peers (Kinging, 2011), and (c) explore the communicative norms used by locals (Kinging, 2011). While most study abroad research focuses on the development of cultural awareness and language proficiency (e.g., English, 2012; Sato & Hodge, 2015), the examples above illustrate the role digital literacy can play in academic and social environments.

4. Research

4.1 Research questions

This study aimed to answer the following questions:

1. Did students experience any challenges related to digital tools or literacies during their one-year study abroad in Australia?
2. What are actual levels of digital literacy when students enter the University as first-year students?
3. What steps can be taken to strengthen students' digital literacy before they travel to Australia?

Following the research plan outlined in Figure 1, this report will provide a brief description of each stage along with significant findings.

Stage 1

In this initial phase, 73 students from the 2015 group of returnees were surveyed. The questionnaire asked students to appraise their digital literacy skills and their competence using computers while studying in Australia. Important findings from this investigation indicated that students expressed interest in improving their digital literacy; they recognized the necessity of digital literacy in higher education and beyond; many believed that their digital skills were inferior to their classmates in Australia; and, they reported using their computer(s) more in Australian university classes (See Milliner & Cote, 2016 for a detailed report on this investigation).

Stage 2

In the second phase, Son, Robb and Charismiadji's (2011) seminal digital literacy questionnaire for language learners was adapted to establish the digital literacy levels of the 2016 freshmen cohort (112 students). The questionnaire focused on issues relating to computer ownership and accessibility, ability to perform tasks on mobile devices and PCs, personal and professional use of computers, and general interest in CALL. A more detailed description of the results of this study are presented in Cote and Milliner (2016); however, digital literacy levels among this cohort echoed the alarmingly low levels reported in other contemporary Japan-based studies (e.g., Gobel & Kano, 2014; Lockley, 2011; Murray & Blyth, 2011). In particular, most participants cannot use productivity applications effectively, which prevents students from being able to fulfill Barrette's (2001) and Corbel and Gruba's (2004) aforementioned second tenet of digital literacy: using computers for problem solving and critical thinking. Although smartphone ownership and PC ownership is at 100%, students do not appear to be using these devices outside of accessing social networks, email, Internet browsing and video consumption. Moreover, students appear unable to use technology effectively for language learning purposes.

Stage 3

During the third stage of this study, the researchers surveyed the second group of returnees immediately after returning from Australia in September 2016. The questionnaire primarily

targeted students' personal experiences using digital technology while living and studying in Australia. Following a review of the survey results (78 respondents), the researchers also conducted two focus group interviews; initially with a group of eight students and later with a group of five.

From the questionnaire, the researchers learned that close to 80% of students believed they used a PC more frequently for study purposes in Australian university. The focus group discussions later revealed that this perception was based on the fact that the students never used a computer to complete in-class tasks or homework assignments in their Japanese university classes. When directed to compare themselves against their Australian peers, over 60% believed their fellow, international students in the Australian university classes had more advanced computer skills. When asked to explain their reasoning behind such an opinion, the focus group participants stated that it was because they struggled with tasks like online research, and during group (presentation) projects they were able to observe their classmates' more-advanced skills.

Another questionnaire item asked if they would possibly have felt more prepared if they had received a formal digital literacy training class before travelling to Australia, just over half of respondents (56%) believed that this would have been beneficial.

Students also noted that those who sat an optional Microsoft Office Specialist (MOS) accreditation (recommended by their statistics teacher as a means of earning extra credit) during their first year of Japanese university later benefitted from the knowledge and skills in Australia. Upon hearing news that this component of the DTH curriculum has been discontinued, returnee students voiced concern not only because of the benefits gained in digital skills but also because they felt that this type of accreditation and experience will help in their future professional lives. This finding also spurred the authors of this study to consider prospective research which would evaluate how digital literacies, or digital training, is being incorporated into the DTH curriculum for future student bodies.

These insights represent some of the major findings from the third stage of this research project, and the researchers are currently in the process of writing up these results for a journal submission in late 2017.

Stage 4

As highlighted in Figure 1, Stage 4 will require the researchers to review the results of each of the previous stages along with the abovementioned review of how digital literacies are currently being addressed in DTH courses. These results should also shape how digital literacies can be more efficiently nurtured in the pre-embarkation program.

5. Conclusion

To more effectively prepare their Japanese students for a study-abroad program, the researchers conducted this evaluation of students' digital literacy and how it impacts upon their experiences studying abroad in Australia. This four-stage investigation has thus far identified that first-year Japanese students at their university need to develop digital skills covering a broad range of areas. Awareness of Internet literacy and manipulation of basic productivity applications (e.g., word processing, spreadsheet creation, cloud computing and presentation software) to name a few. In addition to basic training, the DTH needs to create more practical opportunities for students to apply these skills to complete a variety of learning tasks. How students should be specifically and effectively trained to develop these skills requires further investigation. The researchers will soon begin work on completing the third and fourth stages of the project with the ultimate goal of providing reasonable and sound recommendations on how students' digital literacies can be nurtured.

CALL in Context

This study takes place in Japan, arguably still a very homogenous context and stereotypically a digitally-connected, electronically-savvy culture. Yet studies published half a decade ago by Murray and Blyth (2011) and Lockley (2011) concluded that Japanese university freshman lack core computer literacy skills. More importantly, both studies also suggested that normalization of CALL activities is still a long way off.

In Japan, 21st-century education policy at the national level is pushing towards more technology-based instruction and an increase in computer skills classes. This, coupled with the ascent of "digital natives" (Prensky, 2001) into higher education, has brought computer literacy to center stage.

Yes, a significant portion of Japanese students lack computer literacy skills, while others are quite digitally literate and capable. In our local university context, net connectivity is strong and modern, state-of-the-art devices and tools readily available. It is up to the institution and teacher to reconcile these dichotomies: designing an environment that capitalizes on the connectivity and availability of devices that proves beneficial for both those who are digitally literate and those just learning. These are but a few of the various pieces of our local context that are shaping our learning environment.

To address the second question, how to determine the role of the most appropriate technologies for our context, the authors of this study toggled between two different international academic environments. The domestic context (Japan) often placed fewer and more basic, digital literacy requirements on the students to achieve academic success. Whereas compared to the Australian academic context, what passed as being "digitally literate" was often more diverse and advanced. The challenge in these dual contexts is understanding what the student needs to accomplish a task and then identifying, or strengthening, digital literacies that will best fit those roles.

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An Exploratory Study on Integrating Virtual Reality Video into L2 Chinese festival teaching**Bio data**



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Abstract

There are limited studies of L2 Chinese classroom practices using multimedia technology, especially on learning cultural topics. This study explores the students' perceptions of and learning satisfactions with an L2 Chinese cultural course that incorporated *The Sims* video. Based on the Multiliteracies learning theory that help students understand the cultural and linguistic diversity of Chinese with multimodal texts, this study provides an empirical investigation within the context of L2 Chinese teaching and learning in Taiwan. Twenty-seven foreign military personnel in Taiwan participated in the study. Questionnaires based on Self-Determination theory and ADDIE was administered to understand the learning satisfactions and perceptions of the students. This mix-method study also incorporated qualitative data to triangulate the findings.

To determine the role and shape of the most appropriate technology for the context of the current study, learners and learning contents were taken into consideration. For foreign military learners with low motivation to learn, cultural content and *The Sims* video served as intrinsic and extrinsic stimuli. The context of learning informed the adoption of *The Sims* video. Students' perceptions on *The Sims* video were positive. However, *The Sims* video itself cannot guarantee learning results, and teachers played a prominent role in implementing technology. Other than the teacher's role, the students' interest in *The Sims* video is only the first step to satisfactory learning results. It is the satisfaction of overall course design, rather than multimedia technology per se, that determines the learning outcome. The study recommends teachers to analyze the context of the learning environment and adopt relevant technology that serves the learning purposes. Thus, teacher preparation programs should train competent teachers to integrate technology into practices that facilitate student learning according to the context.

Conference paper

Introduction

Although the importance of infusing technology into second/ foreign language teaching and learning has been widely acknowledged (Blake, 2007; Zhang, Zhao, & Li, 2014), little

attention has given to how teachers and students perceive the using of multimedia technology in Chinese as a Second Language (L2 Chinese) classroom practices, especially on culture topics. As Kaiser (2011) argued, although films have been regarded as valuable material for foreign language instruction, the discrepancies between the ideal and real situations of implementing film into foreign language curriculum exist. Kaiser's (2011) discussion pointed out technological and pedagogical barriers are the reasons why videos are absent in a foreign language classroom. Searching or curating a particular video to meet specific teaching objectives is not an easy task. Besides, teacher's ability to effectively combine videos and his/her curriculum is another concern. Thus, well-edited teaching materials, particularly videos, that serves pedagogical intents are urgently needed for L2 Chinese teaching and learning.

On the other hand, in the context of globalization with cultural and linguistic diversities and rapid technological development, literacy pedagogy requires innovation to guide students to adopt to the social changes in their public, private, and working lives (New London Group, 1996). "Pedagogy of multiliteracies" (New London Group, 1996; Cope & Kalantzis, 2009) teaches students "how to read and write multimodal texts integrated the other modes with language, in which the linguistic, the visual, the audio, the gestural and the spatial modes were incorporated (Cope & Kalantzis, 2009: 3)."

Moreover, Gee also claims that "to communicate distinctive types of meanings in the modern world, semiotic domains are critical, and compared to print literacy, video games is an essential resource (Gee, 2007: 18-19)." *The Sims* is the best-selling video game in history, and the implications of gaming go beyond entertainment. Game is useful for educational purposes, and it has increasingly captured the interest of educators and policy makers (Gee & Hayes, 2010: 1, 7) in the educational field.

This study examines the perceptions and results of a Chinese as a Second Language cultural course (Dragon Boat Festival) that implemented *The Sims* video. Specifically, it addresses the following research questions (RQs):

1. What are the perceptions of L2 Chinese students toward a course of Chinese festivals integrating *The Sims* video?
2. What are the learning satisfactions of L2 Chinese students toward a course of Chinese festivals integrating *The Sims* video?
3. What are the correlations between *The Sims* video integration and learning outcomes?

Theoretical Framework

Motivation to learn in foreign language education

The use of video in classroom settings based primarily on theories of motivation to learn. Gee (2003) indicates the importance of motivation by stating that "Motivation is the most important factor that drives learning. When motivation is gone, learning is over." Proposed by Deci and Ryan (1985), Self-Determination Theory (SDT) distinguishes intrinsic motivation, which refers to doing something due to the inherent delightfulness or enjoyment, and extrinsic motivation, which refers to doing something for external outcomes (Ryan & Deci, 2000). Regarding motivation of L2 learning, Gardner (1985) divided it into integrative and instrumental orientations. L2 learners with integrative orientation tend to interact with the community of the target language and appreciate its lifestyle. This tendency is similar to intrinsic motivation; on the other hand, instrumental orientation motivates L2 learners on the basis of external rewards (similar to extrinsic motivation). On the basis of above theories, this study employed *The Sims* video as an external stimulus and its cultural content as an internal stimulus to fully responds to the context of the learners' motivation to learn.

Multiliteracies

Multiliteracies gains popularity among education experts for its potential to train students' required ability in the twenty-first century. Millis (2009: 105) clearly identified the core concept of multiliteracies as a response to "the need for literacy curricula to incorporate a widening range of digital text types with their associated boundaries of generic structure that are less visible than those of time-honoured, written forms." The curriculum of this study aims to implement *The Sims* video as a technology tool to help students understand cultural and linguistic diversities of Chinese. Specifically, it builds its design upon the four components of multiliteracies pedagogy: "situated practice," "overt instruction," "critical framing," and "transformed practice". (New London Group, 2000)

"*Situated practice*" gives students opportunities to immerse in a community to practice and relate their immersion to what they are learning. The target language environment in Taiwan provides a good source for students to immerse in. However, immersion itself is not sufficient, an expert is needed to guide learners to solve the problems they may encounter through language immersion (New London Group, 1996: 85).

"*Overt instruction*" supplements immersion and serves an important way to explicitly identify the information the students have already learned and accomplished. This active intervention from the teacher or other experts scaffolds learning activities within the community of learners. Among the collaboration between the expert/teacher and the students, the students can complete a task which is more complex than they can do it on their own (New London Group, 1996: 86).

"*Critical framing*" is the prerequisite exercise of transformed practice. In this phase, students reframe what they have learned and constructively criticize it (New London Group, 1996: 87). The students are able to apply the particular system of knowledge in a broader context and account for its importance (Zhang, 2016). By comparing the Dragon Boat Festival with their mother cultures, the students can question and reflect on the knowledge they have learned, critically reviewing it and making it applicable to their everyday life context.

"*Transformed practice*" helps students return to situated practice but review the theory in a reflective way. It also provides us "a place for situated, contextualized assessment of learners and learning processes devised for them (New London Group, 1996: 87)." In this Dragon Boat festival course, the students were given a hands-on opportunity to reflect the cultural discourse they learned in class. They were asked to make rice-dumpling, a cultural artifact and food of the target festival, on their own.

Instructional Systems Design (ISD)

Analyze, Design, Develop, Implement, and Evaluate (ADDIE) (Branch, 2009), as a theoretical foundation, was adopted in the current study for the following reasons. Firstly, the systematic design can be used to form the constructs of the questionnaire; secondly, it ensures the quality of the course. Thirdly, students' hands-on manipulation of the technology is not required (as it is in the ASSURE model). Fourth, this study emphasizes on the exploration of adopting technology for learning contexts.

In the Analyze phase, selection of potential delivery systems is the central task to validate the possible causes of the performance gap, determine instructional goals, and analyze the learners (Branch, 2009: 24). In the Design phase, verify desired performances and appropriate testing methods is crucial. Another critical task in this phase is "maintaining alignment needs, purpose, goals, objectives, strategies, and assessments throughout the ADDIE process (Branch, 2009: 60)." The goal of the Develop phase is to generate content,

develop supporting media, and guidance for both teacher and students. After this phase, the teacher should be able to ascertain the set of learning resources needed for intentional learning (Branch, 2009: 84). The purpose of the Implement phase is to arrange the learning environment and engage the students, assuring they are able “begin to construct the new knowledge and skills required to close the performance gap (Branch, 2009: 133).” The Evaluate phase focuses on determine tools and criteria for assessment. In this course, evaluate phase includes the instructional process and products, as well as students learning outcomes. Formative and summative evaluations were conducted.

Methodology

The methodology of the current study is based on classroom research (Bailey, 1998) and teacher-research (Freeman, 1998). Utilizing convergent mix-method research design (Creswell, Klassen, Plano Clark & Smith, 2011), the current study triangulates both the quantitative and qualitative data to increase legitimation (Onwuegbuzie & Johnson, 2006).

Participants: students (N=27) serving in military participated in the present study. The student group consisted of military cadets (N=10; 37%) and military officers (N=17; 63%). Students were from Central and South America (N=17), Middle East (N=3), and Africa (N=7).

The Sims video: The Sims video in the current study refers to a series of videos on festival topics compiled in “A Material Database for Chinese as a Second Language Teaching on Festival Topics” (Dai, Wang, Yen, Wang, Tu & Xu, 2011). The database is a well-designed team project completed under strict supervision from two experts. The videos are consistent with the principles that Mayer (2011) raised in his cognitive theory of multimedia learning. In other words, the corresponding words and pictures are presented contiguously and are arranged in meaningful ways on the screen. The redundancy of content is minimized.

Data collection and Analysis: A questionnaire of five-point Likert-type scale (5=Strongly Agree, 1=Strongly Disagree) was designed to answer the research questions. In order to establish content validity, the researcher wrote the draft of the questionnaire after reviewed the literature based on the research questions. To establish expert and face validity, the questionnaire was then sent to five peer-experts for meaning checking. It was also sent to an expert with a doctorate in Instructional Technology from the US and is teaching in a program of Teaching Chinese as a Second Language in Taiwan for an integral check. The Cronbach alpha coefficient for each constructs was as follow: “Curriculum content and design”(.816), “Teachers and teaching implementation”(.613), “Learning results”(.789), and “Interpersonal interaction” (.676). All coefficients are above .60. These coefficients were considered acceptable (Ary, Jacobs, Sorensen, 2010). Reliable measures of personality variables are most difficult to obtain; thus, these measures typically have only moderate reliability (.60 to .70) (Ary et al, 2010: 249). To answer research questions, this study conducted descriptive statistics and inferential statistics, including One-Sample t-test and Pearson and Spearman correlation analysis. Qualitative data from semi-structured interviews, participant observation, classroom recording, and reflective journal were used to triangulate the results. Open-coding was used to inductively analyze the themes emerged from qualitative data.

Results

Demographic results

Students’ ages ranged from 18 to 54 years-old, and with an average age of 34 years old. The students’ “familiarity to computer” (M=3.81, SD=1.075) is higher than “Familiarity to computer games” (M=2.46, SD=1.208) and “like to play computer games” (M=2.67, SD=1.074)

To understand the relationships between "computer and gaming familiarity" and "learning motivation" the video can contribute ("I am interested in *The Sims* video of Dragon Boat Festival"), Spearman's rank correlation coefficient was calculated. The result found there are no significant differences. This result suggesting that no matter what the student's computer skill levels and gaming backgrounds are, the teacher can implement *The Sims* video into the teaching process. Nonetheless, "Familiarity to computer games" shows a low level of correlation with "By using *The Sims* video in the course, my needs for cultural learning of Dragon Boat Festival can be satisfied." ($r = .397$, $p = .045 < .05$). The finding reveals the fact that the higher the student's familiarity with computer games, the higher possibilities the student's learning needs can be fulfilled.

RQ1&2: Students perceptions and learning satisfactions

To test the learning satisfactions toward the curriculum, one sample t-test was conducted. The median 3 of a five-point Likert-type scale was set. The result found that the average satisfactions of all constructs are above 3.5, showing students' high satisfaction with the overall the teaching design. "Curriculum content and design" $t(25) = 7.842$, $p = .00 < .05$; "Teachers and teaching implementation" $t(26) = 13.749$, $p = .00 < .05$; "Learning results" $t(25) = 6.306$, $p = .00 < .05$; "Interpersonal interaction" $t(26) = 13.204$, $p = .00 < .05$. The highest to the lowest means are as follows: "Interpersonal interaction" ($M = 4.25$; $SD = .49$); "Teachers and teaching implementation" ($M = 4.23$; $SD = .46$); "Curriculum content and design" ($M = 3.95$; $SD = .62$); "Learning results" ($M = 3.71$; $SD = .58$). The highest two constructs are "Teachers and teaching implementation" and "Interpersonal interaction." Calculation of Pearson correlation coefficient between constructs of "Teachers and teaching implementation" and "Learning results" ($r = 0.829$, $p = 0.00 < .01$) also indicates the highest correlation among other constructs. The qualitative data suggests that the student understood 40% of the content of the video, in contrast to 90% after explanations of the teacher. The interviewees added thoughts to this notion: "This video is very interesting ...you explain me, I understand, but the video, no..." "Maybe the teacher has to explain," and "Yes, but the teacher can use the video to motivate the student, yeah."

With regard to motivation to learn, *The Sims* video played a significant role. The questions "I am interested in *The Sims* video of Dragon Boat Festival." ($M = 4.15$; $SD = .86$) and "*The Sims* video of Dragon Boat Festival is appealing." ($M = 4.04$; $SD = .706$) have a relatively high mean. Reflective journal and interview also validated the results. "Compared to regular courses, the students pays more attention to the screen and tried to repeat the vocabularies in the video." The interviewee gave a positive reply, saying: "yes...yes... it [*The Sims* video] can be a motivation stimulus." and "Yes, this video is helpful for my learning."

RQ3: The correlations between The Sims video integration and learning outcomes

In order to understand the learning outcomes of integrating *The Sims* video, items in the questionnaire regarding *The Sims* video were selected to calculate Spearman's rank correlation coefficients.

"*The Sims* video" was intended to arouse students' motivation to learn, however, is it correlated to the learning outcomes? Item "I am interested in *The Sims* video of Dragon Boat Festival" was therefore tested with questions under "Learning results" constructs, namely, "I can learn the culture of Dragon Boat Festival from *The Sims* video." ($r = .293$, $p = .137 > .05$); "I don't like the culture of Dragon Boat Festival after watching *The Sims* video." ($r = .080$, $p = .691 > .05$); "I can understand the content of the course." ($r = .369$, $p = .064 > .05$); "I can learn the custom of Dragon Boat Festival." ($r = .147$, $p = .463 > .05$); "After the course, I want to continue my learning experience of the culture of Chinese festival." ($r = .301$, $p = .127 > .05$); "Learning the culture of Dragon Boat Festival is

important to my Chinese learning experience." ($r = .251, p = .206 > .05$). The results suggest that there are no significant differences. In other words, students' interest in *The Sims* video does not guarantee better learning results. "*The Sims*" video is not a panacea in the teaching and learning process. However, there is a significant difference between "I can understand the content of *The Sims* video." ($r = .429, p = .025 < .05$), with an intermediate correlation level. Thus, students' understanding of the video can be achieved by arousing students' interest in *The Sims* video.

The study then proceeded to explore the correlation between "I can understand the content of *The Sims* video." and "After the course, I want to continue my learning experience of the culture of Chinese festival." ($r = .425, p = .027 < .05$), "Learning the culture of Dragon Boat Festival is important to my Chinese learning experience." ($r = .451, p = .018 < .05$), "I can understand the content of the course." ($r = .776, p = .00 < .05$). The results show that there are significant differences among these pairs. Nevertheless, the correlation between "I can understand the content of *The Sims* video." and "I can learn the custom of Dragon Boat Festival." ($r = .333, p = .090 > .05$) is not significant statistically. Namely, understanding the content of the video does not necessarily means students had learned the content of the course.

The study sought to know how can students learned the course content. By calculating Spearman's rank correlation coefficients, the study found the ultimate goal "I can learn the custom of Dragon Boat Festival." is correlated to "I am satisfied with the overall course design." ($r = .453, p = .02 < .05$). On the other hand, "I am interested in *The Sims* video of Dragon Boat Festival." and "I am satisfied with the overall course design." ($r = .486, p = .012 < .05$) is correlated.

Besides, between the pairs "I can learn the culture of Dragon Boat Festival from *The Sims* video." and "By using *The Sims* video in the course, my needs for cultural learning of Dragon Boat Festival can be satisfied." ($r = .725, p = .000 < .05$) and "Discussing *The Sims* video with classmates can motivate me to learn." ($r = .52, p = .005 < .01$), the study found that if the students' learning needs can be satisfied, they are highly possible to learn the target culture. It is also possible for the students to learn if they feel motivated when discussing the video with their classmates.

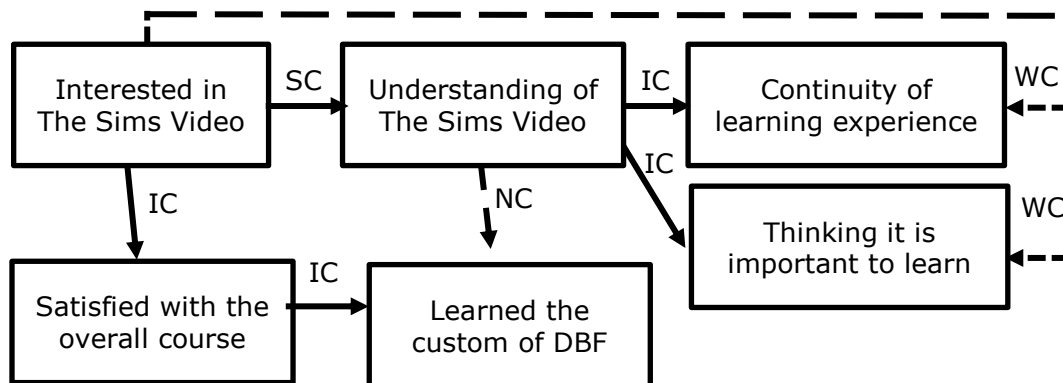


Figure1: Correlation between Students' interest in *The Sims* video and learning outcomes. SC, strong correlation; IC, intermediate correlation; WC, weak correlation.

Discussion and Conclusion

The purpose of this exploratory study was to examine the students' perceptions and learning satisfactions toward the course integrating *The Sims* video, as well as the students' learning outcomes. The results show that students' perceptions and learning satisfactions are significant statistically. However, effective learning outcomes cannot be achieved solely by integrating *The Sims* video.

From the analyses of inferential statistics, the study found that teacher still played the prominent role in the learning process. In order to make the learning results satisfactory, the teacher should firstly identify the learning needs of the students. Furthermore, the teacher makes the students interested in the technology adopted in the class, so that they can be fully immersed in the course.

There are some implications of the research findings of these study. Firstly, technology itself cannot promise ideal learning outcomes. The students can learn the course content if they are satisfied with the course design. To achieve this goal, teachers can implement technologies that the students are interested in, in the case of this study, *The Sims* video. In other words, the desirable learning outcomes can be reached step by step. Students' interest in *The Sims* video paved the foundation for successful learning, but it is not the determinant. Secondly, if the goal is to make the students understand the content of the integrated tools, the teacher should first analyze the needs for learning and create a supportive community for the students to engage in discussion. Thirdly, the analyses point to the importance of teacher training programs. Since technology is not the dominant factor of good learning results, teacher training program should prepare future teachers to adequately infuse technology for the purpose of maximizing learning in accordance with the students' needs.

CALL in Context

The present study empirically investigated students' perceptions of and satisfaction with a virtual reality video integrated L2 Chinese cultural course. The scientific data acquired and analyzed in this study indicate that, within the specific context, addressing students' learning needs is a way to decide the appropriateness of technologies integration.

As Colpaert (2016) eagerly stressed, it is impossible for us to looking for the perfect practices of education. This empirical research validates his hypothesis on Educational Engineering Approach, an instructional design model that demands educators to consider as many factors as possible to build the more effective educational artifacts (Colpaert, 2016: 5; Colpaert, 2014). By adopting the motivation theories on L2 learning, ADDIE, and Multiliteracies, the course in this study was able to decide "which pedagogical approach, content, and technology to use" that strengthen the purpose of Distributed Design Model from Educational Engineering Approach (Colpaert, 2016). This reverse design reminds instructional designers and teachers that, before pedagogy and technology, to think the outcomes first; most importantly, the engineering process should take the context of the learning process into consideration for sustainability (Marek & Wu, 2016).

Firstly, regarding the contextual aspects, the course considered the learners and learning content. Chinese language for foreign military learners in Taiwan play a trivial role in their career, and they treated it as an extra requirement, thus, motivation stimuli are relatively important for them in learning Chinese. The goal of the course is to make the students interested in the course and know more about the culture of the environment they are living in.

To ensure the quality of the course and achieve the expected outcomes, Branch (2009: 2) suggested, among the various Instructional Systems Design frameworks, "ADDIE remains the most effective tools in developing educational products and learning resources." The five phases of the Instructional Systems Design framework— Analyze, Design, Develop, Implement, and Evaluate (ADDIE)— validates Colpaert's (2016) Instructional Design model, for its analytical procedure before technology and pedagogy selection.

Secondly, the goal of L2 learning in a broader context cannot be neglected, the course should expect students to adapt to digital media in a globalized context. Chun (2016) proposed the fourth stage of Computer Assisted Language Learning (CALL). Named as "ecological CALL," this stage focuses on multiliteracies, aiming to promote students' identity in a globalized society. The affordances of video games are widely discussed (Gee, 2007; Marek & Wu, 2016; Kopcha, Ding, Neumann, & Choi, 2016). This study further verified that the motivational role played by *The Sims* video can apply to all students regardless of their gaming and computer backgrounds, while students with familiarity to computer games can still find slightly higher possibilities to fulfill learning needs, which is an essential element of better learning outcomes. This validation speaks to the educators on the topic of how to decide appropriate technologies in the teaching and learning process.

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How generalizable are the benefits of captioning in the unfamiliar context of a non-Roman alphabet?

Bio data



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Abstract

Extensive research strongly supports the use of captions (same-language subtitles) to facilitate listening comprehension for learners of languages using the Roman alphabet. A growing number of studies have demonstrated that with level-appropriate material, captions make it easier to visualize word boundaries, recognize known vocabulary, and segment speech, therefore improving overall listening comprehension, even after the textual support is removed. However, this research has been devoted primarily to the role of captions for learners of European languages.

The purpose of this paper is to present preliminary observations from a pilot study on the role of captions as aids to language learning in the context of significant linguistic differences between L1 and L2. This study came about as a result of American students' comments that they struggled with the speed of Farsi captions in an earlier exploratory study. The pilot study includes two experimental phases: first, a reading exercise designed to assess the students' decoding speed and the potential readability issues in the context of different L1 and L2 alphabets; second, a recall protocol exercise to measure potential listening comprehension progress with the Farsi captions.

The reading speed exercise indicated that even advanced students may still have difficulties with rapid decoding of the Persian alphabet and have not reached the same automaticity in this process as native speakers. However, the study participants were at an advanced enough level in reading (level 2 or higher in the Interagency Language Roundtable scale) to

have sufficient time to process the relatively short captions. All the students reacted positively to the Farsi captions and benefited from them. Captions seemed to assist with listening comprehension and decoding speed. However, further studies should determine whether captions can lead to improvements in both reading and listening skills.

Conference paper

Among the array of tools available through technology to facilitate language learning, it is not uncommon now for include captions (also called same-language subtitles, intralingual subtitling, or bimodal input) as a form of scaffolding help with listening, usually perceived as the most difficult skill for learners to acquire. However, most of this research has been primarily devoted to the role of captions for learners of languages using the Roman alphabet. The purpose of this paper is to present preliminary observations on the role of captions as aids to language learning in the context of significant linguistic differences between L1 and L2, especially when the use of different writing systems is involved.

The current pilot study came about as a result of American students' comments that they struggled with the speed of Farsi captions in an earlier exploratory study. The current study includes two experimental phases: first, a reading exercise designed to assess the students' decoding speed and the potential readability issues in the context of different L1 and L2 alphabets; second, a recall protocol exercise to measure potential listening comprehension progress with the Farsi captions. Thus, this study seeks to establish whether captions in a less familiar alphabet can help improve students' listening skills, or whether they might lead to improvements in both listening *and* reading skills.

LITERATURE REVIEW

Audiovisual Translation Research on Captions and Listening

Because automaticity in reading is usually easier to acquire, at least across languages sharing the same scripts, providing learners with some form of written support has been a common scaffolding tool. With an audiovisual passage, one of the ways to provide immediate written support is through captions. This area of research has grown steadily since the late 1990s, in tandem with the development of digital technology, and it now has become a major field of inquiry.

Numerous studies have demonstrated that, even after the textual support is removed, captions tend to improve language learners' listening skills in a number of ways:

- Increase comprehensible input by mapping speech onto the written text and developing the listeners' chunking ability
- Improve the ability to visualize word boundaries and recognize known vocabulary
- Focus attention and make some linguistic elements salient, which helps with recall and memorization of linguistic forms
- Allow for input to be processed in three modalities (image, text, and sound), which enhances the input, creates depth of processing, and supports different learning strategies
- Decrease anxiety by facilitating comprehension and providing instant feedback during listening

For a detailed review of the most important studies, see two recent books entirely devoted to this topic (Vanderplank, 2016; Gambier et al., 2015). One of the most meaningful points is not so much that captions improve listening comprehension, but rather that they can turn learners into more proficient listeners through "retuning of phonetic perception" (Mitterer and McQueen, 2009), especially with repeated practice over long periods of time

(Vanderplank, 2015). Sufficient time and meta-cognitive awareness are necessary also for learners to develop the most appropriate strategies to make efficient use of captions. However, captions at all proficiency levels can only be effective if the material is appropriate for the learner's listening level and reading ability (Danan, 2015).

Captions with learners of non-European languages

Most findings on the benefit of captions pertain to learners of languages using the Roman alphabet. One of the first studies to touch upon speakers of non-European languages was the Teletext 888 Project, with European and Arabic students of English. The students who benefited the most from the textual support were "the highly literate learners, who are familiar with Roman script and are used to learning through text." Arabic speaking students, who were better in listening and slow in reading English, felt that the captions changed too rapidly for them to read and comprehend fully, and as emphasized again in a later study, "reading speed is a crucial variable in whether captions help, distract or hinder learner-viewers" (Vanderplank 1998, 2016).

Winke, Gass, and Sydorenko may be the researchers who have most thoroughly compared the effects of captions across languages using different writing systems—Spanish, Russian, Arabic, or Chinese. Their 2010 study concluded that with different L1 and L2 scripts, it may be harder to rely on the written language because the written symbols are probably not mastered yet and reading an unknown script may require greater prior knowledge. Their follow-up eye-tracking study (2013) found that Arabic learners spent more time on captions than learners of the other three languages. The authors attributed the longer caption reading time in Arabic to the English learners' difficulty processing the language due to its different writing system as well as its complex morphology, absence of written short vowels, and colloquial speech departing from its written form.

Relationship between captions and reading skills

In the teletext project discussed above, Vanderplank (1998) suggested that for Arabic learners captions may be of greater help with reading speed. This suggestion shows that captions may have far reaching cognitive effects in ways initially unforeseen since they were originally intended as listening aids. In particular, studies with semi-literate Indian populations in India have shown that captions can assist with reading skills and literacy development by improving decoding ability over time (Kothari et al., 2004).

Guidelines regarding the length and timing of captions, however, are based on the assumed ability of the average viewers reading captions in their native language. For readability reasons, the recommended subtitle length has usually been 35 to 39 characters per line over two lines for a maximum duration of 6s per subtitle. For Cyrillic languages and Arabic, the limit tends to be around 35 characters per line. This standard industry practice for the "six-second rule" corresponds to about 130 words per minute (wpm) (Diaz Cintas). Two studies seem to indicate that 140 wpm may be closest to a speed comfortable for the majority of viewers (Jensema, 1998; Ofcom, 2005). In contrast, reading speed for six to 14 year-old children usually drops to 90 to 120 wpm Karamitroglou (1998).

Issues of caption length and readability for Farsi learners were important considerations in the design of the current study.

PILOT STUDY

Participants

Eleven students at a California military language institution participated in a pilot study. All were members of an intensive Farsi program providing at least six hours of daily language

training and 1,400 hours of instruction over 47 weeks. The study took place in week 42 in the third (and last) semester.

Upon finishing the course, students must take the Defense Language Proficiency Test (DLPT) and achieve a minimum *Limited Working Proficiency* (Level 2) on the Interagency Language Roundtable (ILR) scale in both reading and listening. This level is defined as the ability to have “sufficient comprehension to understand conversations on routine social demands and limited job requirements.” Students occasionally reach a level 3, defined on the ILR scale as *General Professional Proficiency*—the ability to “understand the essentials of all speech in a standard dialect” delivered with normal clarity.

Two control groups participated in the reading portion of the study: 9 native speakers of Farsi, and 7 military instructors (MLIs) who had achieved the ILR level 3 in reading and listening on the DLPT.

Material

The video was a 1min and 50s long authentic documentary which was a mix of descriptive footage and interviews with a rather slow delivery. This passage was considered to be at ILR level 2, which most of the students should have reached at that point in the course. However, place and people names as well as occasional use of colloquialisms departing from the formal written forms could make understanding of some details challenging.

Farsi captions using YouTube captioning service were added to the passage. With the exception of four additional letters, the Farsi alphabet uses the same characters as Arabic, also written from right to left. Although the captions were verbatim, no caption was longer than 46 characters and longer than a single line. The overall speed amounted to 120 wpm.

To gain a clearer understanding of what readability issues students may face with captions in the context of a not fully mastered alphabet, the text of the captions from the video clip was inserted as separate entries into the Excel. The software was programmed to record the number of seconds spent reading each utterance.

Procedures

Two weeks prior to the caption exercise, all the participants were given a reading exercise with the Excel caption entries. Students were instructed to read the captions aloud as accurately *and* as quickly as possible to measure reading speed, *not* comprehension. As soon as they finished reading one entry, they were to click next to continue reading.

To compare the decoding speed of these third semester learners with the automaticity achieved by native speakers, 9 Iranian instructors were also asked to do the same reading aloud exercise as the students, using the Excel program. In addition, 7 MLIs had their reading speed timed in the same fashion.

Two weeks later, the participants watched the video clip twice in its normal format without any textual help. After the second viewing, they were instructed to write down in English all the details they understood and the main idea of the passage. Following the recall protocol exercise, they watched the captioned version of the passage twice. Immediately afterwards, they had the last uncaptioned viewing before redoing the recall protocol exercise.

Immediately after the second recall protocol exercise, students were asked to fill out a questionnaire about their reactions to the captions and their prior use of captions or subtitles. A short group discussion with prompting by the experimenters followed the questionnaire.

When grading the recall protocols, the experimenters assigned one point for each of the 84 semantic units identified in the passage. Progress was measured in the difference in the percentage of correctly listed units between the first and second recall protocols.

Finally, to assess progress in their reading speed, students were asked again to repeat the reading timing exercise within a few days following the recall protocol exercises.

RESULTS

Descriptive quantitative reading speed results

On the average, it took 262s for the students to read the unfamiliar caption text prior to watching the video, which corresponded to a reading speed of 51wpm. The MLIs, on the average, were able to read the same unfamiliar text at the slightly higher speed of 230s, or 60 wpm. But after the students watched the video and saw the captions, the average students' reading speed surpassed the MLIs': The students' average reading time dropped to 204s, which enabled them to read 67wpm.

Even this increased speed did not come close to the teachers' reading speed. Their average reading time for the same unfamiliar passage was 92s, or 144wpm. In other words, educated native speakers' decoding automaticity enabled them to read more than twice as quickly than the advanced learners and the students, even after the latter heard the passage several times and read the captions twice. Some teachers did speak faster than others, but less than one minute separated the fastest reader (68s) and the slowest one (125s).

With the exception of one outlier (Std C) who made 28 mistakes the first time and 24 the second time, students made few mistakes: 5 on the average for the first reading and 6 for the second. The average number of mistakes for the MLIs was only slightly lower (4).

Descriptive quantitative recall protocol results

Only two students, including Std C, performed worse in their second recall protocol. Std C's inability to decode the text accurately while reading aloud may explain why he may have been unable to process the captions well enough to benefit from them. He ended up being the only student who failed the listening DLPT as he reached only the 1+ ILR level, although he did pass the reading DLPT with a 2.

For the other eight students (as one student failed to do the recall protocol exercise), improvements in the number of correct semantic units ranged from 5% to 26%, with 11% as the median. Students with the greatest improvements had very diverse profiles. For example, Std F, who improved by 26% (going from one of the lowest scores—6%—to 32%), was one of the fastest readers and achieved 2+ in his reading DLPT but only 2 in listening. Unlike Std F, Std B, who had the second highest recall protocol improvement (18%) as well as the second highest final score (36%), was equally strong in listening and reading, with 3 in both skills on the DLPT, so his initial understanding was already fairly strong.

Qualitative: Survey results

All the participants reacted positively to the captions. Nine out of the 11 students felt that the captions were "very helpful" to them, and two rated the captions as "somewhat helpful." The majority felt that the speed was "about right," while four found the captions "a little too fast to read thoroughly, but still helpful." Others commented that they relied on some form of selective reading, skipping what they knew and focusing on comprehension gaps.

When explaining their rating about the usefulness of the captions, comments fell in two main categories. For three of the students, captions facilitated the overall processing of the audio passage in terms of providing context, organizing the content, or increasing the level of attention. Six other students felt that the captions aided in filling in comprehension gaps, “keeping track of the more difficult portions of the dialog,” catching missed details, double checking names and numbers, or confirming the understanding of some sections.

When asked if the captions presented any disadvantage, only one responded that “the audio [was] too fast to read along and could be a distraction if you didn’t know what you were looking for.” Two worried that others may use them as a crutch instead of listening, although one added that “the overall result was much better for listening.” None of the other eight students listed any disadvantages.

Finally, regarding prior experience with captions or subtitles, six indicated that they had none; three had very limited experience with class material, and two had occasionally watched subtitled movies. Only two mentioned watching captioned material somewhat regularly, about once a week. It is encouraging to note that even with lack of experience, students started devising beneficial strategies.

The group discussion confirmed that all the students perceived the experience positively. When asked if the text seemed familiar, none recollected having read it aloud for the reading timing exercise.

CONCLUSION

This pilot study with Farsi captions supports the conclusions reached by prior research that with level-appropriate material, captions do facilitate language learners’ listening comprehension. The study showed that students reacted positively to captions and benefited from them, even when they are written in an alphabet that differs from the L1 writing system. But not only does the audio have to be level appropriate, but so do the difficulty and speed of the captions, especially for students of languages whose alphabet is different from L1. The reading speed exercise indicated that even advanced students may still have difficulties with rapid decoding of the Persian alphabet and have not reached the same automaticity in this process as native speakers. However, the students were at an advanced enough level in reading (level 2 or higher) to have enough time to process the shorter captions.

Captions in a L2 alphabet different from the L1 writing system are a promising tool for language learners, but they present challenges that deserve further investigation. Future studies should include a control group to ensure comprehension progress is not mainly the result of the repetition effect. Also, more experiments are needed to determine what caption length is most appropriate for L2 learners at various stages of their language training. Further, studies with larger numbers of participants are necessary to establish patterns to better comprehend how different learners process and benefit from captions.

Learning to process captions efficiently is tied to practice over time. It is encouraging that in spite of limited or non-existent exposure to captions, nearly all the students were able to benefit from them and express a nascent strategy. It would be useful to provide more opportunities for students to be exposed to captions and to guide them in finding the best way to use them. Such reflective practice would help language learners to develop the cognitive and metacognitive strategies that are essential to their success.

Finally, as suggested earlier, beyond improved listening, one of the additional benefits of captions in a different L2 alphabet might be that they also help with improving reading

skills. Another question is whether beginners learning a new alphabet may benefit from some form of simplified captions.

Since all the above questions suggest a series of multifaceted studies that may be applicable to all non-Roman alphabets, it is our hope that other researchers will join in exploring this uncharted line of inquiry.

CALL in Context

Extensive research strongly supports the use of captions (same-language subtitles) to facilitate listening comprehension, at least for learners of languages using the Roman alphabet because most of the research has involved English and European languages. Even with studies originating in countries using a non-Roman alphabet, the target language is most often English and differences in the writing systems have not been highlighted. This situation is probably due to our current technological context in which users have become familiar with the Roman script in online communication and routinely use Romanized transliteration in blogs, emails, and SMS.

Consequently, very few studies have examined the impact that captions may have on language learners in the context of a non-Roman alphabet. In the case of different L1 and L2 scripts, to what extent are the benefits of captions as an aid to listening generalizable?

Finally, in the case of different L1 and L2 alphabets, reading ability and speed become a greater challenge. Should industry standards regarding caption length and speed be applied to a language learning environment involving a different script? And in terms of the beneficial aspect of captions for language learning, could it be that in the context of a different L2 alphabet, captions might help improve both listening and reading skills, or even reading more than listening?

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Context-aware Automatic Input Enhancement for Language Learners

Bio data

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Abstract

Within CALL, we explore the use of natural language processing (NLP) methods to enrich textual material presented to the learner (e.g. Chinkina and Meurers (2016)) and link additional information in the form of dictionary definitions, illustrations, example sentences, ...

We highlight linguistic motivations to explicitly provide further linguistic structure at the syntagmatic level to corpus-based examples and present two ways how NLP can be applied by bringing out explicit syntactic analogies and semantic structure for a targeted example sentence. The applications we have in mind are situations in which we indirectly aim to benefit vocabulary understanding and learning, such as a reading aid.

In general, while current NLP-methods operate on a formal representation of words in isolation, we propose to move beyond the formal string representation and include contextualised syntactic and semantic information. In general, the latter opens up new perspectives on how NLP can meaningfully contribute to CALL.

Conference paper

1. Introduction

Vocabulary acquisition is known to be positively influenced by exposure to written material (Nagy, Herman and Anderson, 1985, Sternberg, 1987). Reading about new topics introduces learners to low-frequency words which do not occur in spoken language. Yet that material is not always easily understood. The lack of understanding potentially impedes the learning process if we follow the reasoning of Chapelle (1996), that argues that active syntactic and semantic processing, and thus understanding, is a prerequisite for a learner to acquire new linguistic knowledge.

One way of helping the learner to come to a better understanding of unknown words is to supply him with additional corpus-based examples. Such examples stimulate a distributional understanding of the word in context and arguably foster a better understanding of different aspects of word knowledge, at the level of syntax and context (Nation, 2001). We argue that structuring and grouping such examples according to explicit syntactic and/or semantic regularities will benefit the learner even further as he would be better positioned to derive which linguistic regularities occur. We base the examples provided in this paper on a small corpus, containing 1.000 freely available contemporary English novels.

2. Linguistic motivation

Using corpus-based examples to support learning is highly reminiscent of cognitive linguistics (CL) and its usage based model of language. In such a model, all linguistic knowledge flows from the actual linguistic utterances a person encounters. It posits a mechanism of distributional interpretation of language use to abstract patterns, be it structural or semantic.

'The linguistic skills that a person possesses at any given moment in time – in the form of a "structured inventory of symbolic units" – result from her accumulated experience with language across the totality of usage events in her life.' (Tomasello 2003: p.61)

Construction grammar (CxG) (Goldberg, 2006), the branch within CL that deals with the study of conventional grammar in terms of a usage based model, is a good example how CL conceptualises the acquisition process. Bybee (2006), for instance, exemplifies a mechanism of exemplar based categorisation of lexical items to result in grammatical patterns. Each language utterance is an exemplar that is subject to an association between form and meaning. Sets of exemplars share structural and semantic features. The latter are recognised by the language user and form the basis of an abstract categorisation of patterns, which CxG calls constructions. The exemplars in their turn relate to the pattern as specific instantiations, called constructs. "The major idea behind exemplar theory is that the matching process has an effect on the representations themselves; new tokens of experience are not decoded and then discarded, but rather they impact memory representations."

Analogue to this process, we hypothesise that providing further structure to corpus-based examples would clarify linguistic regularities, which in turn would improve vocabulary retention, semantic understanding and the appropriate use of words in their proper syntactic constructions.

3. Constructional analogies

In order to help the language learner discover constructional analogies (syntactic regularities) from examples, we propose to provide language input and enrich it with abstract

constructional information. [which we actualise for the syntagmatic axis.] To represent abstract constructional information, we use POS-tags, a word's syntactic category such as Noun or Verb, as formal superficial representations, which can be obtained automatically using a POS-tagger. A sequence of POS-tags then, stands for an construction, while the lexical word combinations matching that pattern are exemplar-based instantiations.

The selection of patterns is based on an actual example the learner has difficulties with and is lexically constrained for a certain target word.

Take for instance Ex. 1, in which *obvious* is set as the target word for which we want more distributional information.

Ex. 1. He made a rather **obvious** remark.
 Pron **Verb** **Det** **Adv** Adj **Noun**

To get a better understanding of the word, we use corpus-based examples that share the keyword *obvious* and the constructions in which it participates. As such, rather than taking context-words such as *rather* and *remark*, as lexical collocations, we use them to determine the partly abstract constructions *Adv obvious* and *obvious Noun*. The corpus is then used to retrieve paradigmatically analogous constructs, as seen in Table 1.

The target word participates in a number of constructions that are increasingly complex. Using the number of different lexical types (as opposed to tokens) for a certain construction is a direct approximation of how important it is to understand the word's function in that construction.

Table 1. Lexical Examples, Derived Constructions, Analogous Constructs and Type-information

Lexical Example	Derived Constructions	Analogous Constructs	Type-information
Obvious remark	Obvious Noun	Obvious point Obvious reason ...	290
Rather obvious	Adv obvious	Fairly obvious Very obvious ...	58
Rather obvious remark	Adv obvious Noun	Fairly obvious fact Very obvious reason ...	28

4. Semantic structure

In order to help the learner discover semantic structure in constructions we propose to order the words according to its semantic similarity with the initial example. Because we see semantic restrictions as being related to certain constructional patterns, we highlight the imposed paradigmatic restrictions with the given example in an unsupervised fashion.

The ranking is achieved by using Semantic Vector Spaces (SVS) (Lund and Burgess, 1996, Turney and Pantel, 2010, Mikolov, 2013). SVS model a word's semantics by using corpus based contextual features (collocations appearing close to the target word) in order to represent the word's textual behaviour. The underlying assumption is that words that show similar textual behaviour will share certain semantic interpretations. For instance: *the high*

building, the high bridge and a beautiful waterfall, point towards a higher similarity between *building* and *bridge*, because they share *the* and *high*.

The required contextual information is derived from large scale corpora and is used to build vector representations of words. Vectors are immediately comparable to one another and can thus be used to measure distributional semantic similarity. A higher degree of featural overlap, conceptually coincides with a higher degree of word-similarity.

A vector space model is defined by three distinct parameters: the contexts included as features, a weighting function for the collocational counts, and a similarity metric to compare the vectors. Each parameter has an impact on the resulting measure of similarity. For instance, choices for the first parameter include the inclusion/exclusion of function words as context features and the window size that states how many context words surrounding the target are taken into account, Small context sizes that include function words will directly shift the vector space to capture a more syntactic interpretation, while large context vectors that focus on content words will shift the interpretation towards a topical one.

We choose the parameter settings in such a way that the model captures both topical and syntactic word information. To achieve this, we use a context window of three at either side of the target word, include function words, and we use as a weighting function a binary metric. The latter downgrades the importance of (highly frequent) function words, while it puts more weight on words with moderate frequencies. The chosen distance function is the Jaccard coefficient, which measures the number of shared features of each vector (the overlap).

As an objective measure to quantify which constructional slots are most interesting to provide semantic structure for, we reuse the number of slot-types to identify the slots with the highest variation. Ex. 2 is a single construction, for which the numbers in brackets signify how many different word-types occur in the slot.

Ex. 2.	Det (3)	Adv (6)	obvious	Noun (14)
	the	perfectly	obvious	fact
	the	apparently	obvious	consideration
	an	equally	obvious	conviction

Applying the described procedure to Ex. 2, with having identified the Noun and the Adverb slot as having the most variation, yields the results as seen in Table 2. The learner could infer from this that *rather* in combination with *obvious* specifies a degree, while *remark* can be interpreted as some sort of statement, leading to a better distributional understanding of *obvious*.

Table 2. Paradigmatic alternatives, ordered by semantic similarity to the target word

Target Word	Paradigmatic Alternatives	Jaccard coefficient
rather	very	0.429
	pretty	0.283
	apparently	0.234
	equally	0.220
	fairly	0.200
	perfectly	0.199
remark	question	0.256
	reason	0.248
	fact	0.229
	point	0.227
	expression	0.218
	plan	0.203
	consideration	0.190
	conviction	0.151
	tendency	0.126
	begging	0.112
	monument	0.104
	supposition	0.085
	inference	0.078

CALL in Context

The paper we present, fits into a larger research program in which we move away from one-size-fits-all type of language learning towards a **contextualised learning setting** that puts the **student** in a central position. One of the aspects we focus on, is measuring perceived complexity and adapt it, or enrich it, so that the learning process is facilitated.

A second type of context is the actual **linguistic context** with which vocabulary items occur in a written text. We take at heart that vocabulary understanding involves depth of knowledge, which includes an understanding of how to properly use a word in context. To instill this understanding, we draw inspiration from corpus-based methodologies and a usage-based theory of language. The combination leads us to the use of methods that exploit distributional properties of language for instructional purposes.

The paper brings the two highlighted types of contexts together. First, the learner is put in control; he can choose the vocabulary items he does not fully understand in the same vein as we chose the word *obvious* in the paper. Second, the proposed methodology fully contextualises newly presented corpus-based examples in function of the linguistic context of the example which is actively being read by the learner, e.g. *It is a rather obvious example*.

As such, new material is pre-selected based on the syntactic and semantic similarity it has with the word (and its context) in a bottom-up and automatic fashion. We interpret the actualisation of the newly provided examples and the additional structure it highlights as a **context-dependent enrichment** for the language learner. For the semantic understanding of words and multiword expressions, it is arguably the appropriate word-sense and the actual construction in which it is used, which should be understood first. The relevant

features, derived from language in context, achieve an automatic disambiguation of the material, which is meant to avoid unnecessary confusion in the learning process.

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Personalizing Instruction for Language Learners Through Telecollaboration, Multimodal Technology Tools, and Reflection

Bio data



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Abstract

As classrooms in the U.S. become more culturally and linguistically diverse, there is a growing need for content teachers to become effective language teachers. Also, the Common Core standards define increased expectations for language and literacy development in content areas, so we investigated how to prepare in-practice content teachers to harness technology to deliver differentiated content and English language development instruction to English learners. In the process, we also intended to identify routines that foster the personalization of instruction and enable teachers to tailor lessons and interactions to students' personal, linguistic, and cultural needs. To this end, we integrated a technology component into a Masters-level education course focused on instruction and assessment for language learners. Throughout the course, students served as mentor teachers for high-school English learners through asynchronous telecollaboration. This 10-week e-mentoring program involved 10 Master-student mentor teachers and 10 high-school students of varying levels of English proficiency enrolled in English as a Second Language (ESL) classes. We analyzed the resulting database of 10 weeks of online interactions, tasks, and products, and triangulated emergent themes using mentor reflection journals and student interviews. According to the patterns uncovered in the initial emicoding phase, we identified routines teachers followed to differentiate instruction and connect to students. Preliminary findings show that the use of online resources offered teachers a window into students' local contexts and the opportunity to cater to students' personal interests, learning styles, and cultural backgrounds. The use of multimodal technology tools made teachers more aware of students' different levels of language

proficiency in each language mode, empowering them to think flexibly while planning lessons and align tasks accordingly. Regarding the routines that teachers followed to personalize instruction through technology, our findings point to the necessity of teachers investing time to develop an online relationship with students to identify how to address their needs and promote their online engagement. Additionally, teachers need to be able to review and reflect on student work, in order to maintain successful partnerships. Like in the traditional classroom, teacher reflection on practice is fundamental in better fulfilling the needs of students. In an environment in which there is rich data about practice, like telecollaboration, reflective practitioners have significant opportunities to improve their practice, benefiting current and future students. This paper aligns with the theme of CALL 2017 as it presents models for leveraging technology to promote “context-dependent enrichment and personalization of the learning process.”

Conference paper

Introduction

Economic and political changes have increased international migration making the populations of nations and cities more linguistically diverse (UNICEF, 2016). For this reason, migrant children who do not know the language of instruction of the places in which they now live are increasing in number in “mainstream” primary and secondary classrooms (Adams & Kirova, 2006). This increase in minority language children has posed challenges to schools and teachers that are not prepared to teach them the language of instruction as a second language (UNESCO, 2014). In these diverse spaces, being able to contextualize instruction for the changing demographics of mainstream content classrooms has become a priority in the field of education.

Responding to these changes, a variety of initiatives have emerged to prepare pre-service and in-service teachers to contextualize instruction to address the realities of more diverse classrooms and address the needs of minority language children (Garcia, Arias, Harris Murri, & Serna, 2010; Lucas, Villegas, & Freedson-Gonzalez, 2008; Jimenez & Rose, 2010). Very few of these initiatives have involved the use of technology or leveraged the affordances that it offers teachers in learning how to teach a second language (del Rosal, Ware, & Montgomery, 2017; MacPherson, 2010; Ware & Benschoter, 2011). Therefore, there is scant information on how telecollaborations, widely used to teach about language and culture in foreign language education, can support teachers’ development of knowledge and skills for teaching a second language to primary and secondary students.

Given that online initiatives can effectively prepare teachers and that telecollaborations are conducive to language learning, this study investigates how in-service teachers completing a Masters program, learn how to teach language learners by acting as language mentors in a telecollaboration. The study intends to examine *how the affordances of telecollaboration partnerships can be used to prepare in-service teachers in consolidating and developing their skills contextualizing second language instruction and addressing the needs of children who are learning a second language in primary and secondary classrooms.*

Theoretical Framework

This study is guided by the assumption that humans learn by interacting with more experienced mentors, and that after repeated guided practice, they can use the newly acquired knowledge and skills independently (Vygotsky, 1978). In this social process, learning interactions between learners and more experienced mentors are interdependent and constantly changing depending on what learners need (Rogoff, 1990). Frequently,

learning interactions can be mediated by artifacts that offer learners affordances in the process of appropriation of new knowledge and skills (Luria, 1928).

Based on this assumption of learning as a social process, the expectation in this study is that teachers would learn from their interactions with their university instructor and teacher peers participating in the program, while they all plan and deliver online instruction to language learners. Also, during the telecollaboration, teachers would interact with language learners and adjust their teaching interactions to address the needs of these students. Hopefully, after reflecting on these teaching adjustments, teachers could identify effective ways to work with language learners in their classrooms.

Another important expectation in this study is that the context created around and within the telecollaboration partnership would mediate teachers' learning experiences in distinct ways. Around the online telecollaboration, teachers would learn how to work with language learners with ongoing instructor scaffolding and through a long distance and asynchronous communication process. Within the telecollaboration, teachers would have access to multimodal communication tools and online resources to support their language learner partners. Combining these affordances, teachers would be able to work with learners who are not in their classroom, with the support of other educators and with a complex set of meaning-making tools to enhance instruction design and delivery.

Methods

Participants

Participants in this study were 11 in-service teachers who were partnered as mentors of 11 adolescent language learners. Mentors had different levels of experience teaching language learners, and mentees had different levels of English proficiency. Language learners were attending a language development course in a large public high school in a large metropolitan area in the Southwest United States. Each teacher was partnered with one student, and they never met in person.

Procedures and tools

Teachers were required to use Edmodo as a communication platform and to use and integrate Zaption, Voicethread, Storybird, online documents, Quizlet, and English early literacy games to address the needs of their language learners mentees. Language learners were required to answer teachers' messages, complete language learning tasks, and offer feedback on their experience.

Data collection and analysis

Online interactions between teachers and students were analyzed to identify patterns of communication. In these analyses, teacher use of technology tools, language, modes, and online resources was identified. Teacher reflection logs and focus groups were analyzed to identify teacher perspectives regarding the learning experience facilitated by telecollaboration. Once perceptions of individual teachers were identified, they were triangulated with their instructional choices during the telecollaboration. Perceptions that translated into pedagogical actions were codified to connect them with the distinct affordances that telecollaboration offered. For reliability measures, the research team met every week during data analysis to ensure coding coherency and decide on ambiguous coding choices. Also, as a validity measure, the research team spent 10 weeks observing teachers and language learners while they participated in the telecollaboration.

Findings

Affordances of ongoing scaffolding and practice.

The telecollaboration, as part of the Masters course, allowed teachers to immediately practice what they were learning in a low-stakes context with a single student. It also allowed teachers to have the ongoing supervision and support of the course instructor. Most teachers appreciated the opportunity to practice new knowledge and skills with a student with instructor support. In many reflections, teachers discussed how the immediate application of knowledge and skills allowed them to see how to implement both in the classroom and what worked and did not work for them. In their online participation, it was frequently visible when teachers adjusted their support for language learners depending on previous practice results. Also, depending on their level of skills working with language learners or with technology, teachers appreciated the ongoing scaffolding of the instructor and expressed that it influenced their participation in the partnership in important ways.

Affordances of distance interaction. The telecollaborative context allowed teachers to work from a distance with language learners with varying levels of English proficiency. In this distance interaction, some teachers appreciated working with language learners, because they had none in their classroom. Others teachers appreciated obtaining experience addressing English proficiency levels that they had not addressed before. Without face-to-face contact, all the teachers became aware of the importance of personal contact with students and identified alternative ways to get to know them. Also, most teachers carefully reviewed and interpreted language learners' work and used this informal assessment to shape activities that they posted online.

Affordances of asynchronicity. The telecollaborative context allowed teachers and language learners to engage in asynchronyc communications on a schedule that was convenient for both participant groups. In this asynchronyc context, all teachers had the opportunity to review language learners' work, share it with the instructor or peers, and plan subsequent learning tasks based on this. Two teachers who worked with beginner learners took advantage of the ability to repeat online posts to offer tasks that allowed these learners to practice English words and sentences as much as they wanted.

Affordances of multimodality. The telecollaboration required teachers to communicate with language learners online and offered them multimodal technology-based sources to do it. In this multimodal context, all teachers used the four modes of English and a variety of non-verbal semiotic modes to create tasks that were meaningful for students. Most teachers created tasks involving speaking and listening to develop a relationship with students and offer them directions. Other teachers created tasks involving listening or reading with related questions to promote comprehension. All the teachers relied on learners' writing for logistics and basic communicative interactions.

Affordances of online resources. The telecollaboration was conducive to the use of online resources to enrich teachers' instructional practice with language learners. In their interactions with students, all teachers included online resources (i.e. pictures, videos, text, music, games, etc.) to make their language instruction meaningful, relevant, and engaging for students. Even when teachers integrated these resources in different degrees depending on their initial level of skill, throughout the telecollaboration, all teachers demonstrated growth by integrating more online resources and with less functioning issues.

Discussion

Telecollaboration offered a context in which in-service teachers could develop or consolidate their knowledge and skills working with language learners. Given that the telecollaboration was embedded in a Masters course, teachers were able to apply new knowledge immediately with the support of other educators who shared the same background knowledge and goals. Also, given that the telecollaboration allowed teachers to communicate from the distance and in an

asynchronous way, they were able to work with language learners with different levels of proficiency on a schedule that was convenient for them. Finally, due to the need to communicate from a distance for different purposes, teachers used the four language modes of English to engage with language learners and drew from a variety of online resources to make the content of their interactions more comprehensible and relevant to the lives and interests of adolescent students. Findings in this study build on research that highlights the affordances telecollaborations bring to the field of language learning. It also aligns with what we know about technology-based initiatives for teacher education purposes.

This study only focused on teachers' work and reflections around the Masters course and the telecollaboration partnership. It did not investigate how teachers transferred what they had learned in both contexts to their classrooms or to situations in which they need to apply these knowledge and skills addressing the needs of multiple language learners. In the future, it would be interesting to conduct a study in which participating teachers are observed in their classrooms with the purpose of understanding if and how they transfer what they have learned through the telecollaboration partnerships.

Classrooms and the knowledge and skills that are necessary to be successful inside and outside them are continuously changing. Therefore, it is important to prepare pre-service and in-service teachers to contextualize their instruction in ways that align with the needs of their students and the community. Telecollaboration initiatives offer a context in which teachers can learn about their practice in a convenient way, in a real-life situation, and with the support of other educators. Technology is now present in the lives of teachers and their students and can be leveraged to bring both groups closer regardless of their language differences.

CALL in Context

This paper aligns with the theme of CALL 2017 as it presents models for leveraging technology to promote "context-dependent enrichment and personalization of the learning process." It presents findings from a study focused on how online mentors use multimodal contexts to engage language learners and personalize instruction to their varying levels of language proficiency and diverse personal interests. We examined how effective mentors positioned the relationship within a welcoming online context and connected lessons to students' local contexts and home culture. Findings indicate that successful mentorships routinely sought out and spurred dialogue around students' current and past interests. This study exemplifies the power of technology in contextualizing learning, as mentors used relevant online content and consistently requested and responded to feedback. Additionally, they combined several digital tools to enrich the online experience of language learners and create a more dynamic and authentic context for learning.

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Exploring the impact of WebQuest-based flipped classroom on EFL learners' critical thinking and academic writing skills

Bio data



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Abstract

The present study reports the results of a sequential explanatory mixed-methods approach to explore the impact of WebQuest-based flipped classroom on EFL learners' critical thinking and academic writing skills. Two intact classes, each with ten EFL learners, attending an IELTS course were selected as the participants of the study. California Critical Thinking Skills Test (CCTST) form B developed by Facione and Facione (1993) was used to assess the participants' critical thinking skills, IELTS academic writing task 1 and task 2, marked by IELTS writing band descriptors were used to assess their academic writing skills, and a semi-structured interview was conducted to assess their perceptions towards the impact of WebQuest-based flipped classroom on critical thinking and academic writing skills. One-way MANCOVA was used to analyse the quantitative data. The results revealed that both the WebQuest-based flipped classroom and the non-flipped classroom developed the learners' critical thinking and academic writing skills, while the former outperformed the latter both in post-test and delayed post-test (i.e. short and long term effects), and took fewer sessions to cover the required materials. Thematic analysis was used to analyse the qualitative data. The results uncovered a number of themes which addressed the learners' positive attitudes

and perceptions towards the impact of WebQuest-based flipped classroom on their critical thinking and academic writing skills.

Conference paper

1. Introduction

One of the most important goals in education is to create a student-centred learning environment in which students manage their own learning (Cannon & Newble, 2000). The characteristics of a student-centred learning environment is that students are independent and responsible for their own learning, the teacher has a coaching role, and knowledge is regarded as a tool instead of an aim (Dochy, Segers, Gijbels, & Van den Bossche, 2002). However, it is a challenge for educators and teachers who are not necessarily prepared to design and support such student-centred learning environments (Brush & Saye, 2000).

The flipped classroom model has addressed such challenges by allocating more class-time for active and student-centred learning and by presenting technology to support a blended learning approach (Strayer, 2012). In the flipped classroom students are supposed to view short video-lectures at home before the class-time, as a result, there is more time in the class to be devoted to exercises, projects, or discussions. The video-lectures are the important and necessary elements in the flipped classroom model, which could be created by the teacher or selected online (Educause Learning Initiative, 2012). In the flipped classroom students are more active and engaged in the learning process, they inquire about the video-lectures, and test and evaluate their skills in applying knowledge. In the flipped classroom the teacher functions as a facilitator and advisor, and stimulates the learners to collaborate with one another and take part in higher-order thinking skills (Educause Learning Initiative, 2012).

As the flipped classroom model focuses on student-centred and active learning strategies. A form of active learning strategy in the flipped classrooms is using WebQuests, which could be regarded as an inquiry-oriented activity (Dodge, 2001). "A WebQuest is a scaffolded learning structure that uses links to essential resources on the World Wide Web" (March, 2004, p. 2).

A WebQuest contains five components: Introduction, Task, Process, Conclusion, and Evaluation. The introduction represents the goals of the WebQuest, the task requires the learners to use the web-based resources and information, and higher-order thinking skills, the process represents the resources and the steps required to complete the task, the evaluation helps the learners to evaluate and reflect on their learning, and the conclusion is a summary and closure of the project (Maddux & Cummings, 2007).

The review of the literature indicates that flipping the classroom, and designing a WebQuest-based learning environment are effective strategies to develop various variables in EFL contexts. However, few research studies seem to have been done so far to investigate the impact of the WebQuest-based flipped classroom and the non-flipped classroom on EFL learners' critical thinking and academic writing skills. Moreover, there is a lack of research studies exploring the learners' attitudes and perceptions towards the impact of the WebQuest-based flipped classroom on critical thinking and academic writing skills. As a result, on the one hand the present study sets out to investigate the impact of the WebQuest-based flipped classroom and the non-flipped classroom on EFL learners' critical thinking and academic writing skills, and on the other hand it explores the perceptions the learners hold towards the impact of the WebQuest-based flipped classroom on critical

thinking and academic writing skills through a sequential explanatory mixed-methods approach. Therefore, the following research questions are addressed:

1. Compared to non-flipped classroom, how effective is WebQuest-based flipped classroom in developing EFL learners' critical thinking and academic writing skills?
2. What are EFL learners' attitudes and perceptions towards the impact of WebQuest-based flipped classroom on critical thinking and academic writing skills?

2. Method

A sequential explanatory mixed-methods approach to both data collections and analyses (Creswell, Plano Clark, Gutmann, & Hanson, 2003; Riazi & Candlin 2014; Tashakkori & Teddlie 2003) was used to address the research questions.

2.1. Context and participants

Two intact classes were used; one was randomly assigned as the experimental group and the other as the control group. In each class there were ten EFL learners in the age range of 25 to 30. They were attending an IELTS course to develop their four English language skills for the IELTS examination. The proficiency level of the participants was measured via the standards of the language institute and DIALANG, which is an online adaptive diagnostic web-based assessment tool. The results of the DIALANG test, which were reported in levels from A1 to C2, indicated that the participants' writing skills in both groups were at B1 level.

The participants were assured that the results would be used only for the research purpose, and that they would remain strictly confidential.

The second author was the course instructor in both groups. He had already taught EFL courses for many years in different language institutes in Iran.

2.2. Materials and Instruments

The California Critical Thinking Skills Test (CCTST) form B developed by Facione and Facione (1993) was used to assess the participants' critical thinking. This test is in five areas of evaluation, inference, analysis, inductive reasoning, and deductive reasoning. There are 34 multiple choice questions each with one correct answer.

The participants' academic writing skills were presented based on IELTS academic writing task 1 and task 2. IELTS writing band descriptor-task 1 was used to mark the participants' academic writing skills for task 1, and IELTS writing band descriptor-task 2 was used to mark their academic writing skills for task 2. Writing band descriptors assess the participants' academic writing skills in the four areas of task achievement, coherence and cohesion, lexical resource, and grammatical range and accuracy. The participants were given a mark from 1 to 9 for each area of the test. The researcher/instructor assessed and marked each participant's academic writing skills. Writing task 1 formed about 30 per cent of the participants' mark and writing task 2 about 60 per cent. The final IELTS academic writing skills of each participants was a calculation of his/her task 1 and task 2 marks, which ranged from 1 to 9 at intervals of 0.5.

2.3. Procedures

The CCTST form B was given to the participants, as a pre-test to assess their critical thinking. To assess academic writing skills an IELTS academic writing task 1 and an IELTS academic writing task 2 were presented to the participants. For the IELTS academic writing task 1 the participants were asked to present and analyse the information of a table, they were required to write at least 150 words in about 20 minutes. For the IELTS academic

writing task 2 the participants were presented an argument to write about, they were required to write at least 250 words in about 40 minutes.

In the experimental group a WebQuest was created to flip the classroom on the one hand and to develop the learners' critical thinking and academic writing skills on the other hand. To view the WebQuest follow this link: <http://www.zunal.com/webquest.php?w=326045>.

As the learners did not know about the way they should deal with the WebQuest-based flipped classroom to learn better, at the first session of the course they were trained in this regard.

In order to flip the experimental group, general guidelines and explanations, ready-made educational videos, and other e-learning materials and useful links to the valid and acceptable websites were included in the WebQuest. Hence, the participants could view and study the materials prior to the class-time in order to be prepared, and to free up the class-time to initiate, and cooperatively practise and discuss critical thinking and academic writing skills. In the control group traditional face-to-face instruction was conducted to develop the participants' critical thinking and academic writing skills.

In the end, CCTST form B was given to the participants again, as a post-test to assess their critical thinking. To assess the participants' writing skills, as a post-test, IELTS academic writing task 1 and task 2 with the same difficulty level and procedures were administered.

A semi-structured interview was conducted with each participant to check their perceptions towards the WebQuest-based flipped classroom in developing their critical thinking and academic writing skills. Each interview took 15 minutes. The result was further verified with a member-checking technique (Creswell, 2007) to assure the validity.

In order to assess the long-term effects of the WebQuest-based flipped classroom and the non-flipped classroom in developing the participants' critical thinking and academic writing skills, delayed post-tests similar to the pre-tests and the post-tests were administered one month after the post-tests.

2.4. Data analysis

There were two dependent variables (i.e. critical thinking and academic writing skills) and one independent variable (i.e. the WebQuest-based flipped classroom) with two different levels of flip lessons using WebQuests (experimental group) and non-flip lessons using traditional face-to-face lectures (control group). As a result, one-way Multivariate Analysis of Covariance (MANCOVA) was run to investigate the impact of the WebQuest-based flipped classroom and the non-flipped classroom on EFL learners' critical thinking and academic writing skills on the one hand, and to control for the pre-tests (i.e. covariates) and then compare the post-tests and delayed post-tests on the other hand.

To analyse the qualitative data in order to uncover the important themes related to the perceptions of EFL learners towards the impact of the WebQuest-based flipped classroom on their critical thinking and academic writing skills, thematic analysis (Boyatzis, 1998) was applied.

3. Results

3.1. The quantitative analysis

Table 1 presents the results of the one-way MANCOVA which examines the impact of WebQuest-based flipped classroom on the post-tests and delayed post-tests of the

participants' critical thinking and academic writing skills after controlling for the pre-tests (i.e. covariates).

Table 1:

Tests of between-subjects effects, investigating the impact of the independent variable on the dependent variables after controlling for the covariates

Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
CT (Post)	34.958	1	34.958	9.328	.008
Writing (Post)	8.132	1	8.132	12.227	.003
CT (Delayed-Post)	41.463	1	41.463	7.089	.017
Writing (Delayed-Post)	16.599	1	16.599	28.189	.000

The results in Table 1 indicates that after controlling for the pre-tests, the WebQuest-based flipped classroom had significant and positive impact on the post-tests and delayed post-tests of the EFL learners' critical thinking and academic writing skills. It could thus be suggested that the WebQuest-based flipped classroom was a more effective instructional process in developing EFL learners' critical thinking and academic writing skills in comparison to non-flipped classroom both in short and long terms.

3.2. The qualitative analysis

Having analysed the transcribed interviews through thematic analysis some themes emerged, the results of which are presented in Table 2.

Table 2:

Themes of the EFL learners' attitudes and perceptions towards the impact of WebQuest-based flipped classroom on critical thinking and academic writing skills

Themes
The contents of educational videos and other e-learning materials, and the way they are structured in the WebQuest
The possibility of choosing what and how to learn in the active learning environment of the flipped classroom
The amount of time and effort to learn the content of the videos and other e-learning materials
The discussions in the classroom about the videos and other e-learning materials
The positive feelings to participate in class activities which meet different proficiency levels

The findings generally indicated positive perceptions and attitudes of the learners towards the impact of WebQuest-based flipped classroom on critical thinking and academic writing skills, which further corroborated the quantitative findings.

Based on the findings, the EFL learners' typical approaches to studying in the WebQuest-based flipped classroom was that they viewed and studied the videos and other e-learning materials related to critical thinking and academic writing skills prior to the class-time in order to be prepared, and then during the class-time they cooperatively practised and discussed critical thinking and academic writing skills. They reported that the educational videos and other e-learning materials developed their critical thinking and academic writing skills, since they were provided with every details in that respect.

The learners reported that the way the videos and materials were organised in the WebQuest was very easy to follow, and that it guided them step by step to understand the contents in a logical sequence.

They thought they were more autonomous and active in selecting what and how to learn. Although the learners should have learned all about the videos and materials, which were organised on the WebQuest, a few of the materials were quite easy and/or repetitious for some of the learners, so they would cursorily read or watch those parts. However, they would spend much time on those parts that they deemed them difficult and/or very important.

They reported that WebQuest-based flipped classroom provided them enough time to view the videos and other web-based materials before the class-time and that it was the most important part of such learning experience. They reported that if they missed something important during the class-time, they could review the materials in depth in the WebQuest after the class.

The learners reported that the discussions in the classroom about the videos and other e-learning materials enhanced their understanding. They reported they learned quite a lot from their classmates, because they shared their different understandings of some of the materials with them.

Moreover, the learners had positive feelings to take part in the classroom activities. They thought they were more confident to interact with their classmates since they could view and study the videos and materials before the class-time as many times as they needed.

Overall, the EFL learners' perceptions towards the impact of WebQuest-based flipped classroom on their critical thinking and academic writing skills were positive, nevertheless the only difficulty which they reported was with the Internet connection.

4. Discussion

The findings are in line with those of Kong (2015) who found significant and positive impact of flipped classroom with pedagogical and technological support on critical thinking skills. The findings in this regard could be due to the structural differences of the flipped classroom and the non-flipped classroom, as in the flipped classroom the learners had more time to reflect on the learning activities before the class-time. During the class-time, the learners in the flipped classroom had enough opportunities to interact with their peers and the researcher/instructor about the contents of the videos and other web-based materials and use the class-time for more applied learning, and the researcher/instructor, as a result of increased learner-teacher interaction, had more opportunities to assess and facilitate the learners' learning process in each session. Another strength of the flipped classroom in the present study might be due to the use of WebQuest active learning strategy which structured the learning materials based on the five essential elements of Introduction, Process, Task, Evaluation, and Conclusion, and provided the learners with useful websites and instructional videos in order not to use more time searching through the large database of the Internet.

The findings of the study corroborate those of Aydin (2016) who found WebQuest-based instruction developed learners' critical thinking skills. A possible reason for the findings in this regard could be the distinctive feature of WebQuests in providing the learners with in-depth understanding of the content, which is achieved through applying critical thinking and other higher-order thinking skills. A more possible reason for the findings of the study might be particularly related to the inquiry-oriented activities of WebQuests (Dodge, 2001) that involve and develop the learners' higher-order thinking skills in general and critical thinking skills in particular.

The findings of the study were also in agreement with those of Termsinsawadi (2009) who argue that learners' writing skills in the WebQuest-based instruction class significantly and positively improves and outperforms those in the traditional instruction class. This might be attributed to the authenticity of the tasks which is a prominent feature of the WebQuests that motivates the learners to be actively engaged in the learning process (Termsinsawadi, 2009). In the present study, the WebQuest-based flipped classroom provided the learners with sufficient information about academic writing skills, so they could properly and confidently plan their writing, use the gathered information to support the main ideas in their writing, write some drafts first and then revise and edit with appropriate task achievement, coherence and cohesion, lexis, and grammatical structures.

Among other priorities of the WebQuest-based flipped classroom over the non-flipped classroom were that the learners were more motivated to learn, it covered all the materials in a shorter period of time, and encouraged a more student-centred course by providing the learners with various web-based resources to work independently. The findings of the study in this respect are in line with those of Kong (2015) who found positive attitudes and perceptions of the learners towards the flipped classroom. In line with the present study, Kim, Kim, Khera, and Getman (2014) claim that the learners' satisfaction and positive perspectives in the flipped classroom is due to the student-centred feature of the flipped classroom. The reason behind such findings could be due to some characteristics of the flipped classroom such as out of class activities and inquiry-based activities. In line with the findings of the study in this regard, Termsinsawadi (2009) indicates that learners enjoy using the WebQues, which they believe is due to the authenticity of the tasks in the WebQuest-learning context.

5. Implications

The EFL teachers can flip the classroom using WebQuests to provide the learners with instructional videos, authentic and collaborative learning activities, and authentic assessment and constructivist learning to not only develop their critical thinking and academic writing skills but also appropriately cover all the learning materials in a reasonable amount of time. EFL teachers should develop a situation in the WebQuest-based flipped classroom that stimulates the learners to think critically, solve problems, and construct knowledge that is most meaningful to them, and do not create a prescriptive learning situation, which is common in the traditional face-to-face classrooms. EFL teachers are further recommended to sufficiently scaffold the learners in the WebQuest-based flipped classroom and encourage them to take more responsibility of their own learning. Moreover, it behoves EFL educators to acknowledge the use of WebQuest-based flipped classroom and how it develops EFL learners' critical thinking and academic writing skills.

CALL in Context

To flip the experimental group, general guidelines and explanations, ready-made educational videos, and other e-learning materials and useful links to the valid and acceptable websites were included in the WebQuest. Hence, the participants could view and study the materials prior to the class time in order to be prepared, and to free up the class time to initiate, and cooperatively practise and discuss critical thinking and academic writing skills. Furthermore, the teacher-researcher helped the participants to find information easily through the WebQuests, enabled collaboration in-class, and supported open-editing of content. In the control group (non-flipped classroom) traditional face-to-face lectures was used to develop the participants' critical thinking and academic writing skills.

Although the content remained identical for both groups, the flipped classroom took fewer sessions to cover the required materials than the non-flipped classroom, because the learners were well prepared by checking and viewing the online materials before attending the class, so they found the materials in the class time easy to grasp and they were taught quicker. The WebQuest-based flipped classroom took 14 sessions and the non-flipped classroom took 28 sessions.

Another characteristic of the flipped classroom was the use of WebQuest active learning strategy, which structured the learning materials based on the five essential elements of Introduction, Process, Task, Evaluation, and Conclusion, and provided the learners with useful websites and instructional videos, so they did not waste time searching through the Internet. The introduction represents the goals of the WebQuest, the task requires learners to use the web-based resources and information, and higher-order thinking skills, the process represents the resources and the steps required to complete the task, the conclusion is a summary and closure of the project, and the evaluation helps the learners to evaluate and reflect on their learning.

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Exploring the impacts of online peer-editing using Google Docs on EFL learners' academic writing skills

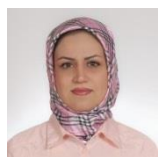
Bio data



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Abstract

The present study reports the results of a sequential explanatory mixed-methods approach to explore the impacts of online peer-editing using Google Docs on EFL learners' academic writing skills. To this end, two intact classes, each with ten learners majoring in English as a foreign language (EFL), attending an IELTS course at a private language institute in Sanandaj, Iran, were selected as the participants of the study. IELTS academic writing task 1 and task 2, marked by IELTS writing band descriptors were used to assess their academic writing skills, and a semi-structured interview, the questions of which adapted from Pham and Usaha (2016) was conducted to assess their perceptions towards the impacts of online peer-editing using Google Docs on academic writing skills. Independent samples t-tests were used to analyse the quantitative data. The results indicated that peer-editing both through using Google Docs and in the face-to-face classroom significantly and positively developed the learners' academic writing skills. The results further revealed that EFL learners' academic writing skills in the Google Doc-based instruction outperformed those in the face-to-face classroom both in short and long terms. Thematic analysis was used to analyse the qualitative data. The findings uncovered a number of themes which addressed

the learners' positive attitudes and perceptions towards the impacts of online peer-editing using Google Docs on academic writing skills. The findings, therefore, implies that online peer-editing using Google Docs has the potential to more effectively develop EFL learners' academic writing skills.

Conference paper

Introduction

Editing writings through collaboration among learners could be facilitated through Web 2.0 technologies such as blogs, wikis, and Google Docs (Bloch, 2008; Lamy & Hampel, 2007; Yang, 2010). While Bloch (2008) suggests that blogs allow writing to be shared more easily and Lamy and Hampel (2007) propose that wikis allow anyone to edit, modify, or delete content, Yang (2010) claims that Google Docs, another Web 2.0 application, includes the functions of both blogs and wikis.

Google Docs is a Web 2.0 application and a web-based word processor on the Google server that allows users to easily create, share, and edit documents, spreadsheets, presentations, and forms online (Perron & Sellers, 2011; Thompson, 2008). It helps users to implement a learner-centred approach and concurrent online editing in a collaborative learning environment to develop their knowledge and learning skills (Oxnevad, 2013). To use Google Docs to work collaboratively on a project one should create a document and share it via a G-mail account. Google Docs facilitates online collaboration by providing the team members to work within a single user space. Google Docs allows learners to save and access the entire revision history of the documents. Moreover, it provides opportunities for team members to synchronously and asynchronously edit a single document, while it indicates where and what other members are typing. Furthermore, different team members' contributions to the writing assignment can be shown in different colours (Perron & Sellers, 2011). In the present study we examine the impacts of online peer-editing using Google Docs and peer-editing in a face-to-face classroom on EFL learners' academic writing skills to find a better way to develop EFL learners' academic writing skills. In addition, EFL learners' attitudes and perceptions towards the impacts of online peer-editing using Google Docs on academic writing in general and the subcomponents of academic writing (i.e. task achievement, coherence and cohesion, lexical resource, and grammatical range and accuracy) in particular are explored. Thus, the following research questions are addressed:

1. Compared to face-to-face peer-editing, how effective is peer-editing using Google Docs in developing EFL learners' academic writing skills?
2. What are EFL learners' attitudes and perceptions towards the impacts of online peer-editing using Google Docs on academic writing skills?

Method

A sequential explanatory mixed-methods approach to both data collections and analyses (Creswell, Plano Clark, Gutmann, & Hanson, 2003; Riazi & Candlin 2014; Tashakkori & Teddlie 2003) was used to address the research questions.

2.1. Context and participants

Two intact classes at a private language institute in Sanandaj, Iran were selected. One of the classes was randomly assigned as the experimental group and the other as the control group. In each class there were ten EFL learners in the 20-24 age range who were preparing themselves for the IELTS examination. The participants' proficiency level was assessed through online DIALANG test, which revealed that the learners' writing skills in both groups were at the B₁ level. Prior to the study, none of the learners had prior writing experience in Google Docs and they had not received any training in online peer-editing. The second author was the course instructor in both groups.

Materials and Instruments

To assess the participants' academic writing skills as pre-tests, post-tests, and delayed post-tests IELTS academic writing task 1 and task 2 were administered. IELTS writing band descriptors for task 1 and task 2 were used to evaluate the participants' academic writing skills. The participants' academic writing skills were evaluated in the four areas of task achievement, coherence and cohesion, lexical resource, and grammatical range and accuracy. Each area of the participants' academic writing skills, both for task 1 and task 2, were assigned a mark from 1 to 9, and the total mark for each task was 9. The final academic writing skills mark for each participant was 9 in which task 1 formed about 30 per cent and task 2 about 60 per cent.

To reduce the subjectivity in the marking process, not only the researcher/instructor but also another experienced IELTS instructor marked the participants' pre-tests, post-tests, and delayed post-tests on academic writing skills. The results indicated acceptable consistency between the two raters' marks on academic writing skills ($r = .90$).

A semi-structured interview was conducted to explore the participants' perceptions of and attitudes towards the impacts of online peer-editing using Google Docs on their academic writing skills. The questions of the semi-structured interview were adapted from Pham and Usaha (2016).

To determine the accuracy of the participants' responses to the interview questions member checking technique (Creswell, 2007) was conducted. Hence, during the interview the researcher/instructor clarified the information in each question in order to check the accuracy of the participants' responses, and at the end of the interview they were given their own interview results to check for its accuracy.

Procedures

IELTS academic writing task 1 and task 2 were presented to pre-test the participants' academic writing skills in both groups. In order to accomplish task 1 the participants were asked to write (at least 150 words) and analyse the information of a bar chart in about 20 minutes, and to accomplish task 2 they were asked to write (at least 250 words) about a problem and its possible solutions in about 40 minutes.

The participants in the experimental group were asked to create G-mail accounts (if they did not have one). As they were not familiar with Google Docs, at the first session of the course they were trained to create and use Google Docs in the classroom. In addition, two short videos introducing step by-step instructions on how to create and use Google Docs were given to them to view at home. First, the participants created their own Google Docs and shared them with the other group members and the researcher/instructor. Then, they were asked to cooperate, pass comments, and edit each other's IELTS writing task 1 and task 2 assignments in groups of two using Google Docs. Each student needed to provide comments and edit the writings of one peer each time. They were required to edit their peers' writing by checking for key features, overview and accurate information, and word count (i.e. task achievement), organisation of information, paragraphing, and linking devices (i.e. coherence and cohesion), appropriate language, collocation, and the number of errors made (i.e. lexical resource), and range of grammar structures and tenses, punctuation, and the number of errors made (i.e. grammatical range and accuracy). To follow the aforementioned procedures a sample peer-editing was created for the learners to view.

In order to accomplish the writing cycle the participants in the experimental group were first given the topics for task 1 and task 2 through brainstorming activities, then they wrote the first draft, shared their writing with their classmates and the researcher/instructor on the

Google Docs for asynchronous peer feedback and corrections, then they peer edited and received peer comments, after that they revised the writing and posted second drafts, a second round of peer corrections and comments was conducted, after that they went through further revision of the writing for the third drafts, then the researcher/instructor comments were given, and finally a final revision was done to produce the fourth draft. Each learner selected a different font-colour to distinguish their contribution to their peers' writing. As a result, when they edited and revised their peers' writing, it could be easily seen who worked on the writing.

In the face-to-face classroom the participants went through the same writing cycle and performed the same writing assignments, and were asked to edit and pass comments on each other's writing assignments. The researcher/instructor decided to randomly put the learners in groups of two each session and asked them to edit and have comments on their peers' writings.

In each writing task, the participants in both groups reached an agreement of a final product and then submitted it to the researcher/instructor for feedback.

To check the participants' academic writing skills as a post-test, after 14 sessions IELTS academic writing task 1 and task 2 with the same difficulty levels and procedures were administered.

A semi-structured interview was conducted in English with each participant to check their attitudes and perceptions towards the impacts of online peer-editing using Google Docs on academic writing skills. Each interview took 30 minutes and was audio-recorded and transcribed for subsequent analysis.

Moreover, delayed post-tests, which was similar to the pre-tests and the post-tests, were administered one month after the post-tests to assess the long-term effects of peer-editing using Google Docs and in face-to-face classroom on developing the participants' academic writing skills.

Data analysis

Independent samples t-tests were run to analyse the quantitative data, and thematic analysis (Boyatzis, 1998) was used to analyse the qualitative data.

Results

The quantitative analysis

Two independent samples t-tests were run to examine the possible differences between the two groups' academic writing skills, both before and after conducting the two instructional procedures. Table 1 shows the differences between the pre-tests and the post-tests of the experimental and control groups regarding the learners' academic writing skills.

*Table 1:
Independent samples t-test, investigating the difference between the pre-tests of the two groups' academic writing skills*

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error	95% Confidence Interval of the Difference	
								Lower	Upper
Writing (Pre-tests)	.305	.588	-.379	18	.709	-.15000	.39616	-.98231	.68231
Writing (Post-tests)	.633	.437	3.272	18	.004	1.35000	.41265	.48306	2.21694

As Table 1 indicated, there were no significant differences between the learners' pre-tests on their academic writing skills in both groups. Therefore, the learners' academic writing skills were almost identical in both groups before conducting the instructional procedures. However, there were significant differences between the learners' post-tests on academic writing skills in the two groups, and experimental group outperformed the control group. It could thus be suggested that online peer-editing using Google Docs was a more effective instructional procedure in developing EFL learners' academic writing skills than peer-editing in a face-to-face classroom.

To examine the long-term effects of the two instructional procedures in developing EFL learners' academic writing skills another independent samples t-test was run. The results are shown in Table 2.

*Table 2:
Independent samples t-test, investigating the difference between the delayed post-tests of the two groups' academic writing skills*

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error	95% Confidence Interval of the Difference	
								Lower	Upper
Writing (Delayed Post-tests)	2.250	.151	3.446	18	.003	1.60000	.46428	.62458	2.57542

As Table 2 indicated, there was a significant difference between the delayed post-tests of the two groups, and experimental group outperformed the control group regarding the learners' academic writing skills.

The qualitative analysis

By analysing the interviews through thematic analysis some themes were uncovered which addressed the learners' perceptions towards the impacts of online peer-editing using Google Docs.

Overall, the results indicated that the EFL learners had positive perceptions and thought that peer-editing using Google Docs was quite helpful in improving their academic writing skills.

As the learners were already trained about how to edit and make comments on the four areas of academic writing, they revised their writing on Google Docs based on their peers' comments and corrections on these four areas and thought they were quite useful to learn about the four areas of academic writing. They reported that they edited and had comments on the four areas of academic writing, but mostly preferred to provide and receive comments and corrections from the grammatical accuracy skill of academic writing (i.e. range of grammar structures and tenses, punctuation, and the number of errors made in this regard). They thought they should first develop their grammatical knowledge and then focus on the other areas of academic writing. Similarly, they checked the accuracy of the information, the key features, and word count of their peers' writing assignments and modified the parts that they thought needed revision. They also checked the organisation of the information, paragraphing, and how they were connected by linking devices. Furthermore, they checked for the appropriateness of the language and collocation. They reported that editing and making comments on these areas of academic writing through Google Docs was very convenient and effective for them because they had enough time and a proper place (at home) to think about each area precisely.

Generally, they had positive attitudes towards their peers' comments and corrections through Google Docs, nevertheless, sometimes, although rarely happened, they did not address a small number of their comments and provided more information and examples instead to make their writing clearer. Sometimes they did not revise their writing based on some of their peers' corrections and comments since they thought their ideas or expressions were better than their peers'. Sometimes they added more ideas than might have been expected from their peers' comments and corrections since they thought it could improve their writing.

They would welcome their peers' corrections and comments, nevertheless, in comparison to those from the instructor they preferred the instructor's asynchronous comments and corrections since they thought those comments were more focused on the important parts regarding the four areas of academic writing. They thought that it was necessary for them to receive corrections and comments (positive and/or negative) from both their peers and their instructor. They reported that their peers' corrections and comments are focused on the detailed parts but the instructor's was more on the general areas, which both were quite useful for developing their academic writing skills. They thought that their peers' corrections and comments were easier to understand and only if they did not understand one they could provide relevant details and examples to make the commented part clearer to understand. They reported that their peers' corrections and comments via Google Docs contributed to their academic writing skills since they could reread and conveniently revise their writing many times based on their corrections and comments, however, they wanted their peers to edit and make comments on general areas of academic writing as well. They thought it was more convenient to edit and have comments on their peers' writing while using Google Docs.

Finally, the learners did not report any inconvenience regarding posting their essays via Google Docs, and thought that it was quite worthwhile to continue online peer-editing using Google Docs after finishing the course.

Discussion

The findings of the study corroborate those of Suwantarathip and Wichadee (2014) who found that learners who used Google Docs outperformed those in the face-to-face classroom in writing skill. The findings of the study also corroborate those of Sharp (2009) who found that Google Docs allowed editing and facilitated collaborative writing in the language classroom. In a similar vein, Godwin-Jones (2008) found Google Docs as the best tool for online text editing. Similarly, Riley-Huff (2010) suggested that Google Docs promoted group collaboration to save time and energy. A possible reason for the findings might be the use of Google Docs which influenced the learners' academic writing skills dramatically by changing the ways they edited their peers' assignments. Another possible reason might be due to the collaboration among peers in editing and giving feedback on their peers' writing assignments. The learners were provided with opportunities to read, review, give comments, and edit other members' academic writing skills through using Google Docs, which was a promising online tool for interaction. Through such interaction, and peer corrections and comments, which they received from other peers, the learners learned about the four areas of academic writing. At the end they could accurately present the information in their writing while using sufficient text, appropriately organised the information in their writing by using proper linking devices, applied appropriate and accurate language and collocation, and also properly used grammar structures and punctuation in their writing. Furthermore, the learners in both groups knew that their instructor checked each peer's contribution to each writing assignment and gave feedback and made comments on it, so they collaborated and made their contribution to each peer's writing assignment more seriously by editing and making worthwhile comments. Nevertheless, in the Google Doc group the learners had more time to think deeply about what parts to edit and how to edit. Therefore, editing and making useful comments on the peers' academic writing using online Google Docs is a more effective instructional procedure to develop academic writing skills. In line with the findings, Swain and Lapkin (1998) argue that learners are more engaged in their learning process when working together in groups.

The findings were in harmonious with those of Zhou, Simpson, and Domizi (2012) who found that learners had positive perceptions towards using Google Docs for collaborative learning. In a similar vein, Yang (2010) found Google Docs as a prominent online tool to increase learners' motivation in writing cooperatively. Similarly, Suwantarathip and Wichadee (2014) revealed learners' positive perceptions towards cooperative writing activities using Google Docs. The findings could be due to the learners' Google Docs experiences which they found it easy to use. They could easily share and edit their peers' writing and contribute to one another in learning about academic writing skills without any restriction of time and place.

Implications

It is suggested that creating, sharing, and peer-editing writing assignments in Google Docs help EFL learners to more effectively improve their academic writing skills. Using Google Docs to share and peer-edit writing assignments is efficient and cost effective for EFL learners. They can simultaneously post their writing to all their peers and the instructor for editing, making comments, and giving feedback, and improve their academic writing skills quickly in or outside of the classroom. The EFL learners in the traditional face-to-face classroom can peer-edit each other's writing to develop their own and peers' academic writing skills. In addition, it behoves EFL educators and instructors to acknowledge the use of Google Docs and how this newly developed collaborative tool facilitates EFL learners'

academic writing skills since they are not yet know its potential for developing their academic writing skills.

CALL in Context

The participants were asked to cooperate, pass comments, and edit each other's IELTS writing task 1 and task 2 assignments using Google Docs based on the four areas of IELTS academic writing (i.e. task achievement, coherence and cohesion, lexical resource, grammatical range and accuracy). In order to accomplish the writing cycle the participants were first given the topics for task 1 and task 2 through brainstorming activities, then they wrote the first draft, shared their writing with their classmates and the researcher/instructor on the Google Docs for asynchronous peer feedback and corrections, then they peer edited and received peer comments, after that they revised the writing and posted second drafts, a second round of peer corrections and comments was applied, after that they went through further revision of the writing for the third drafts, then the researcher/instructor comments were given, and finally a final revision was done to produce the fourth draft. Each learner selected a different font-colour to distinguish their contribution to their peers' writing. As a result, when they edited and revised their peers' writing, it could be easily seen who worked on the writing.

The use of Google Docs influenced the learners' academic writing skills dramatically by changing the ways they collaborated and edited their peers' assignments, and provided opportunities for them to collaborate in editing and giving feedback on their peers' writing assignments. The learners were provided with opportunities to read, review, have comments, and edit other members' academic writing skills through using Google Docs, which was a promising online tool for interaction. Moreover, the learners found Google Docs easy to use. They could easily share and edit their peers' writing and contribute to one another in learning about academic writing skills without any restriction of time and place.

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Evaluating the Impact of Local Context on CALL Applications Using Spoken Dialog Systems

Bio data

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Abstract

The development of prototype Spoken Dialog Systems (SDS) for computer assisted language learning (CALL) applications has become easier in recent years due to dramatic improvements in the performance of automatic speech recognition (ASR) systems and the availability of open-source tools for the components of the SDS pipeline. Such SDS-based language learning prototypes have the potential to create an interactive, engaging language learning environment and to provide real-time, individualized feedback to learners. However, while an initial prototype SDS that successfully processes a limited range of expected learner responses can be developed rather quickly, the iterative refinement of the system to enable it to accurately respond to the wide range of learner responses—responses that differ due to students' first (L1) and/or second language (L2) proficiency, cultural backgrounds etc.—can be extremely time-consuming and challenging. This can limit the usefulness of SDS-based CALL applications to specific learner populations and contexts.

In this study, we attempt to address challenges related to the scalability and generalizability of SDS-based CALL applications through an analysis of common types of problems that these systems encounter when they are used in multiple contexts. Specifically, we used the open-source HALEF SDS framework to design interactive conversational tasks for L2 English learners for a wide range of situations such as ordering food in a restaurant, interviewing for a job, and disputing a bill. These conversational tasks were deployed on the Amazon Mechanical Turk crowdsourcing platform and conversational responses were collected from over 2,000 L2 speakers of English representing over 50 different L1 backgrounds. The responses were transcribed and analyzed to determine characteristics of learner responses that resulted in sub-optimal system behavior since they did not conform to the initial patterns that the prototypes were designed to handle. In this presentation, we will present a taxonomy of the types of variability that were observed due to L1 and local context, covering the following aspects of the learner's speech: grammar, vocabulary, pragmatics, and cultural knowledge. These findings will help establish best practices for developing SDS-based CALL applications that can more accurately process a wider range of responses due to differences in learner characteristics and can therefore be applied in a broader set of educational environments. We will also discuss strategies that can be used by SDS designers to make the applications more robust to variability.

Conference paper

1. Introduction

With the continued increasing use of English in global workforce and academic settings, the need for effective and scalable methods for helping English learners improve their English speaking proficiency continues to grow. One approach that is becoming more viable through recent improvements in automated speech recognition and artificial intelligence technology is the use of interactive spoken dialog systems (SDS) in computer assisted language learning (CALL) applications. These SDS-based CALL applications provide an environment for the learner to practice interactive speaking tasks without the physical presence of an English instructor and receive feedback at any time during the day, and can therefore be very helpful for English learners, especially ones with relatively lower proficiency (since the SDS-based tasks that currently work best given the state-of-the-art technology are constrained and do not elicit open-ended complex speech). However, the performance of an SDS-based CALL application can be hindered due to variations in the spoken responses that are provided by learners across different contexts, for example, different L1 backgrounds, different countries, and different proficiency levels. While it is not possible for

an automated system to account for all of these types of variation, many of them can be handled in an efficient and structured manner.

In this paper, we first briefly describe an instantiation of a SDS-based CALL system that was used in a large-scale global data collection with English learners representing a range of different contexts. Then, we describe the main types of variation that can be problematic for the system (including differences in vocabulary, grammar, pragmatics, and cultural knowledge) and illustrate the approaches that can be taken by SDS task developers and engineers to account for the variation.

2. SDS System and Data Collection

The SDS CALL tasks were developed using the HALEF system framework (Ramanarayanan, et al., 2017). HALEF is an open-source, standards-compliant, cloud-based, modular SDS architecture that has been used to develop a variety of interactive educational applications. Figure 1 provides a high-level illustration of the main components of an SDS system.

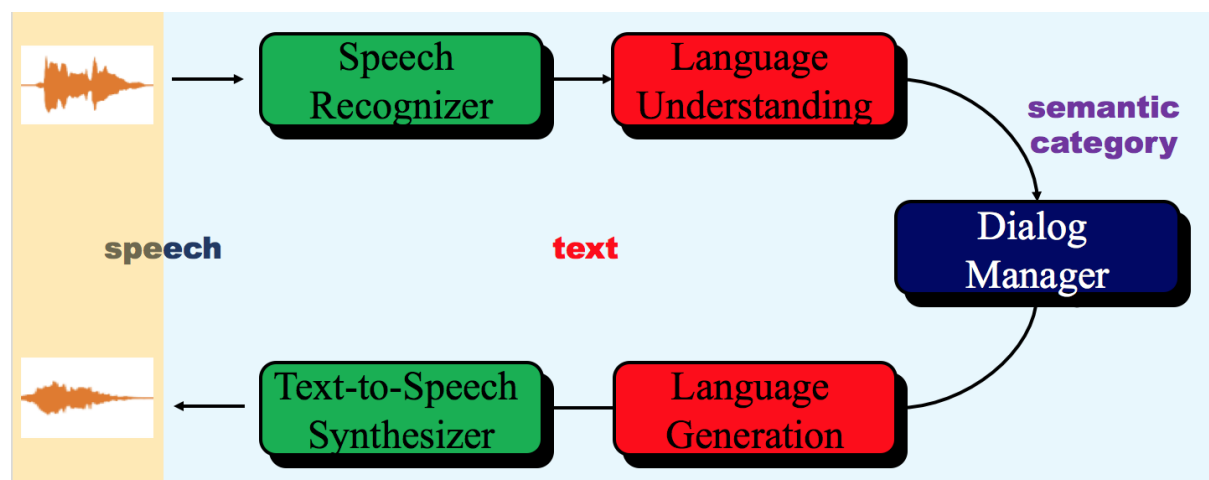


Figure 1. High-level overview of the main components of an SDS system

As shown in Figure 1, the user of an SDS system (in this case, the language learner) provides a spoken response that is first converted to text using an automatic speech recognition (ASR) system. While ASR accuracy has improved dramatically in recent years, the process can still introduce errors, especially in cases that are more challenging for state-of-the-art ASR systems, such as non-native speech. The output of the speech recognizer is the processed by a language understanding component that parses the text to assign it to a semantic category from a list of pre-defined semantic categories that are relevant for the current dialog state, i.e., system prompt. Based on this automatically detected semantic category, the dialog manager determines the next action that should be taken by the SDS. Then, the language generation component produces the text that will be contained in the next system prompt, the text-to-speech synthesizer converts this text to an audio response that is played to the user, and the cycle repeats. In practice, when the number of possible system responses is limited, the language generation component can simply select from a list of pre-specified system responses (instead of generating text automatically on-the-fly) and the system can use pre-recorded audio files prepared by human voice talents instead of text-to-speech synthesis; these two approaches were used in the current system, since they typically provide a more natural user experience.

For this study, we analyzed responses provided in the context of a task designed to help language learners practice placing orders in a coffee shop.⁶ In this task, English learners are presented with a menu that includes the following items: coffee, cappuccino, latte, mocha, tea, bagel, and croissant. The following instructions are printed on the screen:

The boss asked you to pick up her breakfast on your way in to work. She wants one drink and one food item.

The system starts out the conversation with the following prompt: *Hello, welcome to the Coffee Spot. What can I get for you today?* Then, after recognizing which item(s) the learner selected, the system asks follow-up questions about the order, such as *Would you like that coffee hot or iced?* and *Would you like that bagel toasted?* After completing the follow-up questions, the system asks if the learner has completed the order (*Would you like anything else?*). Finally, when the learner's order is complete, the system presents the bill to the learner and asks how they would like to pay for their order. After the conversation is complete, the system can provide task completion feedback to the learner, i.e., whether the learner successfully ordered one drink and one food item. Figure 2 presents an example flowchart (developed using the OpenVXML⁷ design tool) for the Coffee Shop task that specifies the system prompts at each dialog state as well as the conversational branches taken by the system for each category of learner response (some details have been omitted from the full version of the task for clarity).

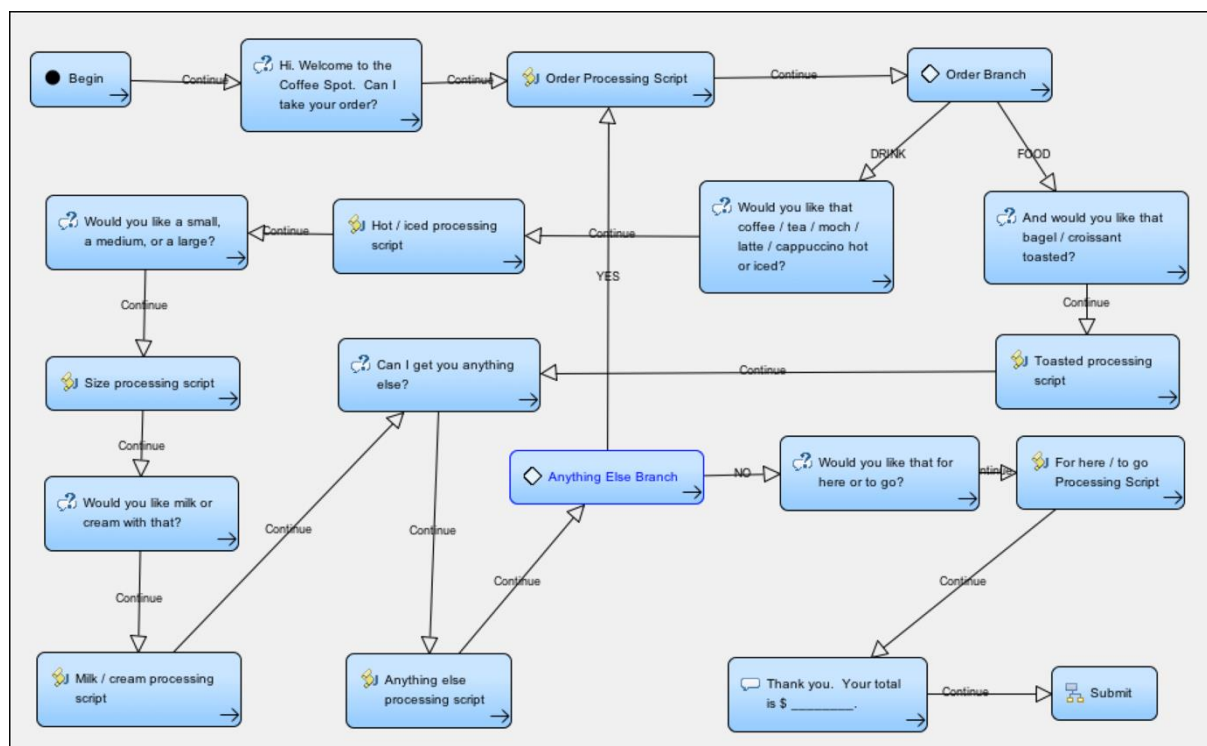


Figure 2. OpenVXML flowchart for the Coffee Shop interactive SDS CALL task specifying the system's behavior for each category of learner response at each dialog turn.

This task is relatively restricted in nature, since the main vocabulary that the learner is expected to use in each response is contained either in the stimulus materials (the menu) or

⁶ A sample version of this task is available at <http://englishtasks.org>.

⁷ <https://github.com/OpenMethods/OpenVXML>

the system prompts, and the learners typically provide responses that range in length from a single word to a short sentence. The task is designed to provide beginning learners an opportunity to practice basic vocabulary and grammatical structures required for transactional interactions as well as appropriate politeness strategies.

The Coffee Shop SDS CALL task was deployed to the Amazon Mechanical Turk crowdsourcing platform⁸ in order to obtain a large number of responses that can be used to tune the language models used by the ASR system and revise the semantic categories that are recognized by the system and the branching paths in the conversation. The data considered in this study consists of 7,345 utterances provided in 849 different conversations that non-native speakers conducted with the Coffee Shop task through the Mechanical Turk platform between June 2016 and February 2017. The English learners in this sample are represented by a total of 52 different L1s; the 10 most frequent L1s in this sample are shown in Table 1 along with the number of learners for each.

L1	Number of Mechanical Turk Participants
Hindi	222
Spanish	115
Tamil	113
Telugu	78
Malayalam	64
Portuguese	31
Gujarati	18
Marathi	14
French	14
Urdu	12
Other	168

Table 1. Distribution of the L1 backgrounds of the Amazon Mechanical Turk participants who interacted with the Coffee Shop SDS CALL task

As Table 1 shows, a substantial percentage of the participants are from India, which is consistent with the demographics of the overall Amazon Mechanical Turk population. However, many other L1s are represented in this data set as well, providing ample opportunities to study variations across the learner responses due to differences in local context.

3. Designing an SDS CALL Application to Handle Sources of Variability Based on Local Context

In this section, we provide a taxonomy of several sources of variability that can arise when deploying an SDS-based CALL application in diverse contexts, explain why the sources of variability can be problematic for the SDS application, and discuss common approaches for enabling the SDS to be robust to these types of variability.

3.1 Vocabulary

One source of variability that can pose difficulties for an SDS-based CALL application is when learners from different backgrounds provide responses that use unexpected vocabulary. An example of this can be found in the range of responses provided by

⁸ <https://www.mturk.com/mturk/welcome>

different learners to the following system prompt (the L1 of the learner who provided each sample response is indicated in parentheses after the response):

SDS prompt: *Would you like that for here or to go?*

Responses: *Make it take away.* (Kannada)

Hi, I want some, some coffee to take away. (Spanish)

It's on a go. I I need it as a parcel. (Hindi)

Based on the task designer's initial expectation of the types of responses that learners would provide to this question, the SDS application was originally deployed with a rule-based language understanding component that recognized the following key words and phrases for the two semantic categories:

HERE: *here, stay*

TO_GO: *to go, carry out, take out*

The sample responses listed above are problematic, since the semantic category clearly should be TO_GO, but learners used variable ways of expressing this that were not initially expected. Since these responses do not contain any of the key words that the natural language understanding component recognizes for this category, the value for this variable (whether the order should be for here or to go) is undefined, and the SDS system would take a default action in order to continue the conversation (such as reprompting for the requested information or continuing on to the next prompt).

The most effective way for addressing this type of local variation in vocabulary usage is to systematically transcribe and provide semantic annotations for a large number of responses in order to capture as many of the different variants as possible. Then, SDS system designers can use the annotated responses to develop additional key words and phrases for the semantic categories for a rule-based natural language understanding module. In this case, the phrases *take away* and *as a parcel* could be added to the list for the TO_GO semantic category. In addition, these annotated responses can be used by system designers to develop statistical natural language understanding models, which are typically more robust than rule-based approaches when a sufficient amount of responses have been annotated to represent the most likely variations for each dialog state (Suendermann et al., 2009).

The following two conversation snippets provide examples of lexis that were not anticipated initially by the system designers but that can be handled by the system after they have been added to the appropriate semantic categories, i.e., *cool* should correspond to the same category as *iced* and *big* should correspond to the same category as *large*.

SDS prompt: *Would you like that coffee hot or iced?*

Responses: *Uh a cool one.* (Saurashtra)

SDS prompt: *Would you like a small, a medium, or a large?*

Responses: *I like a big.* (Hindi)

Some instances of observed vocabulary variation among speakers with different L1s can clearly be ascribed to different local norms; for example, *take away* is more common in varieties of English that are influenced by British English, and *as a parcel* is common in India. On the other hand, other instances of vocabulary variation may be due to learners' incomplete knowledge of the target English vocabulary which causes them to use a semantically-related word that they are more familiar with or that is easier to acquire based

on L1 transfer (e.g., a cognate); the response with the use of *cool* instead of *iced* above may be an example of this. Either way, the SDS system can be made more robust to these types of vocabulary variation through an iterative process of transcribing responses, annotating their semantic categories, updating the natural language understanding component of the SDS, and redeploying the CALL application to collect additional responses.

3.2 Grammar

Responses provided by English learners to the Coffee Shop SDS-based CALL task also exhibited a wide range of grammatical variation due to the fact that the learners represented many different L1 backgrounds and proficiency levels. The responses provide a few examples of unexpected grammatical patterns:

SDS prompt: *Hi. Welcome to the Coffee Spot. What can I get for you?*

Responses: *I want beverage mocha and food item bagel. (Punjabi)*
I want bagel food. (Tamil)
I like tea. (Telugu)
I want the coffee. (Saurashtra)
Hello uh, I want to a cappuccino. (Spanish)

While these types of responses contain unexpected grammatical patterns due, primarily, to L2 errors, they generally do not need to be explicitly handled by the SDS application. Since the learner's intended communicative goal is apparent in each case through the presence of expected key words (e.g., *mocha*, *bagel*, *tea*, *coffee*, *cappuccino*) the SDS system can be designed to successfully recognize the appropriate semantic category and continue with the conversation. In this case, the solution for making the system more robust to difference among learner responses due to different L1 and proficiency backgrounds is underspecification; i.e., the SDS system identifies the semantic category of the response based on a generic key word, such as *coffee*, rather than on a more specific phrase, such as *a coffee* or *have a coffee*. This is in contrast to the solution discussed for vocabulary variation in Section 3.1, which was to add additional knowledge about potential vocabulary variation to the SDS natural language understanding models. In the case of grammar, an SDS designer is only required to explicitly include information about variations into the system's models when the grammatical form is part of the targeted construct for the speaking task. For example, if the task was being used by a language instructor as part of a lesson on English article usage, then the system would need to be designed to recognize the differences between responses such as *I would like bagel.* and *I would like a bagel.* This would be done by following the same approach outlined in Section 3.1 for vocabulary: transcription, annotation, and redesign of the natural language understanding component of the SDS.

3.3 Pragmatics

The following responses demonstrate responses that are not pragmatically appropriate, since they do not use politeness strategies that would be expected in this conversational situation with an employee at a coffee shop.

SDS prompt: *Hi. Welcome to the Coffee Spot. What can I get for you?*

Responses: *Give me a bagel. A bagel. (Malayalam)*
I need some coffee. (Hindi)
I want tea. (Bengali)

If an SDS system is initially designed to look for specific request strategies, such as *I would like a _____* or *Can I get a bagel?*, then it may not be able to process pragmatically

inappropriate responses like the ones featured above. In this case, underspecification (i.e., detecting key words) is again a potential solution, especially for an initial version of the system, unless the system is intended to be used to provide feedback to learners about the pragmatic appropriateness of their responses.

The following examples demonstrate a different type of variation in pragmatics:

SDS prompt: *Hi. Welcome to the Coffee Spot. What can I get for you?*

Responses: *Surprise me.* (Spanish)

Uh, surprise me. (Malayalam)

Uh good morning uh what's your specialty in this store? (Mandarin)

I want something uh very special for her. So I want to give them uh sort of a surprise to her. So what would you suggest? (Gujarati)

In these instances, the responses provided by the learners were unexpected since they didn't provide a direct answer to the question, i.e., they didn't include an order for a food or drink item. In order to adapt the CALL application to successfully process these types of responses instead of taking the default action for unrecognized responses (such as reprompting), the SDS designer would need to add an additional semantic category for the natural language understanding component to detect and add an additional branch out of this dialog state corresponding to the new semantic category so that the dialog manager could take a different action, such as providing the following prompt: *I would recommend our cappuccino, since our store just purchased a new, top-of-the-line cappuccino maker. How does that sound?*

3.4 Cultural Knowledge

A final source of variation based on different local contexts that can be problematic for SDS-based CALL applications is caused by different cultural practices and expectations that are relevant for the tasks. For example, consider the following three responses provided by English learners in India:

SDS prompt: *And would you like that bagel toasted?*

Responses: *Of course toasted.* (Malayalam)

Yeah, I do, absolutely. (Hindi)

Yeah, toasted. Extremely high. (Telugu)

These responses were not initially expected by the designers of the application, since they were not aware that it is very uncommon in India to sell untoasted bread-like products in cafes and restaurants. In order to provide a more natural conversational experience for English learners in this local context, the SDS task would need to be redesigned without this prompt. Alternatively, the original version could be retained for general use and a context-specific one could be developed for use in India that excludes this prompt (or that includes a revised version of the prompt, such as *You'd like the bagel toasted, right?*). However, this approach of developing different versions of the conversation flow for different local contexts can quickly become untenable for a CALL application that is targeting a global market, due to the large number of variants that would be required. A more feasible approach is to use this knowledge of local variation to design a generic version of the application that is robust to these differences and can therefore be applied in a wide range of different local contexts. Additionally, these dialogues also convey types of culture-specific knowledge in language use insofar the learners progress through the routinized and highly scripted exchange that typically takes place in a U.S. coffee shop, thus learning about these exchanges and how they take place in a given English speaking context.

4. Conclusion

In this paper we have presented examples of variation in responses to an SDS-based CALL application that we observed in a large-scale crowdsourcing data collection with English learners from 52 different L1 backgrounds. Variations in vocabulary, grammar, pragmatics, and cultural knowledge caused by different L1 backgrounds, proficiency levels, locations, etc. can lead to responses that were not expected by the SDS designers when the tasks were initially developed. Several different approaches can be taken by system designers to enable an SDS-based CALL application to process these responses successfully (including underspecification, development of more comprehensive natural language understanding models based on semantic annotations, prompt redesign, and inclusion of additional branches). Due to the wide range of variation across different contexts, it is never possible to build an application that accounts for all possible responses in an SDS-based CALL application; however, through an iterative application of these approaches for different learner populations, it is possible to develop applications that are robust to most sources of variation.

CALL in Context

This contribution directly addresses the following question posed by the Call in Context call for papers:

How can/should we detect and formulate to what extent learners and teachers are different?

For this study, we implemented a series of interactive, conversational CALL tasks based on Spoken Dialog Systems (SDS) that were designed to help learners of English improve their speaking skills. Focusing on a single task that provides learners practice with placing an order in a coffee shop, we analyzed a large number of responses provided by learners from 52 different native languages (L1s). This analysis demonstrated that variation in the types of responses provided by learners across different L1s due to differences in vocabulary, grammar, pragmatics, and cultural knowledge can lead to suboptimal performance of the SDS-based CALL application. It is necessary for the designer of an SDS-based CALL application to understand all of these types of variation based on local context in order to develop a robust system; however, in some cases, the most appropriate approach is to apply underspecification so that the system, in effect, ignores the context-driven variants. The decision about whether these variants should be detected by the system or not depends on the specific construct of spoken language proficiency that the CALL task is intended to target.

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Student retention in online courses: the impact of course content and different modes of delivery

Bio data



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Abstract

In this presentation, I will introduce results from an ongoing survey-based study on learner retention and behaviours on Icelandic Online, open, guided online courses in Icelandic as a second/foreign language. Icelandic Online is an open data source with the intent to reach a wider population and is offered in three different modes of delivery: as a blended learning credited course on campus, a distance non-credit-bearing course with a tutor, and as an open free course without tutor intervention. The complex learner context of Icelandic Online provides a wide range of engagement patterns, as well as concentrations of drop-outs at certain junctures in the courses. The main objective of this study is to correlate student retention to their views on the course content, motivation, and the platform, and thus look for possible explanations for why online learners decide to leave, or complete, a program. The study presented here is part of a larger study on retention in Massive Open Online Courses (MOOCs) and draws on tracking and logging data of the behaviours of over 43,000 learners on Icelandic Online. The goal of this research is to provide insight into how the learning experience afforded by Icelandic Online suits the diverse range of learners within the program, and whether certain characteristics of the course structure and content affect student retention.

Previous findings (Arnbjörnsdóttir & Friðriksdóttir, 2015; Friðriksdóttir & Arnbjörnsdóttir, 2015; Friðriksdóttir, 2017) are in line with established research on MOOCs (Koller et al., 2013; Reich, 2014), revealing that overall completion rates on Icelandic Online are low and vary by mode of delivery. The blended learning mode turned out to be the most effective in

retaining students on Icelandic Online. Results revealed regular attrition patterns across all modes of delivery, showing sharp drop-outs initially, as well as concentrations of drop-outs at certain junctures in the courses. Based on these results, this ongoing study attempts to discover what within the MOOC context drives completion/drop-outs by investigating whether course content factors, such as the organisation of the course, plot-driven design with a continuing storyline, assignment submission, and so forth, serve to encourage or discourage learner retention, with a special focus on the blended learning mode.

Conference paper

Godwin-Jones (2017) and Long & Siemens (2011) point out the importance of tracking data in providing valuable teaching and learning insights. They found that learning histories and personal profiles of individual learners in a program hold immense potential for tailoring the delivery of learning materials.

The survey-based on-going study introduced here is part of a larger study on student retention in *Icelandic Online*, a free and open web-based course in Icelandic as a second/foreign language. The study draws on tracking data on over forty-three thousand learners over eight years. The same Icelandic Online courses are offered in three different modes of delivery: as a blended learning credited course on campus, a distance non-credit bearing course with a tutor, and as an open course without tutor invention. This study elicits students' views on their experiences using Icelandic Online, including their views on different modes of delivery and the course content, and their intentions and motivation for taking the courses. The self-reports will serve to further illuminate the same students' behaviour on the courses as measured by the online delivery system's tracking system.

Previous findings (Arnbjörnsdóttir & Friðriksdóttir, 2015; Friðriksdóttir & Arnbjörnsdóttir, 2015; Friðriksdóttir, 2017) are in line with established research on MOOCs (Koller et al., 2013; Reich, 2014), revealing that overall completion rates on Icelandic Online are relatively low, and that retention varies by mode of delivery; the blended learning mode turned out to be most effective in retaining students (Harker et al., 2005; Garrison, 2009), followed by the distance learning mode, and finally, the open self-directed mode. The results also revealed regular attrition patterns across all modes of delivery, with sharp drop-outs initially, as well as concentrations of drop-outs at certain junctures in the courses. The overall student engagement patterns revealed in this study called for a re-evaluation of earlier parameters by which retention is measured, and especially what it means to 'complete a course'. Instead of considering course completion as 100% content coverage, the findings showed considerably higher retention on Icelandic Online when the parameters for course completion were adjusted to, for instance, 90% coverage of course content. Researchers have called for more studies on why students decide to leave online courses (Reich, 2014; Bawa, 2016) and point out for example that retention is commonly measured without accounting for student intentions (Koller et al., 2013; Reich, 2014; Sokolik, 2015). Based on the previous results, the main objective of this survey-based study is to correlate student retention, as measured by the tracking data, to their views on the course content (Poon, 2013), motivation (Waite, 2013; Miller, 2015), and the platform (Colin et al., 2013; Wang et al., 2015). This is to say, the goal is to investigate whether certain course content factors on Icelandic Online that were intended to motivate learners to stay on the program, such as the organisation of the course, plot-driven design with continuing storyline, assignment submission, and so forth, serve to encourage or discourage learner retention. In this regard, a special focus will be on the blended learning mode, as well as, whether identified tops in drop-outs and tops in retention coincide with content characteristics at

those junctures. Preliminary findings suggest that the organisation of the course and plot-driven design with a continuing storyline serve to retain student engagement in the courses.

CALL in Context

Understanding the nature of online learner behaviours and their engagement is significant to the success of any online program, especially those where there is an expectation that the learning is self-motivated and self-directed. Open online language courses such as *Icelandic Online* attract learners from a range of backgrounds, previous experience, different expectations, and goals, and it is therefore critical to provide an insight into how the learning experience afforded by Icelandic Online suits the diverse range of the learner. The study presented here is grounded on empirical data collected through a computer-based tracking system over eight years on forty-three thousand users on the Icelandic Online program, thus offering us valuable evidence on the extent to which students use Icelandic Online as they navigate their way through the program, and on overall retention and engagement patterns. These previous findings also provide an opportunity to get a more nuanced picture of learners in open online language courses. For instance, the analysis of Icelandic Online's tracking data revealed an interesting attrition patterns across courses, that is, concentrations of drop-outs at certain junctures in the courses, which give a reason to go deeper and ask further questions in order to explore if this may be due to certain course content factors, the delivery format or other individual reasons. Preliminary findings suggest that content such as course organisation and continuing storyline in the course may enhance student engagement in the course.

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Using Learning Analytics and the xAPI specification to find out what students are actually doing when learning online. The VITAL project and its approach to analyzing and visualizing learner behavior in different blended and distance learning contexts.

Bio data

Anouk Gelan is a researcher and project manager at the Center of Applied Linguistics of Hasselt University in Belgium. She has previously coordinated several European R&D Languages & ICT projects and is currently coordinator of the Learning Analytics VITAL project (Erasmus+). She has co-designed an authoring environment and several online learning applications. Her research interests lie in the field of tutorial CALL, instructional design and Learning Analytics.

Abstract

In the current big data age, the field of Learning Analytics (LA) opens up new possibilities for **researching how students learn languages online**, based on the **systematic collection and analysis of large datasets** of learning interactions. Students' learning behavior can be reconstructed by recording the traces they leave behind in a variety of online learning environments.

The Erasmus+ VITAL project (Visualisation Tools and Analytics to monitor Online Language Learning & Teaching, 2015-2017) aims to **explore these possibilities** by implementing LA in different blended or distance learning contexts in 3 European universities. A multidisciplinary team was put together using statistical and process mining techniques to identify **learning patterns and learner profiles**, to investigate how LA can contribute to **better learning design** and to analyze whether **indicators of success or failure** can be discovered. The results will be presented to students and instructors in the form of **learning dashboards** visualizing progress and performance. In this way, the project will support students in their autonomous learning process through the stimulation of self-reflection and will help instructors to monitor their students' progress and struggles and to adapt their teaching accordingly.

During this presentation, we will describe the project and how a **context-specific tracking design was** implemented. Indeed, to deliver useful feedback to students, instructors but also course designers, it is crucial that the implementation of LA is rooted in the pedagogical design of the learning context under analysis. We will explain however how the research conclusions can transcend the local learning contexts analyzed by the project thanks to the use of **open standards and the e-learning specification 'Experience API' (xAPI)**. This technical specification allows applications to dynamically track, store and share data about learners in their context building on a standardized tracking vocabulary and APIs for learning applications and reporting tools to communicate and exchange data. When adopted

by a 'LA for CALL' community of practice and by the learning industry, an open xAPI model describing the tracking vocabularies specific to language learning pedagogy can allow to capture, analyze and share standardised datasets and answer various CALL research questions.

We will also report on some preliminary findings from the data analysis and demo the learning dashboards. We will illustrate how a standardized data format allowed us to build common performance visualisation tools while taking into account the specific learning context selecting the pedagogical indicators considered most relevant for each use case.

Conference paper

Introduction

In 2007, R. Fischer stated that "the issue of learner autonomy lies at the heart of success in online learning, but the evidence that has been cited to address this issue has been largely anecdotal in nature or primarily based on students' self-reports. [...] What has been lacking up to this point is the systematic collection and analysis of student usage data in order to gain a fuller understanding of how students can be effectively guided to develop the metacognitive knowledge and skills necessary to achieve success in online learning environments." Even though several studies were undertaken in the past using student activity tracking data to discover how students learn online, still a surprisingly large portion of CALL studies don't report on tracking data (Chun, 2013). Among the reasons is the fact that these data were not very accessible in the past. The collection of student tracking data in non-CMC learning environments appeared to be very time-consuming or requiring a lot of resources and the processing (coding, storing) and interpretation of the data were not easy (Fischer, 2007, 2012).

In the current big data age, Learning Analytics has emerged as a new and promising research field that can answer many of educational institutions' as well as instructors' and learners' questions related to actual and 'required' online learning behaviour and the quality of learning in existing blended and distance learning practices.

Learning Analytics (LA) is most often defined as "the measurement, collection, analysis and reporting of data about learners in their context, for purposes of understanding and optimizing learning and the environment in which it occurs" (Long, Siemens, Conole, & Gasevic, 2011). LA is based on the analysis of the digital traces learners leave behind when using online learning resources. Automated and non-intrusive data collection, modern data mining techniques and models for the analysis of large learner datasets and reporting tools offer promising new ways of measuring actual self-study activities. This measurement is based on objectively observed learning behaviour targeting entire student populations in a natural learning context rather than small representative samples of learners in an experimental context. Patterns of learning habits can be unveiled and correlated to performance data and various student variables, which can be of great value to instructors, students themselves, course designers, researchers, didactic support staff, educational institutions or other educational stakeholders.

Learning Analytics needs to be distinguished from two other domains: Academic Analytics and Educational Data Mining (EDM). Academic Analytics is the application of business intelligence in education and emphasizes the political/economic challenge of improving learning at institutional, regional, and international levels (Ferguson, 2012; Long & Siemens, 2011), whereas LA focuses on the educational challenge and the (individual) learning process (which includes analysing the relationship between learner, content,

institution, and instructor) (Long & Siemens, 2011). EDM is a field with a strong data-driven basis and although it has always had a strong emphasis on learning and teaching, it is described as aiming at the technical challenge of investigating methods of extracting value from big sets of learning-related data (Ferguson, 2012).

The importance of context

LA is by its definition rooted in the context in which learning takes place and learning data can only be interpreted based on the pedagogical assumptions of the course under analysis. Many LA projects have a predictive focus aiming at identifying students at risk of failure or attrition. In the past, different variables related to LMS use were combined with static student variables (detained by universities' Student Information System (SIS), e.g. demographic profiles) and course performance indicators such as exam scores to develop predictive models of student success. Rogers, Dawson, and Gasevic (2016) illustrate the limitations of predictive analytics research projects that use algorithms derived from large decontextualized data sets. Successful predictors in one study appeared not to have predictive value in another. Important differences were found between institutions, disciplines and learning designs. Moreover, in some cases, the major predictors of student risk were static variables (e.g. previous assessment results), leaving no room for pedagogical interventions to improve chances of success. They conclude that "tool use is context-dependent and this has important consequences for both the interpretation of LMS tool use research and the appropriateness of interventions that are explicitly or implicitly recommended as a result of these interpretations" (p. 235).

To inform and improve educational practice, key researchers underline the need for LA to be rooted in research knowledge of learning and teaching (Gašević, Dawson, & Siemens, 2015; Rogers et al., 2016), both for the interpretation of the data and for the ultimate LA aim of delivering actionable feedback (e.g. motivating targeted pedagogical intervention based on specific gaps in students' knowledge). When informed about the pedagogical design of the learning context under analysis, LA can answer the right questions and deliver useful feedback to students, instructors but also to course designers. As Colpaert (2016) puts it, LA can help to validate the design hypothesis of the learning environment by comparing the actual outcome as observed through the learners' interactions in the learning environment with the expected outcome.

VITAL project

LA in 4 language & maths learning contexts

In the European Erasmus+ VITAL project (Visualisation Tools and Analytics to monitor Online Language Learning & Teaching, Oct. 2015-Sept. 2017) LA was implemented in 4 different language and maths blended or distance learning courses at Hasselt University (BE), the University of Central Lancashire (UK) and the University of Amsterdam (NL). A complimentary and cross-disciplinary consortium of teams consisting of specialists in the fields of education, language & math teaching, CALL, IT management and development, data administration, data and process mining and statistics, was set up. The perspective of the learning process in these different learning contexts – the uses of the course material and the students' learning trails inside the courses – is central to the project. Data subjects are HE students; the main data clients are instructors and students (Greller & Drachsler, 2012). Based on an exploratory and descriptive research design making use of process mining techniques, VITAL aims to gather insights into real uses of instructional contents by groups of students in different university contexts. Starting from the data, learning patterns and potential indicators of successful or less successful learning behaviour can thus be identified. This way, important feedback can be obtained for optimising the course design and/or adapting the teaching and coaching of students according to their observed online

learning progress and performance. The project's ultimate end products are learning dashboards based on the data analysis results, offering visualisations of on-line learning progress and performance to the students themselves and to their instructors already in the course of the semester. They aim to make LA more accessible to both groups, i.e. to non data-specialists. These tools will be implemented to help guide students in their autonomous learning, by developing more awareness of their learning strategies and training their self-regulation skills.

Implementation cycle

Context shaped each phase of the LA implementation by the VITAL project. Elias (2011) summarized existing models & frameworks of LA processes into an iterative process of 7 phases: **Select, Capture, Aggregate & report, Predict, Use, Refine, Share**. In the following, we describe how LA was implemented by the VITAL project:

1. **Select:** a technical and pedagogical tracking design was developed for each course consisting of
 - a. a summary course design description (and the place of (measurable) online learning in this course design),
 - b. a list of available data indicators and priority questions to be answered considering the specific course context,
 - c. a list of metadata for each set of online course contents (mapping of contents to the weekly course schedule), information about course organization (class hour schedules) and a selection of student variables (e.g. SE orientation, home language).

The technical tracking design was based on the open source Experience API (xAPI) specification (<https://experienceapi.com>, see further) and contained a description of shared vocabulary for a uniform implementation of activity tracking and data logging. This allowed the project to collect learning data beyond the scope of data usually collected by universities using an LMS. Data about the students' interaction with the online learning contents and functionalities and with the other students in the course could be collected.

2. **Capture:** automatic activity tracking was implemented in the learning environment of each partner university. One university having built their courses in the Blackboard LMS extracted the learning data for 2 courses manually from the database tables and then converted the data to the xAPI format. In collaboration with technological partner HT2, an open source data warehouse (Learning Record Store, LRS) was set up in which, after a piloting phase, the learning activities of cohorts of students were logged during one full semester. Those data were exported from the LRS for analysis by the process mining team. For a correct interpretation of the data in their context, the pedagogical and technical tracking design was shared with the data analysts. Before starting the data capture, an action plan describing how the project deals with ethical and legal aspects of student data tracking and analysis was written. In each university, students and instructors were explicitly informed of the data collection and the uses of the data by the project team. Students had the right to refuse to have their data used or to change their mind later, their data were processed in anonymized form and they could only see their own individual results. Some differences exist between countries or institutions where national legislation or university policies can impose amongst other things an active informed consent by students, meaning e.g. that they have to sign an agreement form.
3. **Aggregate & report:** at the time of writing this conference paper, the different datasets were being analyzed to map and compare online student activity in the different courses and to identify learning patterns in each. A report of the quantitative and qualitative use of contents and functionalities, navigational paths,

time investment, the spread of activities over the semester in relation to weekly course schedule, obtained exercise and formative assessment scores, correlations with exam scores was prepared. The core research question to be answered was whether students use the online course components as intended by the course design, which learning patterns could be identified and whether these could be related to learning success and thus could be of help to beginning students. The interpretation of the results from the 4 datasets will differ according to the course design, in particular according to the place on-line learning has in the entire learning process (how much of the learning takes place on-line and how much in face-to-face) and according to the type of summative evaluation applied. During the conference presentation, we will report on some of the findings.

4. **Predict:** The VITAL project did not have a predictive research aim, which would require repeated and more longitudinal data collection and analysis. The focus of the data analysis was on the identification of learning patterns that can be fed back to new students for more awareness and reflection about and improvement of their learning and to instructors for data-supported monitoring of students' progress and performance and recognition of patterns of success or failure or knowledge gaps.
 5. **Use:** the results will be used for a pedagogical intervention in each course in the form of learning dashboards for students and instructors. For each course, the dashboards will be developed based on the selection of graphs and metrics most relevant to the given context and on the research findings, e.g. student engagement could be measured in one course based on (a combination of) several of the following indicators: nr of logins related to time spent (processing time), variety of events, nr of resources used (unique l. objects) and resources matched to course schedule, nr of completed exercise events related to time spent and exercise results, of exercise retakes, of theory click-throughs, of feedback checks, of accessed audios, of recorded voice events, of dictionary lookups.
 6. **Refine:** For the improvement of the process it is important to refine constantly, whether it concerns the data (new cohorts are being monitored), the statistical analyses and models, or the dashboard outputs. Therefore, an evaluation of the dashboards tools by students and instructors is planned and a follow-up of the LA project is planned to include other courses in the individual universities.
 7. **Share:** the dashboards will be shared with instructors and students in the context of each course to support them in their teaching and monitoring activities or in their learning process in the course of the semester.
- Verbert et al. (2014) compared 24 existing LA dashboard applications that support 1. traditional face-to-face lectures, 2. group work during face-to-face lab sessions, 3. online or blended learning settings (most examples). The following overview shows which characteristics were included in their analysis (those that are in the scope of the VITAL project are marked in bold):

Data sources	Data tracking	Target users	Devices used	Evaluation
Artefacts produced	Application logs	Students	Laptop/ desktop	Usability
Social interaction	Camera	Teachers	Tabletop	Usefulness
Resource use	Microphone		Mobile phone	Effectiveness
Time spent	Manual reporting		Tablet	Efficiency
Exercise/test results	Depth sensor		Large display	

(table 1: characteristics of LA dashboards, adapted from (Verbert et al., 2014))

According to the specific educational context and 1. the data sources available or considered most useful, 2. the type of data tracking methods used, 3. the target users of the dashboard applications and 4. the devices used by the target users, the presentation of learning dashboards will vary, e.g. contain a customized set of indicators (1.) to support the teaching and learning process. Evaluation results of dashboard applications such as usefulness will also depend on the setup of the course and the users' perception of how much of the work done is reflected through the collected data traces.

Comparability of LA results: interoperability standard xAPI

If LA is that dependent on context, comparing findings from different pedagogical settings involving different tool uses seems difficult. It re-emphasizes the need for learning standards that can enable a more standardised collection and platform-independent analysis and comparison of educational data. Hwu and Tzeng (2013) plead for the creation of a 'Standard Taxonomy Interface' or specification by the CALL community based on all previously defined research questions answered with tracking data. Such a standard could trigger developments in the educational technology industry of tracking APIs⁹ and the creation of tools for analysis that are more accessible to non-programmer researchers.

In this final section, we conclude with a description of the technical approach of the learning activity tracking for the different blended and distance learning contexts.

The VITAL project chose to use the new Experience API specification because of possible interoperability with other learning environments (e.g. mobile apps, games, online collaboration tools) and reporting tools.

The IMS Caliper specification (closed Global Learning Consortium) and ADL's Experience API (open source) are two important interoperability standards for LA. Formerly known as 'Tin Can API', xAPI is a community-driven specification considered as the new generation of Scorm, developed by ADL (Advanced Distributed Learning, US ministry of Defense, <https://www.adlnet.gov/experience-api/>). It provides an interoperable data model for

⁹ Application Programming Interface, "in general terms, a set of clearly defined methods of communication between various software components", Wikipedia, retrieved on 30-01-2017

storing data about students' learning experience and an API for sharing these data among systems for learning and for analysis.

All kinds of formal and informal learning tools, inside or independently from an LMS, that are xAPI compatible can send information about the learning experience to a Learning Record Store (LRS) synchronously or asynchronously. An LRS is a central data warehouse that can receive, store and share learning data with other learning environments or reporting and data visualisation tools (Del Blanco, Serrano, Freire, Martinez-Ortiz, & Fernandez, 2013) for more flexible analysis and comparison between learner datasets.

Following xAPI, learning activities are recorded as activity statements composed of:

<Actor>	<Verb>	<Object>	(<Result>)	(<Context>)
learner 63151	completed	Interaction on "EC0102 Le pronom personnel"	with result 80 %	
learner x	posted	discussion b		in discussion thread i, in reply to learner z
learner y	assessed	learner z		on week 2 assignment about ...
63151@anonymous.uhasselt.be	http://activitystrea.ms/schema/1.0/complete	http://adlnet.gov/exapi/activities/interaction		

(table 2: Basic elements and structure of xAPI statements)

The verbs and objects can represent a very wide range of learning activities and learning objects. The xAPI specification using natural language logged, statements are both machine- and human-readable (JSON data format). Contextual information from widely diversified learning environments can be captured (Chuang, 2015).

To track, store and analyse the learning activity statements in a uniform format and to be able to compare learning data from the different educational contexts, an xAPI recipe was compiled per course. These recipes were the basis for the implementation of learner tracking in the learning environments and the final logging of the data. By defining and documenting the vocabulary used based on the specification, it was possible to make sure all parties (different instructor teams, technical developers, data analysts) attributed the same meaning to the logged learning events. The following table lists a shared selection of tracked learning events for the 4 courses of the VITAL project.

Event name	Activity type	Verb
application login	application	logged in
access course	course	accessed
access chapter	module	accessed
attempt interaction	interaction	attempted
access page	page	accessed
complete interaction	interaction	completed
play video	media	played
complete audio	media	completed
dictionary search	media	searched
record voice	media	voice-recorded
attach bookmark	bookmark	attached
like page	rating	liked
submit assessment	assessment	completed
access grade book	grade classification	accessed
post on discussion board	discussion	posted

(Table 3: Extract from xAPI recipe: list of events)

The recipes further contained the previously xAPI community-defined descriptions of the verbs and of the activity types, together with the description of their contextualized usage in each course, and the unique id of the verbs and activity types (IRI, Internationalized Resource Identifier, e.g. <http://adlnet.gov/expapi/activities/interaction>).

By building on this common framework, the project aims to produce contextualised LA research outputs and tools allowing students and instructors to gain more insights into their own learning and teaching, while at the same time transcending the local learning contexts and providing a structure for comparing findings from different pedagogical contexts.

Conclusion

One of the VITAL project outputs is a generic xAPI specification-based model for implementing automated learner activity tracking in other interactive language learning tools. When adopted by a 'LA for CALL' community of practice and by the learning industry, an open xAPI model describing the tracking vocabularies specific to language learning pedagogy can allow to capture, analyze and share standardised datasets. Such a community-defined framework for standardized language learning activity tracking across

course settings, educational institution, countries would allow other projects, researchers or practitioners to set up comparable LA projects and to answer various CALL research questions.

Together with this xAPI model, open technologies, statistical models, process mining algorithms, reports, dashboard tools code, dashboard tool user guidelines and recommendations used in the project, will be put at free disposal under open licenses.

CALL in Context

- In the paper, we illustrated how LA is by its definition **rooted in the context in which learning takes place**. Learning data can only be interpreted based on the pedagogical assumptions of the course under analysis. LA insights should lead to actionable feedback, i.e. it should inform **pedagogical interventions that can be undertaken in the local context** to improve learning.
- This suggests a tension between LA research and **generalizability of research findings**. However, the use of **interoperability standards** and a common tracking vocabulary enable connection and comparison between datasets and research results at the condition of relating those results to their own educational contexts.
- We further described how **context shaped the different phases of the implementation of LA** into the VITAL project courses, from the implementation of the activity tracking, to the interpretation of the research results, the dashboard development and the use and evaluation of the dashboard tools.
- The adoption by a CALL Community of Practice and by the language learning industry of a 'LA for CALL' open xAPI profile describing standardized tracking vocabularies specific to language learning pedagogy could allow researchers, practitioners and projects to undertake open LA experiments. The captured datasets, the research findings from the experiments in their specific local contexts and the dashboard tools can thereby be **shared and interconnected** on an international level.
- xAPI has **great potential for the use of Open Educational Resources** since the tracking of any learner, also in distant areas where learners do not always have access to the internet, allows to **follow up progress from a distance and to recommend follow-up open learning material or peer learners**. According to Chuang (2015), to connect learning experiences with OERs from over the world, xAPI should be extended with **semantic web** mechanics that today allow sharing and interlinking documents on the web. The same is possible through xAPI since the specification makes use of web addresses (IRIs) for each tracked item by which it can be interconnected to other data objects identified by other IRIs. This way, semantic data interoperability can avoid duplication of vocabulary terms, improve discovery and reuse of xAPI vocabularies and meaningful interpretation (Chuang, 2015). Optimized machine-readability can help to interconnect learning activity data and worldwide learning resources and learners.

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Design of telecollaborative tasks: where is the context?**Bio data**

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Abstract

Research (Hampel, 2010) and results from our own research projects have shown that task design does not necessarily lead to effective collaboration. We have presented learners with tasks - referred to as category 3 on task typology by O'Dowd & Ware (2009) - with gaps to be bridged and adhered to the TBLT criteria, but are still trying to identify reasons why some learners collaborate effectively and others do not. This ongoing study has been collecting data from the Erasmus+ TeCoLa project and draws further on research by Colpaert & Gijsen (in press) on task design geared towards effective collaboration in technology-mediated contexts. It uses a mixed-method approach to investigate in what ways a structured learners' orientation on tasks leads to redesign and effective collaboration in telecollaborative exchanges. Complex contexts such as telecollaborative exchanges, where online collaboration between learners from various backgrounds is a key element, pose a high demand on foreign language teachers when designing tasks that lead to effective collaboration and at the same time adhere to the personal goals of all learners involved. Task-Based Language Teaching (TBLT) seems to be the most suitable approach for designing tasks in a technology-mediated setting, however, research shows that the success of telecollaborative learning activities (Hanna & the Nooy, 2009) tends to rely too much on the quality of the relationship that develops between participants. The question arises if teachers, for telecollaborative activity to be successful, should detect and formulate to what extent learners are different and subsequently provide tasks for all individuals involved. Or if teachers should design flexible tasks that are activity-centred, so geared at what the learners have to do (Goodyear & Dimitriadis, 2013), while collaborating towards common goals. A shift in focus to a more activity-centred approach could facilitate learners to get more actively involved in their learning processes and that of their peers by discussing their common goals together in a structured orientation phase and by doing so use the task, designed by their teacher(s), as an instrument in their processes of redesign.

Conference paper

'Placing learners at the heart of the learning process and meeting their needs, is taken to a progressive step in which learner-centred approaches mean that persons are able to learn what is relevant for them in ways that are appropriate. Waste in human and educational resources is reduced as it suggested learners no longer have to learn what they already know or can do, nor what they are uninterested in'.
(Edwards, 2001,p.37)

Introduction

This paper is written against the background of the TeCoLa Erasmus+ project (www.tecola.eu) which aims at enabling teachers to make best pedagogical use of telecollaboration and gamification for improved foreign language learning and teaching in a secondary school setting. Within the project emphasis is on enhancing tasks and activities related to intercultural communication (IC) and Content Integrated Language Learning (CLIL). Projects like this follow a tendency to move towards a blended approach in learning based on a sociocultural view of language learning, whereby learning takes place in social contexts through interaction and collaboration (Guth & Helm, 2011). Telecollaborative projects have the potential to facilitate this interaction and collaboration, enhance language learning and intercultural communicative competences (ICC) in a technology mediated setting.

Task design in telecollaboration is at the root of online intercultural exchanges as it is at the base of each rich learning activity teachers want to engage their learners in. The importance of effective online task design is, among others, stressed by Dooly (2011) who states that a carefully designed task or activity that requires off- and online co-construction of knowledge 'not only provides opportunities for target language practice, it also helps integrate language use as the means for shared knowledge-building, thus further enhancing purposeful communication' (p.69). With the rise of Web 2.0 applications, as technology becomes more social, we are faced with an abundance of readily available tools to promote authentic communication and cooperative learning to foster collaborative work (Morales, 2017). But the fact that our learners are raised in a society where technology is used in their every-day lives to construct knowledge, be it individually or together, does not mean that as a logical consequence they are motivated to engage in meaningful collaborative activity in a more formal learning setting such as the foreign language classroom.

In secondary education with learners who do not always have the intrinsic motivation to learn collaboratively, focus should be on task design that leads to learner's engagement in online collaborative activity. In the TeCoLa project, among other foci, the consortium sets out to guide secondary school teachers, in the most diverse circumstances, to design meaningful tasks that increase learner's engagement. This paper sets out to identify 2 possible gaps or so-called blind spots in task-based research that might have an effect on learners' engagement in online collaborative activity and tries to open up discussion for the development (design, implementation and evaluation) of 'flexible' tasks to enhance telecollaborative activities.

Background

For some time now Task-Based Language Teaching (TBLT) has been established as one of the main approaches to language learning and teaching worldwide (Van den Branden, 2006; Van den Branden et al., 2009; Thomas & Reinders, 2010; Ortega & Gonzalez, 2014). TBLT has been identified as the most advanced form of communicative language teaching as learners are expected to act not only as language learners, but also as language users (Ellis, 2003; Van den Branden, 2006) and TBLT should be seen 'involving holistic activity in that

all sub-areas of language are employed to make meaning' (Samuda and Bygate, 2008, p.7). This emphasis on negotiation of meaning generally assumes that 'tasks are carried out in pairs or in small groups to maximize interaction and autonomy' (Ellis, 2003, p.263) and when used in learner-centred contexts where the teacher acts as a facilitator of tasks, TBLT has the potential to foster collaborative and autonomous learning.

Within the last decade many researchers and teachers have taken the premises of TBLT as the starting-point of their endeavours of working with and studying technology-mediated tasks and, by doing so, in pushing the field of Computer-Assisted Language Learning (CALL) forward. Tasks, the smallest unit of syllabus design and evaluation, are at the centre of language learning activities and are generally structured into three stages: pre-task, in-task and post-task (Ellis, 2003; Van den Branden, 2006). These three phases provide teachers with a clear design structure for materials, for the organisation of sessions and for evaluation of performance. In describing tasks and its key definitional features within the more specific context of technology-and-task integration, reference is made to those described by Gonzalez-Lloret and Ortega (2014) expanding on the work of Ellis (2003) and Van den Branden (2006). As Lloret and Ortega (2014) state in their book on technology-mediated TBLT, these features can be made into the 'reference point against which to develop, monitor, adapt and evaluate technology mediated designs' (p.6). These criteria are:

1. Primary focus on meaning: even if there is a preplanned language learning goal, part of the learning must be identical and any particular language focus is hidden from learners, or 'implicit', at least for a good part of the task module;
2. Goal orientation: the task must offer a language-in-action experience, which means the task must entail by design (a) some communicative purpose (i.e. considering student needs and wants) engineered through some gap in information or some element that encourages language use that involves informational transfer also recruiting affective and/or aesthetic identity investment, and (b) some outcome resulting from task completion, including communicative outcomes (e.g. the production of an oral or written message, the accomplishment of a desired perlocutionary effect on interlocutors or on the world) and/or non-communicative outcomes (securing a flight booking, producing a plan, gathering knowledge, playing/winning a game, and so on);
3. Learner-centeredness: learners' needs and wants must be addressed by the task, which demands some form of need analysis; the task must summon and enable learners to recruit and use their own linguistic and non-linguistic resources, as well as their digital skills, thus allowing for flexibility and diversity rather than uniformity in the task processes and means;
4. Holism: a task draws on real-world processes of language use, integrating form-function-meaning; this definitional feature goes to notions of 'authenticity' and 'real-world relationship', which are contested and complex but nevertheless central to all TBLT definitions of tasks;
5. Reflective learning: following Deweyan principles of education, experiential learning always involves cycles of reflection and self-regulation, because the goal of education (including language education) is construction of knowledge and intellectual and moral growth; thus, while a task must offer learning through direct experience or doing things with words, it must also involve opportunities for reflective higher-order learning (p. 5 and 6).

Although these criteria and the idea of designing tasks from a task-based perspective have gained and secured widespread support with researchers all over the world, there's up-to-date not yet cogent evidence that designing technology-mediated tasks according to these criteria will result in collaborative learning in each and every instance.

Our research (Colpaert and Gijzen, in press) has shown that first, these criteria are, to some extent, too vague and multi-interpretable to be used in real classrooms by real teachers. Take for example teachers of CLIL who have not yet explored the premises of TBLT into great detail. For them the criteria do not offer enough guidance in their attempts to design meaningful tasks for their targeted audiences. This observation is pivotal in what we have identified to be 2 blind spots in TBLT literature and research.

First, group work, 'while important to task-based instruction' (Ellis, 2003, p.272) has not been an essential feature in TBLT research and has not received much attention in the description of the criteria, e.g. on goal orientation and learner-centeredness. One of the advocates of incorporating collaborative activities in technology-mediated tasks are Doughty and Long (2003). They state that TBLT promotes learners' processes by 'providing input that is at least roughly tuned to learners' current processing capacity by virtue of having been negotiated by them during collaborative work on pedagogic tasks' (p. 66). As a logical result of the negotiation they indicate that tasks can be completed more productively in collaboration. Furthermore, the 'scaffolding' aspect of discussions during task performance (Vygotsky, 1978; Lantolf, 1994), when students use and share their knowledge collaboratively to complete the tasks, has a positive effect on language learning.

Ellis (2003) defines scaffolding as the dialogic process by which one speaker assist another in performing a function that he or she cannot perform alone. Although there seems to be no debate on these positive effects, how to design tasks for group work is not explicitly incorporated in the TBLT criteria. For group work to be successful, there should be some kind of positive interdependence among students' goal attainments. This is key in theories on cooperative learning which state that 'students perceive that they can reach their learning goals if and only if the other students in the learning group also reach their goals' (Deutch, 1962; Johnson and Johnson, 1975). In criteria 2 reference is made to gap-activities to create positive interdependence (Prahbu, 1987) but how the content of these gap-activities should be chosen has not been mentioned nor is the collaborative aspect of a possible needs analysis further specified.

The second gap we identify is that task design grounded on TBLT criteria does not necessarily create acceptance and willingness in the learners' mind to act upon tasks or to put it in self-determination terms: TBLT criteria refer to self-regulation and identification but only implicitly and do not describe how teachers can make tasks more meaningful for their learners. Meaningfulness, in the context of our research, is not related to its linguistic meaning but redefined as the extent to which the proposed task results in something valuable for the learner (Colpaert, 2010). For co-construction to take place in a technology-mediated setting, it's important that tasks are designed in such a way that they elicit learners' engagement, i.e. that they are meaningful to all those involved. Maehr (1984) states that the meanings tasks have for learners are based on: (1) the learner's sense of competence to do the task, (2) the learner's perceived behavioural options in completing the task, (3) the standards of success that the learner has in completing the task, and (4) the goal orientation of the learner in completing the task, including performance goals, competitive goals, social solidarity goals, or extrinsic goals within the classroom and the larger educational context. This means for group work to be effective students need to be convinced that the task is meaningful to them and useful to others, i.e. their peers and teachers (Foster, 1998; Colpaert, 2010).

From teacher-generated to learner-generated tasks

For telecollaborative activity to be successful, teachers should acknowledge that there is no such thing as one task that will be meaningful to all learners involved. Young learners like to parallel process and multi-task (Prensky, 2001) making them more technologically active in their personal lives and demanding to have their own learning and personal needs met in their lives at school (Morales, 2017). The diversity in learners' goals and preferences is also underlined by Kohn (2011): 'Speakers have fairly differentiated requirement profiles, which reflect not only their teaching background and learning history, but also their future goals, communicative needs and personal preference' (p. 83).

A growing practice in course design internationally is the writing of learning objectives focusing on what the learner will be able to do rather than the content being covered by the teacher. This could mean that teachers design flexible tasks that are activity-centred, so geared at what the learners have to do (Goodyear & Dimitriadis, 2013), while collaborating towards common goals. On the premise of being a learner-centred framework, TBLT allows the design of what we refer to here as flexible tasks, i.e. tasks that carry a level of flexibility in the choices learners can make when adapting them. Ellis (2003) states that, in the pre-task phase, learners can be prepared for the main task by being presented with a model on how to conduct a task. So learners do not necessarily have to perform the given task as a main task. Based on our desk research we formulate 4 hypothesis to increase learner's agency in telecollaborative activity.

Tasks in telecollaboration should:

- 1) lead to the co-construction of a non-physical artefact (a song, a solution, a mind map, an architecture, an app, a MOOC, a knowledge clip ...);
- 2) be meaningful for the learner. This means that the resulting artefact should have another value in self-realisation than a mere task result. Our hypothesis is that meaningfulness is proportional to the extent to which a task focuses on reconciling conflicting pedagogical and personal goals;
- 3) be useful for others. Our hypothetical choice is that task usefulness is proportional to the extent to which a task contributes to remedy aspects in the learning environment which are amenable to improvement;
- 4) not necessarily be open, but provide the possibility to be redesigned by learners. This redesign is extremely interesting for three reasons: a) it stimulates identification with the task, b) it creates a unique opportunity for authentic –unaware- learner/learner interaction (the linguistic output becomes more interesting as learners' are not aware that this task redesign is a task in itself) and c) it creates a unique moment for learner/teacher interaction.

Choice is one of the key terms in relation to student-centred learning and in this paper flexible tasks are defined as tasks that can be altered into more meaningful tasks by its users, in this case the learners. We believe that working with flexible tasks which can be altered to meet the needs of not only the individual learner but also the group he or she is participating in could lead to more learner engagement and have a positive effect on learners' collaborative activities. Results from recent research (Lambert, et al, 2016) show that 'tasks operating on learner-generated as opposed to teacher-generated content had positive effects on all aspects of engagement in L2 use during task performance' (p.1). Learner-generated content could be achieved with teachers designing flexible tasks that invite learners to redesign, or personalize, tasks in such a way that they become more meaningful to them and useful to others (group members, classmates and/or teacher(s)). In the process of learners adapting or redesigning tasks common goal orientation might be

more important than we've previously assumed. A shift in focus to a more activity-centred approach could facilitate learners to get more actively involved in their learning processes and that of their peers by discussing their common goals together and by doing so use the task, designed by their teacher(s), as an instrument in their processes of redesign and subsequent online collaboration.

Building in a phase of task redesign might be a large jump from teachers' current practice, therefore to design tasks that have a degree of flexibility or to provide choice in tasks and/or activities might prove to be a manageable starting point in teachers' endeavours of designing meaningful tasks for telecollaboration.

CALL in Context

The definition of context depends, in educational settings such as telecollaborative exchanges, on what is defined as the learning environment (LE) in which a learner, together with his peers and teachers, learns something new. The LE is often a metaphor for the (virtual) space or place in which learners learn. This newly acquired skill or knowledge could not have been acquired if the LE had not been a flexible context in which all learners felt equally catered for. The effect of tasks depends on the extent to which tasks have been designed in a methodological and justifiable way for the specific context in which they are going to be used or, to put it in TBLT terms, result in activities. If teachers, in their attempt to strive to **a more learner-centred environment**, design flexible tasks against the TBLT backbone, they include learners in their design processes. By doing so **the local context of the learners** will be drawn into task design and subsequently have an effect on task performance. With this in mind, tasks should be designed to create 'acceptance' and 'willingness' in the learners' mind and to achieve this, learners not only need to be consulted about, but included in task design processes.

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“Decontextualizing” learning in a globalized language MOOC

Bio data



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Abstract

Based on the experience of designing the beginners’ Spanish language MOOC, *Learn Spanish: Basic Spanish for English Speakers*, which has attracted over 100,000 students from 209 countries in all 5 continents, this paper addresses the difficulties encountered in order to adapt a regular xMOOC platform into an xLMOOC (or Language MOOC), particularly when trying to support learner interaction, communication opportunities and speaking practice -some of the most demanding issues in MOOC design. The add-on tools that were developed specifically for foreign language learning and implemented in the MOOC will be described, as well as the challenges and solutions found in order to design a sufficiently attractive and engaging course for learners who come from very different educational backgrounds and cultures. The paper thus focuses on three aspects: a) design issues and challenges; b) learner expectations and usage, and c) learner autonomy and peer-to-peer support.

Keywords: MOOC design, Spanish/FL, speaking practice, learner autonomy, peer-to-peer support

Conference paper¹⁰

1. *Learn Spanish: Basic Spanish for English Speakers*

The *Basic Spanish for English Speakers*¹¹ MOOC was designed for complete beginners of Spanish as a foreign language, capable of learning through the medium of English. Thus, all exercise instructions and theoretical explanations are presented in English. The course was available as a self-paced MOOC from September 2015 until December 2016. Learners could register at any point in time without the need of keeping to a strict academic calendar but

¹⁰ A previous version of this paper was presented at the EMOOCS 2017 conference held in Madrid, 22-26 May 2017.

¹¹ The MOOC is available from <https://www.edx.org/course/basic-spanish-1-getting-started-upvalenciav-bsp101x>.

instructor supervision was limited precisely because of that. To counteract this, however, teacher-assistant support was provided throughout.

Distributed into 16 weeks, the MOOC is comprised of 376 activities that include video recordings (for explanations of theory and examples of use of language); written theoretical explanations; situational dialogues in audio-only format, and a variety of exercise typologies, which include gap-filling, reordering, true/false, association, and so forth. The course also integrates two tests, one delivered at mid-term and the other at the end of the course. Its length mirrors the timelines in a semester-long college class and is a direct consequence of the wealth of content and large variety of resources offered aiming to support autonomous learning and learner engagement.

The first half of the course (up to the mid-term test) focuses on vocabulary and basic lexical and grammatical structures geared toward absolute beginners. The second half attempts to satisfy the communicative needs portrayed in common daily activities embedded in social life.

2. Learner profile

The course aroused a fair amount of interest. During its first week, nearly 30,000 students had completed an activity (50% of the total registered population at that point). However, that initial boost soon declined and the course stabilised at approximately 2,000 students accessing the course on a weekly basis. Throughout the 15 months, the course was available, it attracted 128,461 registered participants, of which however, only 2,719 completed all the tasks and passed both tests. This amounts to a mere 2.10%.

Demographic information is similar to that reported on other platforms, although there is a slightly higher proportion of female participants than is customary, i.e. just over 50%. Predominant ages range from 25 to 40. The percentage of students holding a higher education degree stands at 73%, which is similar to the average reported on other major platforms.

Students registered from 209 different countries worldwide, the United States of America providing the largest numbers with a total of 34%, followed by India with 9% and the United Kingdom with 5%. Of the 109,430 learners who initiated activity on the course at any one moment, 5,814 (5.3% of the learners) completed the mid-term exam, 2,719 (2.5%) passed the course and 740 (0.6%) paid for a verified certificate.

3. Discussion. edX add-ons for language learning

The MOOC was designed using the edX.org¹² platform, which offers a range of 11 exercise typologies plus the option of creating surveys, discussions and embedded videos. All of these typologies were used to create activities in the Spanish language MOOC but it was upon attempting to design a variety of communicative interactive exercises that it became apparent how (in)appropriate the edX platform was in order to satisfy the needs of a language MOOC or LMOOC.

When designing an LMOOC, materials writers have to ensure that the course satisfies the target group needs and complies with the set learning goals; that it caters for the needs of the different subgroups in terms of providing self-access and autonomous learning support, opportunities for collaboration (i.e. peer interaction), and expected rewards. Additionally, according to Colpaert (2015), the system should adapt to personal differences based on an analysis of learner behaviour and performance. Furthermore, because each LMOOC is embedded in its platform (edX, Coursera, FutureLearn...), designers can make use of specific

¹² Universidad Politécnica de Valencia is a member of edX, one of the top 3 providers in the world (Shah, 2015). Its MOOCs are available from <https://www.edx.org/school/upvalenciax>.

tools to share content, assess learner performance and establish channels of communication among users (via forums, wiki, chat, video management, etc.), all of which are very useful tools but scarcely flexible or adaptable.

Thus, in the first stages of the Spanish language MOOC design, the structure of the course was in line with the general features of our target audience: edX platform users, who are accustomed to a closed content-based course structure with quiz type exercises and explanatory video sequences, as well as being absolute beginners of Spanish. This led us to prepare, in addition to the activities, a wide range of didactic videos with captions in Spanish and English, which we shall refer to in the following section.

A second stage followed, after publishing and running the MOOC for a few weeks, where it became apparent that it was necessary to continue developments and provide functionalities to cater for different learning styles and personal preferences. The comments posted on the Forum by the users were of great help and aided us in developing further add-ons to comply with the specific requirements of an LMOOC, which the edX platform did not initially cater for. These tools include dictionary, glossary, compilation of external resources, voice recording, *Google Hangouts* with the course instructors, and implementing the *Talkabout* tool. The reasons that led us to incorporate them are discussed in the following subsections. Figure 1 illustrates some of the add-ons embedded into the edX MOOC platform.

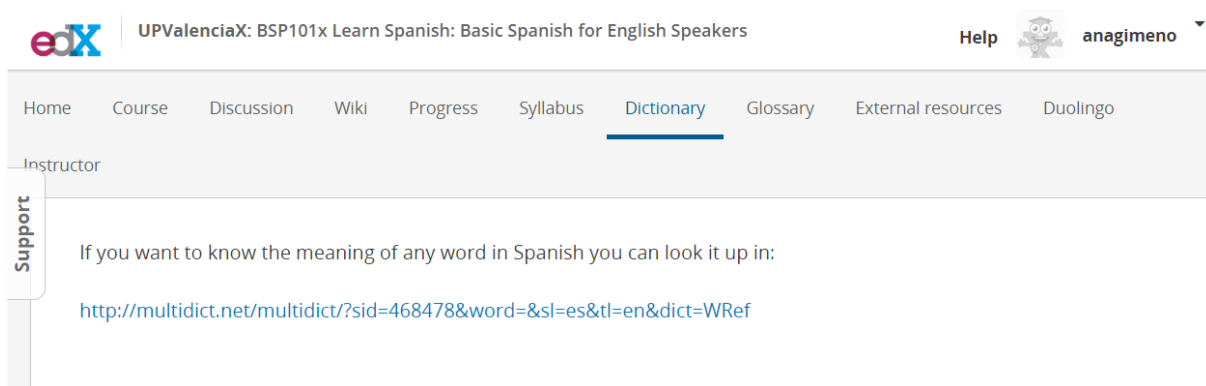


Figure 1. Menu bar add-ons embedded into the edX platform.

3.1. Videos (with captions and translations into English)

Most xMOOCs typically rely on short video lectures for instruction (Sokolik, 2015) since there is evidence that they are an extremely valuable asset to aid in keeping learners engaged (Guo et al., 2014, p.42). Given the length of the Spanish language MOOC, several types of videos were recorded: those illustrating use of language in conversational contexts, grammar explanations, and basic comments describing the different varieties of Spanish spoken in the world.

To automatically generate the captions in Spanish and their translation into English, we used the *Translectures* tool¹³, which saved us from having to manually carry out these very time-consuming tasks. After the automatic generation, we used the same tool to correct the texts to obtain an error-free version of the captions. Because edX provides a video interface allowing users to read the captions whilst watching a video (text and audio are synchronised and the

¹³ *Translectures* is a tool allowing us to generate, edit and download automatic video captions and translations, developed by the Machine Learning and Language Processing Research Group at the Universidad Politécnica de Valencia. For further information, go to <https://www.translectures.eu> and <http://www.mllp.upv.es>.

fragment being spoken is highlighted in bold typeface), students admitted that being able to do this and being able to select one of the two languages, depending on their mastery level, was of great help. Thus, this leads us to believe that this is one of the desirable features for a video to have in an LMOOC.

3.2. Reducing playback rate in audio files

Just as it was necessary to systematise textual support in the videos, it soon became obvious too –thanks to the comments on the Forum where there were a number of “complaints” regarding the speed of the audio recordings– that it was necessary to integrate a function to reduce the speed of the utterances. It was at this point that we developed the tool to reduce playback rate at intervals of 0.1 using Javascript and incorporated it to all the audio-enhanced activities.

3.3. Glossaries (linked to *Multidict.net*)

Although the lexical items included in the course are introduced gradually and in context, learners are encouraged to become autonomous and are advised to look-up unknown words in an external dictionary. This has proven to be very useful for independent learners who have prior experience in learning a foreign language but not so much for those who are solely dependent on course resources and feel less confident about their personal learning capabilities. When these insecurities became apparent through posts on the Forum, we decided to offer lists of vocabulary organised into the same weekly structure as the units themselves under a menu item called Glossary. The tool used for this was *Multidict*¹⁴, created as one of the products of the *Tools for CLIL Teachers*¹⁵ European-funded project, in which two of the course instructors participated. *Multidict* functions as a stand-alone online dictionary interface with over 100 languages catered for linked to multiple (monolingual and bilingual) free high quality online dictionaries. Due to the potential offered by this tool, which allows the user to look-up a word without leaving the text being read, we decided to make the most of it and integrate it into the MOOC.

3.4. External resources

The huge number of participants generated a lot of enthusiasm on their behalf, which immediately materialised into spontaneously setting up a *Facebook* group managed by the students themselves, without the intervention of the course administrators or instructors¹⁶. This became the place, along with the MOOC Forum, where registered users shared resources, their learning experiences and gave fellow students their advice and recommendations. Some of the course weeks generated so much traffic that the same recommendations were given once and over again, some with outstanding pedagogic value and others lacking clear criteria because the learners themselves were overwhelmed with the amount of information at their disposal. It was then that we decided to intervene and scrutinise all of the resources mentioned by the participants themselves and, together with those in our own database, set about creating a comprehensive list called External Resources, which includes a very useful selection of additional re-sources organised by language skill, with a brief descriptive comment. The variety of resources included was kept to a reasonable limit on purpose so as not to overwhelm the learners who were less accustomed to working in self-access learning scenarios, but sufficient to satisfy the needs of those who were used to autonomous learning. Among them are webpages with cultural or didactic videos, fiction series, grammar sites, songs

¹⁴ The tool is available from <http://multidict.net>.

¹⁵ For more information about the project, please visit <http://www.languages.dk/tools>.

¹⁶ According to a study conducted by Zheng et al. (2016), students favour using Facebook groups over MOOC forums in part because they have more positive interactions on the social media site and feel a stronger sense of community there.

and lyrics, collaborative sites, news sites in Spanish, applications and other methods to learn Spanish.

3.5. Voice recording tool (*LanguageLab*)

Judging by the comments posted on the Forum, approximately half of the registered learners had at some point studied Spanish before, meaning that Spanish phonetics were not entirely unknown to them but for the other half, this was their first encounter with the language and, on top of that, it took place in a self-paced autonomous context, with no direct constant guidance from an instructor. In this respect, there was clear evidence that a number of students admitted in the Forum that their self-confidence was obscured by this and by the fact that it was the very first time they had attempted to speak Spanish. In order for these students to start getting used to uttering new sounds, and short of authentic interaction, we developed and embedded a voice recording utility in all of the exercises containing audio, using Javascript. Students may thus compare their utterances to the models provided by native speakers.

3.6. *Duolingo*

In order to integrate further practice into the MOOC, and given the gamification features of some of the most popular language learning apps, the *Duolingo*¹⁷ free platform was also included as an add-on. *Duolingo* provides written lessons and dictation, with speaking practice for more advanced users. It has a gamified skill tree that users can progress through and a vocabulary section where learned words can be practiced. Users gain “experience points” when they complete a lesson. The system also includes a timed practice feature. *Duolingo* uses a data-driven approach to lesson planning allowing the system to measure which questions the users struggle with and what sorts of mistakes they make.

In integrating this additional tool, our belief is that learners will benefit from combining different methods that no doubt supplement and reinforce the learning process.

3.7. *Google Hangouts with course instructors*

MOOCs commonly make use of social tools (forums, wikis, video-conferencing, etc.), through which participants may interact and exchange knowledge in the course’s source language, be it English, Spanish or any other. In these cases, language is obviously instrumental and the fact that learners communicate in one or another language is not important. Conversely, however, in a beginners’ level language MOOC, communication barriers can become a very serious obstacle that has to be tackled with a fair amount of imagination and skill if we want our students to interact in the target language in order to gain communication skills.

An LMOOC is an eclectic mix of practices and tools aiming to engage students in the use of the target language in meaningful and authentic ways (Sokolik, 2015). The motivation underlying any learner’s wish to learn a foreign language is precisely to be able to communicate in that language in interesting authentic contexts. Being aware, as we are, that the Spanish LMOOC lacks real communication possibilities for the learners where they can produce authentic language exchanges, we decided to organise scheduled *Google Hangouts*¹⁸. The aim was two-fold, i.e. to get to know our students and for them to get to know us, as well as providing opportunities for them to put into practice some of the content included in the MOOC.

The first session took place with nine synchronous participants, who had been given instructions beforehand; i.e. they should prepare a brief personal presentation and were aware that we would ask them a surprise question to challenge their interaction capabilities. In that

¹⁷ For more information, go to <https://en.duolingo.com>.

¹⁸ For more information, go to <https://hangouts.google.com>.

first session, we had participants from Greece, Egypt, USA, Kosovo, UK, The Netherlands, Australia... from all latitudes, eager to speak with us, as well as a number of observers who only communicated with us and among each other through the integrated chat facility. The instructors acted as session moderators, inviting and seeing off participants, and managing turn-taking. The experience, although small in numbers, was very successful and allowed us to gain valuable insights into the learners' impressions.

This first video-conferencing session was very interesting because we were able to perceive the participants' satisfaction both during the session and afterwards in the Forum. *Google Hangouts* also allows you to record and store the live sessions so this enabled other course participants to watch the recording asynchronously at a later stage. Favourable comments were also posted on the Forum. We witnessed how important it was for them to have the opportunity to participate in an authentic communication context and how this made an impact on their engagement and motivation. After that, video-conferencing sessions were scheduled on a regular basis throughout the course.

The fact, however, that students were not able to interact autonomously among themselves and were obliged to address the moderators led us to experiment with another system, described in the following section.

3.8. *Talkabout discussion planner*

*Talkabout*¹⁹ organises discussion sessions for MOOCs, which are later conducted through a *Google Hangouts* video conference. Its main aim is to allow course instructors to set-up synchronous online discussions. In our case, it served the purpose of organising speaking practice encounters so that students could interact live among themselves and practise the language together. Participants choose from a selection of possible schedules and connected with each other on the set date and time to talk and complete the activities collaboratively in small groups of 3 or 4 (Kulkarni et al., 2015). The tool integrates an agenda of suggested topics and exercises to help guide the conversation and complement the work students are doing within the MOOC. It is a way of boosting the learning process through engaging activities and discussion prompts prepared by the course instructors.

On occasions, despite the materials writers' attempts to create attractive and engaging learner-centred activities, the truth remains that participation in synchronous activities is scarce and can even be frustrating due to this. High dropout rates and low student commitment is a proven fact affecting MOOC delivery (Kotturi et al., 2015) but this should become an incentive to continue researching into the reasons behind this lack of continuity. In our case, the first two *Talkabout* sessions were launched with 22 possible timeslots distributed in four different days. Each timeslot could take up to 5 participants; 19 students finally registered, of which only 3 turned up at the scheduled time. After rescheduling the *Talkabout* sessions, concentrating them and leaving only 4 weekly slots for each of the two activities, we were able to attract 130 people that participated in a session (out of 616 pre-registrations).

A number of studies (Kulkarni et al., 2015; Kotturi et al., 2015) echo the importance of including social media to keep learners engaged on any MOOC, as well as contributing in motivation toward the subject being studied. The low participation rates in our attempts to engage students in live speaking practice activities –one of the basic needs in language learning–, leads us to believe that more effort should be placed on trying to encourage learners to practice their productive skills by participating in social networks.

¹⁹ *Talkabout* was designed by Carnegie Mellon University, University of California - San Diego and Stanford University. More information is available from <https://talkabout.stanford.edu/welcome>.

4. Conclusions

The amount of enrolled participants in the *Basic Spanish for English Speakers* MOOC, its self-paced format and its lengthy 16-week duration comprised a number of obstacles that forced the course designers to imagine new learning strategies to support the specificities integral to foreign language learning. Furthermore, these should be appropriate for integration into a content-based MOOC and offer learners extra resources and methods to support foreign language learning, keep their expectations satisfied and try to decrease dropout rates. To this end, 8 add-ons were incorporated to the course, as described in section 3 above, so as to convert an xMOOC into an xLMOOC, that is, a massive open online course capable of satisfying the specific needs of such a complex task as that of learning a new language, where not only is practice in passive skills like reading and listening comprehension necessary, but very specially in productive skills like speaking and writing.

CALL in Context

As Levy pointed out back in 1999, any theoretical and methodological framework in CALL must respect differences in contexts and goals (p. 83). Over 20 years ago, Colpaert (1996) also pointed out that the first task in courseware design should involve “problem-solving”; that is, identifying a problem, interpreting and analysing it, and searching for a solution within a comprehensive context that includes all of the actors and factors involved. The contextual factors that were determined as being decisive in terms of the Spanish language MOOC described in this paper include: choice of MOOC platform; target users; target proficiency level; time allocated to the course; learning method used; structure and organization of content; access to resources; the (autonomous) learning situation; course management; innovation, and learner support.

The *Basic Spanish for English Speakers* MOOC that was launched in September 2015 was born with several set criteria:

- i) The platform to be used would be the Universidad Politécnica de Valencia’s institutional platform, i.e. edX.
- ii) Course management and administration would be conducted through the institution’s central MOOC services.
- iii) The target users would be people aged 15+ from anywhere around the world wishing to learn Spanish autonomously and willing to do so on a self-access platform with limited tuition.
- iv) The target proficiency level would be A1 based on the *Common European Framework of Reference for Languages* starting from scratch for complete beginners.
- v) The time allocated to the course would be equivalent to that of a regular university semester, i.e. 16 weeks, a reasonable timespan to achieve the proposed learning goals.
- vi) As far as possible, the learning method would comply with the communicative approach to language learning.
- vii) The structure and organization of the content would include video recordings (for explanations of theory and examples of use of language); written theoretical explanations; situational dialogues in audio-only format, and a variety of exercise typologies such as gap-filling, reordering, true/false and association.
- viii) Learner support would be conducted by students from the Universidad Politécnica de Valencia hired specifically for this, who would screen and redirect linguistic queries to the course instructors.

Given the limitations of the platform to a) allow the materials writers to develop communicative interactive exercises and b) cater for supervised language practice, the MOOC authors decided to design and integrate a number of features in order to enhance the participants' language learning experience. These add-ons have been described in the conference paper and consisted of 4 broad actions:

1. *Helping learners to understand the vocabulary from the very beginning.* This was done by adding a link to a multilingual dictionary interface and by adding a glossary to each learning unit.
2. *Facilitating video and audio comprehension.* This was done by means of including captions in the target language in all the videos and translations of the scripts into English, as well as by enabling the learners to reduce the speed of playback in the audio recordings.
3. *Incorporating additional external resources.* These are organised according to language skill and include webpages with cultural or didactic videos, fiction series, grammar pages, songs and lyrics, collaborative sites, mass media sites in Spanish, applications and other methods to learn Spanish. A link to *Doulingo* was also included due to its gamification features.
4. *Speaking practice.* This was achieved by embedding a voice-recording facility in the exercises and encouraging learners to practice their pronunciation. Also by scheduling both instructor-learner and learner-learner speaking practice by implementing *Google Hangouts* and scheduling synchronous sessions with *Talkabout*.

These platform improvements, all of which were determined by the particular contextual factors surrounding the online course, have proven to be very successful as evidenced by comments in the Forum. The following is one such comment:

For the videos, I found it helpful to first read and understand the English transcript, then read and understand the Spanish transcript and, only then, watch the videos (with the Spanish transcript still showing).

After roughly week 6, I would have been content for the videos to be spoken entirely in Spanish - i.e. total immersion! (For me, any English was starting to get in the way.) Some of the later videos on Spanish grammar were nearly 100% in Spanish and I especially liked these ones. The lecturers deliberately spoke very clearly and slowly and I found it easy to understand them (after having already understood the Spanish transcript).

Highlights from the course for me included: 1. Great that it was given by native Spanish speakers and by such accomplished instructors from such a renown University; 2. Rapid and helpful answers to questions provided by Staff; 3. Useful discussions; 4. Useful resources - provided by both staff and students; 5. Very well designed course. 6. Loved the introduction of YouTube music videos with Spanish lyrics as subtitles. There's so much excellent stuff like this available on YouTube - and it's opened up a whole new culture for me.

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Digital storytelling and educational contexts: Investigating the factors of culture, student attitudes, and planning conditions

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Abstract

Digital storytelling (DST) has the potential to help students acquire new media literacy and ICT skills as well as the standard skills covered in most language classes. This paper reviews two recent studies concerned with project-based learning in a Japanese educational context. The studies in question investigated factors involved in the completion of a number of DST projects imbedded in university EFL curricula. The first study is concerned with the design and implementation of presentation projects. For the second study, the focus was on which kind of pre-task planning would be perceived as beneficial to the completion of the projects (solo planning, group work, or teacher-led planning). In both studies the final products were evaluated in terms of content and narrative structure, as well as technical proficiency (ability to meet the technical demands of the task). Students were also given a questionnaire based on Self-determination theory, measuring aspects of task difficulty, self-efficacy, and perceived cost and value of each project.

The results of the studies suggest that technological literacy in both groups was somewhat limited, with students being unwilling to expand their literacy on their own. This was reflected in their low ratings of their self-efficacy. The results of the second study suggest that planning condition may have affected student perceptions of expectancy for success and perceived cost and value of the projects, with the teacher-led planning condition being viewed as the most favorable.

Conference paper

INTRODUCTION

In many recent approaches to CALL, learner-centered explorative approaches are often emphasized, in contrast to earlier CALL drill-based approaches (Davies, 2000). One prime example of this is digital storytelling. Digital storytelling offers a variety of opportunities to engage in language learning and provides creative and productive options for the foreign language classroom. However, using digital storytelling with language students can create a number of challenges for both pedagogy and technology.

Digital storytelling can be defined as a short story containing digital images, text, recorded audio narration, and/or music. By telling stories with the aid of digital media, students are engaged in learner-centered, authentic tasks. In a digital storytelling project, creating an end product (the digital story) is clearly goal-oriented, and the process itself helps students more deeply explore and understand the subject matter. Robin (2008) suggests that digital storytelling projects provide a strong foundation in many different types of literacy such as digital literacy, global literacy, technology literacy, and information literacy. As such, the digital storytelling process is an example of a 'multiliteracy' approach.

Digital storytelling (DST) has the potential to help students acquire both new media literacy and ICT skills as well as the standard four skills covered in most language classes. Morgan (2014) reported that digital story projects were beneficial for motivating and helping students to improve their writing and reading, because the projects encouraged students to think about how their stories were created. In addition, Kim (2014) suggested that DST helps students develop their oral proficiency. Yang and Wu (2012) have suggested that DST has an effect on both receptive and productive language competences, being a technology-supported pedagogy combining English language learning and the self-production of authentic materials.

BACKGROUND OF THE PRESENT STUDIES

Regarding the educational context of the two studies covered here, English as a foreign language (EFL) in Japan, a number of studies have been implemented. Recent studies have shown the efficacy of DST in helping students understand content and ideas covered in class, as well as helping them relate to their peers opinions and experiences (Susono et al., 2011; Enokida, 2015). Ono (2014) found that higher proficiency students in his study seemed to feel that their Project Based Learning (PBL) skills such as computer use, data collection, problem solving, discussion and presentation in the field of foreign language teaching, greatly improved after the project, while the lower proficiency students in the study felt that the main benefit of the project was a reduction in their foreign language anxiety.

The three studies above dealt with digital stories as projects within a set curriculum. One of the variables that must be dealt with in DST projects is the amount of time used (or available) for planning the task. Pre-task planning has received considerable attention from second language researchers (e.g., Foster & Skehan, 1999) with findings suggesting that proper planning can positively affect oral production. It has been suggested that pre-task planning helps learners to prepare to achieve project goals, and also may motivate learners to actively engage in the task regardless of their background knowledge (Bui, 2014).

Studies of Pre-Task Planning Types

Past research into the effectiveness of various planning conditions were generally undertaken with solitary speaking tasks. However, the theories and results of these studies are relevant to PBL as well, since PBL involves a series of tasks culminating in a final product. An early study by Foster and Skehan (1999) focused on three types of strategic planning (Teacher-led, Solitary, and Group-based planning, and a control variable) with results that suggested

Solitary planning and Teacher-led planning positively affected oral production (measuring complexity, accuracy, and fluency). The Teacher-led condition led to greater accuracy than the other conditions. Foster and Skehan believed the Teacher-led condition helped learners attain better levels of complexity and fluency, resulting in an overall superior performance.

Focusing of oral story retelling tasks, Mochizuki and Ortega (2008) looked at the effect of three planning conditions: Unguided planning; Teacher-guided planning; and Guided planning in the form of a checklist of task-related grammar points. It was found that the Teacher-guided planning condition enhanced accuracy of the task.

Kawauchi (2005) investigated three types of Solitary planning and their effects on a speaking task: private planning; rehearsal of the tasks; and reading a model passage prior to performance. Analysis revealed that the participants who used the reading planning recycled vocabulary and phrases they had read, while the participants who used writing and rehearsing planning conditions focused more on meaning than form.

The aim of our studies was to explore the design and use of DST projects in a content-based framework. In Study 1 (previously presented at CALL 2015), we focused on the complexity of the projects and task demands and how these affected task performance and student perceptions of the task. In Study 2, a planning stage was added to the projects. The addition of a planning stage to each digital story project was influenced by previous research on pre-task planning and its positive effect on task performance. A number of pre-task planning methods were incorporated and the researchers wished to see whether these planning conditions had any effect on student attitudes (cost and value) towards the projects. Student attitude is important in this regard as it is directly related to perceived efficacy of the planning method and as a result student motivation to successfully complete the project and their attitudes towards further projects.

Study 1 and Study 2

In Study 1, the students were expected to create digital stories on topics covered in class, present them to the class, and lead a short discussion. Each project took four weeks to complete. This study focused on what factors might contribute to a successful digital story experience for students, exploring the question of task design in digital storytelling while taking into account the context of the tasks and how they were perceived by the participants. In addition, both the complexity of the task and required technological proficiency were considered. Also considered were the limitations of both the technology and technological proficiency, since previous research in this area has shown that perceived proficiency has an impact on both product and process (Gobel & Kano, 2013; 2014a; 2014b). To this end, the following research questions were formulated for Study 1:

1. How do students perceive their technological proficiency?
2. To what extent does project design affect perceived complexity of each project?
3. What were student attitudes towards the individual tasks?

For Study 2 the focus was on which kind of pre-task planning and evaluation activities would be perceived as beneficial to the completion of the story projects. Specifically, this study focused on student attitudes towards, and the effects of three planning types—Solo planning, Group planning, and Teacher-led planning—on digital story completion. Study 2 was guided by the following research questions:

1. Which of the three planning conditions—Solo planning, Group-work, or Teacher-led planning—was seen as more beneficial by the students?
2. To what extent do three planning conditions—Solo planning, Group-work, and Teacher-led planning—affect students' perceived cost and value of each project?

3. What effect do three planning conditions have on project completion in terms of narrative structure and fluency?

METHODS AND MATERIALS

Study 1 Research Design

The participants were 18 third-year non-English major university students whose English proficiency, as measured by the TOEFL ITP ranged from 437-515. During the three weeks spent on each topic, students were asked to prepare a presentation following a DST framework given by the teacher. Students were given 20-30 minutes each week to work with groups or individually. Table 1 summarizes the topic, style, and requirements of the projects.

Table 1. Project topic, style, and requirements

project	topic	presentation style	ICT requirements
1	city problems	group - in class	visual media, voice recording
2	marketing tricks	group - in class	visual media, voice recording, auto play
3	how to ...	individual - in class	visual media, project sent to instructor as file
4	cultural comparison	individual - watch and respond on LMS	visual media, voice recording, auto play, upload to LMS

At the end of each topic, students were asked to present a 1-2 minute digital story on their topic. At the end of each project, students were given a 20 item questionnaire meant to measure perceptions of project design and difficulty, self-efficacy, and perceived cost and value of each project.

Study 2 Research Design

The participants in this study were 40 non-English major university students with English proficiency similar to the students in Study 1. The participants were enrolled in three separate classes. All were content-based courses where similar subjects could be covered in the projects. All classes met for 90 minutes a week. As with the students in Study 1, all participants were familiar with using PowerPoint and the school LMS (Moodle).

Each course was divided into four-week modules. At the end of each module students were asked to prepare a 1-2 minute digital presentation on the topic. As with Study 1, a DST framework was provided by the teacher. Planning time was factored into the project, with students in each class performing Solo planning in one project, Group work in another, and Teacher-led planning in yet another. Once students had completed their final product, it was uploaded to the Moodle where students would watch them and respond to their peers' work. Unlike Study 1, the only differences between the three projects were the topics and the planning conditions.

At the end of each project, students were given a 20 item questionnaire specific to the planning type meant to measure perceptions of planning type, project design and difficulty, self-efficacy, and perceived cost and value of each project. The questionnaires were identical to each other in all respects other than the items referring to planning type.

A randomized model was chosen to test the three planning conditions using a Latin-squares design to create a randomized assignment of planning type to class. Table 2 shows the data collection schedule for Study 2.

Table 2. Classes and planning type

Class	DST 1	DST 2	DST 3
1	teacher	solo	group
2	group	teacher	solo
3	solo	group	teacher

Students using the Solo planning condition were given a checklist of things they should consider when creating their final digital story. Students in the Group planning condition talked in groups about the topic of their story and explained what they were going to do. To aid student discussion, a series of prompts and example questions was given to group members. The participants in the Teacher-led planning condition watched a teacher-produced digital story, silently listening while the teacher explained what s/he had done and points the students should consider in their own stories. All three planning conditions were performed during class time with 15 minutes given to each planning condition.

RESULTS

Study 1

The results of Study 1 were the topic of a presentation at CALL 2015. In the interest of brevity, the results will only be summarized here. Instructor's ratings for the four projects resulted reflected better ratings with more familiar topics and consistent technological issues. Summarized below are points pertaining to the questionnaire results.

Research Question 1: How do students perceive their technological proficiency?

Students reported using computers mostly for school work and consistently reported a mild dissatisfaction with their PC and PowerPoint proficiency.

Research Question 2: To what extent does project design affect perceived complexity of each project?

Students were generally satisfied with the outcome of their projects, feeling the projects' purpose became clearer over time. They found that the presentation demands and use of computer and PowerPoint became more difficult over time.

Research Question 3: What were student attitudes towards the individual tasks?

The time and effort students put into the projects remained the same, even though they felt the difficulty level of the projects rose over time.

Study 2

Study 2 concentrated on planning conditions and the possibility that different planning conditions would not only be preferred, but would influence perception of the projects (expectancy for success, cost and value of the projects). It must be noted that the results presented below represent correlations between planning conditions, attitudes and motivation, and as such do not suggest causation. Without further data it would be difficult to say for certain that a specific planning condition caused a certain motivation. Nevertheless, the findings presented below offer insights into how planning conditions may interact with perceptions and motivations.

Research Question 1: Which of the three planning conditions—Solo planning, Group-work, or Teacher-led planning—was seen as more beneficial by the students?

Student attitudes towards all three planning conditions were generally favorable, with Solo planning being seen as the least favorable. There was little difference seen between the Group-work and Teacher-led planning conditions.

Research Question 2: To what extent do three planning conditions—Solo planning, Group-work, and Teacher-led planning—affect students' perceived cost and value of each project?

Items dealing with expectancy for success on the project received slightly more favorable evaluation under the Teacher-led planning condition than under other planning conditions, despite perceived difficulty of the project, amount of time spent on task, and the amount of effort expended on the project differing greatly. As for interest in each of the planning conditions, students felt that the projects performed under the Teacher-led condition were the most interesting, followed by Solo planning and Group-work conditions, in that order. Although students generally had a favorable view of the DST projects as a good way to study, projects completed under the Teacher-led planning condition were deemed by the students as the most favorable.

Research Question 3: What effect do three planning conditions have on project completion in terms of narrative structure and fluency?

As the Table 3 shows, narrative structure was judged highest in the Teacher-led planning condition, with fluency showing no significant difference on condition.

Table 3. Narrative structure, fluency and planning type

Planning Type	Narrative Structure (1-5 scale, 4 items)	Fluency (spoken wpm)
Teacher	(15) (18) (16) 16.3	(62) (95) (71) 76
Group	(12) (14) (13) 13	(67) (87) (68) 74
Solo	(11) (13) (10) 11.3	(59) (101) (79) 79.7

Note: values in parentheses are class averages. Far right values in each cell are total averages

Discussion

It seemed clear from the results of Study 1 that the students were not ready to expand their technological proficiency beyond what they had already learned. Despite training in the use of PowerPoint, availability of instructional videos on YouTube (in their L1) and chances to teach each other the skills necessary for the projects, many of them seemed determined to proceed with the knowledge they had, without improving technological skills. This reluctance continued into Study 2, where students were able to access PowerPoint on their smartphones if they wished (provided by the university). Although the majority of students created the DST on their computers at home, a few did so on their phones, but with limited and very basic results. These results speak to a lack of interest in embracing digital technology, a tendency noted by Gobel and Kano (2014b) and Cotes and Milliner (2016). Although this tendency may be specific to the Japanese learning environment, teachers involved in DST and PBL with technology must take these factors into account when designing and implementing tasks and projects.

In line with previous findings, Study 2 suggests that pre-task planning is seen as beneficial, and projects completed under the Teacher-led planning condition produced a greater expectancy for success and a higher perceived success on the project than the other two conditions. On the other hand, projects completed under the Solo planning condition seemed to be perceived as the least beneficial. This could be because learners were not being directed to pay attention to certain features of the story. Rather, the onus of story structure and coherence was on the learners themselves.

This study highlights an important issue about project-based learning in a Japanese context: the role of the teacher in a project-based classroom. Project-based learning is generally learner-centered, meaning-focused, and goal-oriented. However, it seems clear that the students involved in Study 2 benefitted from teacher input and felt that teacher input was more valuable than personal insight and peer input, leading to a more favorable view of the

project and the effort needed to produce the digital story (value and cost). This is perhaps the area where the teacher may play the most important role. Although the projects themselves are student-centered, depending on student insight and effort to create a final product, the teacher as facilitator (i.e., presenting models, providing lexis, and producing secondary assessment tools) is still very much valued by students in a Japanese context. Student autonomy was offered and encouraged in all projects, but teacher support seemed to be both expected and desired by the participants in this study.

CONCLUSION

In conclusion, the results of Study 1 suggest that, at least with these participants, more support regarding the technical aspects of the DST projects is warranted. Although the students were familiar with most aspects of PowerPoint and the Moodle LMS, it might have been beneficial to review technology and skills throughout the projects, in an effort to build up students' technology skills. Although support was provided in the form of video tutorials and links to 'how to' web pages, it seems that students were not that interested in accessing them or improving their skills.

Study 2 explored the effects of pre-task planning types on student perception of the projects and their attitude toward the project regarding cost and value. The findings indicated that all planning conditions were seen as positive by the students, but there seemed to be a greater positive influence from the Teacher-led condition than from the other two conditions. The positive effect of the Teacher-led condition on narrative structure was clearly evident as in previous studies (e.g., Mochizuki & Ortega, 2008). Hence, teachers retain an important role as a facilitator in a project-based classroom by providing students some input-enhancements to maximize opportunities for the noticing language form and use.

CALL in Context

Cultural differences

Digital Literacies

The context of the Japanese classroom has clearly had an impact on the results of the two studies. Some of the implications are: although the DST projects offered opportunities to learn new skills and master old ones, study results indicate that the completion of the project (the product) was viewed as more important than the creation of the story (the process). These findings suggest that local attitudes towards ICT use play a part in student attitudes towards using and learning about digital technology, and as a result have an effect on how projects and tasks are perceived. The results supported previous studies on Japanese use of technology, suggesting that more support regarding ICT use is warranted; in addition, students felt that teacher input was more valuable than personal insight and peer input, with teacher input leading to a more favorable view of the project and the effort needed to complete the projects (value and cost).

These results support a number of previous studies regarding task completion and planning conditions. The results also suggest that the educational culture (in this case the Japanese CALL classroom environment) has a clear effect student perception and performance of a task/project. It is clear that, at least in the Japanese university context, the role of the teacher is still important, even in student-centered project-based learning. We hope these results will be discussed and compared with other educational contexts.

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Leveraging OER for increased student motivation and learner autonomy

Bio data



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Abstract

A modular electronic textbook can provide the flexibility lacking in print textbooks to accommodate local needs as well as varying student personal and professional interests. I will be presenting an action research project, involving creation and use of a modular e-book for intermediate language learning. It features modules developed in house as well as OER taken from other sources. The multimedia and reading content includes topics from a variety of disciplines and language contexts. The grammar modules are designed for self-study, with explanations, examples, and exercises, so as to accommodate a flipped classroom approach. Whenever appropriate, modules incorporate local or programmatic interests, such as a module on the city in which the departmental study abroad program is located. To further learner autonomy and metalinguistic skills, the e-book includes modules on the use of online language tools and services. In an effort to customize further the content options, as well as to enhance student motivation, students are asked to find and report on online resources (as possible future modules), through a course blog. Students keep learner journals so as to reflect on and document their progress in the target language, and on their own informal learning experiences.

Conference paper

Introduction

A modular electronic textbook/workbook can provide the flexibility lacking in print textbooks to accommodate local needs as well as varying student interests and proficiency levels. This is of particular relevance at the intermediate level, as at that point students have achieved sufficient proficiency to be able to use the target language in a greater variety of contexts. At the tertiary level in the US, this is often the point at which many students end their formal language training, as they complete a foreign language requirement. At my university that requirement ends with a fourth-semester course. In order to encourage students to continue learning the target language, this expiring extrinsic motivator needs to be replaced by intrinsic motivation. I will be discussing an action research project, aiming to restructure an intermediate German course through creation and use of an e-textbook. The goal is to motivate students towards further language study, in a class or on their own,

through the use of learning materials of potential personal or professional interest. Guidance towards learner autonomy is provided through modules on online learning resources for German and on strategies for language learning generally.

Project context

Optimally, we want our students to develop sufficient interest in learning the target language so as to see its usefulness for personal or professional growth. Students who are intrinsically motivated tend to be better language learners, using deeper processing strategies (Oxford et al., 2014). Getting students to that point can prove difficult, with individual motivation being necessary but not sufficient (Reinders & White, 2011). Making the connection to the learners' future selves may be aided by allowing students to learn through materials connected to their individual preferences (Griffiths, 2013). Students' living environment may be a motivating factor, if target language use is needed for day-to-day living. In the context of this project, students are learning German in an environment in which they are unlikely to encounter the language spoken locally. In that way, learning German is quite different from learning Spanish in the US. In fact, German as a foreign language is struggling in the US to survive in schools and universities (Ecke, 2011). Given this situation, leading students to make connections with the language and its speakers electronically is an important task for German teachers, as it is for teachers of less-commonly taught languages (Godwin-Jones, 2013).

An important component of encouraging learner motivation and enabling learner autonomy is helping students to develop effective strategies for language learning (Griffiths & Oxford, 2014). Learner training is particularly needed in the largely monolingual US context, in which only 10% of citizens can use a second language well (Commission, 2016). American students, even those who have achieved a novice level in a second language, tend to have "folklinguistic" ideas about language and language learning, emphasizing the primacy of vocabulary learning and grammar study (Miller & Ginsberg, 1995). We know that as students advance in language proficiency, formal, grammar-based practice strategies become less effective, and need to be supplemented by active social use strategies (Oxford et al., 2014). Most successful are those students who search out methods that work for them individually, developing into independent language learners (Benson, 2013), a process often happening outside the formal learning setting and without the help of the textbook. A study of ESL textbooks by Reinders & Bařikanli (2011) found that "textbooks do little to foster learner autonomy, and that when they do, they offer limited opportunity for practice to students" (p. 265). The situation is no different for German. It has been increasingly recognized that, given the situation, it falls largely to the teacher to help guide students towards becoming autonomous learners (Griffiths & Oxford, 2014).

Research context

The design of the experimental e-textbook is based on classroom practice and local needs, informed by research in the following areas:

- A) Best practices in materials development for language learning (Tomlinson, 2016)
- B) Design optimization for OER (Butcher, 2015)
- C) Effective and motivating language learning strategies (Griffiths & Oxford, 2014).

The project will be presented within those contexts.

A) Materials development

There are a number of advantages to an open, electronic textbook over a print textbook. Electronic resources can be updated regularly, can grow over time, and can offer a potentially wider selection of content (including remedial and advanced learning materials). They can also easily incorporate media and interactivity, as well as include other open resources. Ideally, the content is presented in a modular format, which allows users to

select only those items of personal interest. This kind of modularity is important in OER intended to be shared (Dixon & Hondo, 2014). More flexibility in use is enabled if the resources can be edited. OER for language learning have the potential to fit the characteristics of optimal language materials development outlined by Tomlinson and Masuhara (2011): "ongoing, dynamic, and experiential" (p. 251). Recent studies of OER have indicated that student reception is largely positive, with students not only appreciating the lower cost over commercial textbooks, but also the option of content customization tailored to local conditions (Hilton, 2016; Islim, Koybasi & Cagiltay, 2016; Prasad, Totaram & Usagawa, 2016).

The experimental e-text was developed specifically for our fourth-semester German course, "Intermediate German Readings". For many years, the course used a popular reader, *Der Weg zum Lesen* (Vail & Sparks, 1991), and most recently a more communicative oriented text, *Stationen* (Augustyn & Euba, 2014). In the case of the former, readings are taken exclusively from short stories by 20th-century authors, while the latter contains both literary and cultural texts. The goal of the e-text is to provide a wider range of topics and text types, in order to accommodate individual preferences and to expose students to different styles and language registers. In this particular course, out of the typically 25 students enrolled, only a handful are likely to be German majors, with the rest representing a variety of academic areas, ranging from art history to physics.

The modules developed represent authentic language use, i.e., materials intended for native speakers. Sources used, such as the *Deutsche Welle* and the German Wikipedia, provide copyright-free or permissible educational use. The texts have been annotated (for both linguistic and cultural information), and supplied with comprehension questions and exercises. The topics range from everyday culture to science, represent a variety of genres from fairy tale to technical treatise, and are of varying levels of difficulty. Whenever feasible, they integrate language with culture. A series of four modules, for example, explores fast-food in Germany, with topics such as *Döner Kebab* and multiculturalism (Figure 1).

Typisch Deutsch: Döner Kebab

Kurztexte zum Deutschlernen

Seite: 1 | 2 | 3 | 4 Punkte [alles drucken](#)

Hier zu lernen?

Neue Vokabeln

die Beilage, -n ↕
side dish

Sprache & Kultur

Passive voice ↕

Foretaste given in this lesson of the passive, which consists of the verb 'werden' as helping verb, plus the main verb in the past participle [Das Haus wird gerichen - The house is being painted.]

In dieser Einheit

- 3 Texte
- 5 Fragen
- Circa 50 Minuten
- Lernniveau: A2 (Mittelstufe)

Einstieg: Ein deutsches Gericht?

Der Döner Kebab typisch deutsch? Ist er nicht türkisch? Ja, **ursprünglich** kommt das **Gericht** aus der Türkei, aber heute kann man überall in Deutschland Döner finden. Neben Hamburger und Currywurst ist Döner eines der beliebtesten Fast Food Gerichte in Deutschland.



Haben Sie eine **Ahnung**, was Döner Kebab ist und wie er **vorbereitet wird**?
Aus welchen **Zutaten** wird er **vorbereitet**?

Kennen Sie das **Gericht** **vorbereitet** wird?

Lesen Sie **vor** **vorbereitet** wird **prepariert**.

*Note that this is werden used as a helping verb (**wird**) together with the past participle (**vorbereitet**) to construct the passive voice. You will be seeing other passive constructions in this lesson with this same pattern.*

*Mistakes were made. = Fehler **wurden gemacht**.*

*In English we use the verb to be as the helping verb for the passive, but in German **werden** is used.*

nach oben | nächste Seite

Figure 1: Sample reading

Most modules were developed in-house but some incorporate OER developed elsewhere. A text by Albert Einstein, for example, comes from the University of Canterbury Learning Objects for German (<http://www.langcen.cam.ac.uk/lc/opencourseware/glo/german-lo.html>). When possible, audio and video are integrated into the modules. In some cases, this is the starting point. The fast-food module on *Currywurst*, for example, begins with a popular song about the dish. The text, written in Rhineland dialect, represents an area in which an expandable e-text offers an advantage over conventional textbooks, namely the ability to incorporate language variation. This is of particular interest in teaching German, given the variety and distinctiveness of German dialects, as well as the typical absence of exposure to linguistic diversity in textbooks. Using online resources supplements and expands on the language used by the instructor and offers opportunities for students to encounter actual language use in a variety of contexts (Azimova & Johnston, 2012).

The e-text incorporates grammar tutorials, presented in the students' L1 (English), so as to be usable at all levels. These modules are intended primarily as reference materials, but they offer self-correcting practice exercises and "quick check" formative assessments. The tutorials cover the topics typically taught in this course, geared towards constructions often encountered in reading German (passive voice, indirect discourse subjunctive), but also

include topics covered in first-year courses, as well as some introduced in the third-year sequence. The content for the tutorials comes from in-house development and from open-access resources such as COERLL (<http://www.coerll.utexas.edu>).

B) OER design

In an OER project such as this, created with local needs and conditions as the foremost design factor, it is likely that only some materials will be of interest for others to use. One of the modules, for instance, is designed to acquaint students with the city in which our summer study abroad program is housed, Vienna, as well as to characteristics of Austrian German. Interest in this and other modules on Austrian language and culture will depend on programmatic priorities. Making connections to programmatic considerations can provide useful promotional benefits. The German program at Michigan State University supplemented their intermediate-level textbook with cultural lessons tied to their study abroad programs, resulting in a substantial increase in study abroad participation as well as in the number of German majors (Goertler, 2015).

It may be the case that others would want to make changes to the modules, such as shortening the text, adding notes, or providing other media. Making OER content editable requires several steps (Butcher, 2015). First, the content needs to be licensed so as to allow for derivative works. Second, it needs to be shared on a searchable repository. Third, the materials need to be in an editable form that is nonproprietary. Rather than using PDF, as is often the case in OER, it's preferable to provide content in a format such as RTF, which can be imported into any text editor. For this project, materials are tagged with the Creative Commons share-alike license and are shared through Merlot. As the material includes audio and video clips as well as interactive elements (in formats such as multiple answer, drag-and-drop, ordering, and matching), HTML was used, creating web-based content. Those files, along with associated JavaScript and CSS files, are in unencrypted plain text, so are freely editable. That could be done manually, or more easily, by loading the content into an HTML editor.

One of the advantages of using an HTML editor is the ability to export the content in different formats. One option available in many editors today is to export the content as an LTI package (<https://www.imsglobal.org/activity/learning-tools-interoperability>). This allows content to be integrated into an LMS such as Moodle. Student interactions with the content (how many times accessed, for how long, with what assessment scores, etc.) are recorded in the LMS gradebook. This kind of functionality can be quite useful in supplying the kind of flexible content choices built into the design of this project. Reading assignments, for example, might involve choosing one or more among a number of different content options, with completion scores based on length and difficulty of the texts. A mastery score is assigned, with a variety of options for achieving a passing grade. This is a goal for this project not yet achieved, as it necessitates having available a larger number of texts, one of the major targeted enhancements to the project.

C) Learning strategies

Several approaches are used in this project to motivate students and to help them develop effective language learning and maintenance strategies. Those include, as described below:

- 1) Incorporating into the modules the knowledge and skills involved in using online resources for learning German, to help in developing learner autonomy (Oxford, 2011)
- 2) Including students themselves in the selection of texts for modules, given the usefulness in motivational learning strategies of "activities consciously chosen by learners" (Griffiths, 2013, p. 36)
- 3) Aiding students in developing metalinguistic knowledge about language learning, thereby leading them to become more efficient learners (van Lier, 2014)

4) Making materials available in mobile-friendly formats for more personalized learning (Reinders & White, 2011)

1) Integrated into the course content is an extensive set of annotated links to German language learning tools and services. Those include online resources such as dual language language dictionaries, spell/grammar checkers, and self-assessment sites. Class sessions include hands-on practice using such resources with the course materials, having students, for example, try out on-the-fly text annotators such as Globefish Instant Translator (<https://sites.google.com/site/globefishtools/>). In addition, tutorials on online tools are assigned for completion outside of class; these include a module on the effective use of Google Translate for English to German translation and another featuring a walk-through of open, online proofing tools for German (Figure 2).

The screenshot shows a web browser displaying a module titled "Using Google Translate" from the "VCU Language Tools Series". The module is structured into sections: "Intro", "Tutorial", "Example", and "Quiz". The "Tutorial" section is currently active, featuring a sub-section titled "Working with Google Translate" with an "Introduction" sub-section. The introduction text states: "These online study activities will introduce you to Google Translate, its benefits and problems. We advise you to do these activities in conjunction with the online study activities on plagiarism to ensure that you comply with OU guidance on good academic practice." The module also includes a logo for LORO (Languages Open Resources Online) and a "return" link.

Figure 2: Sample module on online tools, integrating content from LORO (<http://loro.open.ac.uk>)

2) A recently added component to the course is a resource curation blog. Students find and describe online resources in German related either to course content, or to their own personal interests or professional goals. Suggested starting points for finding appropriate resources are supplied, but students are free to search on their own. Students are required to provide at least two curations and also to give a brief in-class presentation in German on the resources they have curated. Students are asked to review and rate each

other's posts. Those resources with the highest ranking are targeted for development as learning modules for subsequent cohorts. The curation project will thus add to the scope of the e-text, while providing students with an opportunity to gain hands-on practice with finding and describing potential online learning materials. The aim is to engage students as stakeholders in "participatory action research" (Zuber-Skerrit, 2002).

3) While the specific focus of the course and the accompanying e-text is on the development of German language proficiency, an additional goal is to equip students with online language learning strategies, so as to be of assistance in learning new languages in the future. Whenever feasible, information is built into the modules about associated language learning tools or strategies. For example, for each of the readings, a set of keywords and expressions is supplied and assigned to be learned, practiced in online exercises and assessed in quizzes. To aid students in retention, a web-based flashcard app was developed. The app provides the basic functionality normally available in electronic flashcards, but adds features pointing towards best practices in vocabulary learning (Ellis, 2002). Each item displayed is directly linked to an online concordancing tool (Linguee, <http://linguee.com>), so that students see the word used in context and are introduced to the practical use of accessing language corpora. The app includes an editor, which allows students to edit or add items, as well as to export the list to a third-party flashcard app such as Memrise (<http://memrise.com>), which features spaced repetition algorithms, visual memory aids, and game-like competitions. Enabling export/import allows students to customize the vocabulary they learn as well as to create cumulative vocabulary stacks. In the process, students learn about vocabulary retention strategies and try out tools of potential usefulness for subsequent language learning.

4) Reinders & White (2011) point to the affordances of new technologies in helping develop learner autonomy, with a special reference to the advantages of mobile technologies. The modules in this project are created using responsive design, with content display and functionality automatically adjusted to screen size. In addition, texts are available as e-books (packaged as ePub 3), allowing for off-line access, as well as use of built-in e-reader features such as bookmarking, note-taking, and integrated dictionaries. Finally, the modules (and other course materials) are made available in a mobile-friendly "course companion", accessible on the open web. This is a single HTML file functioning as a web app, savable to students' mobile home screens for quick access on the go (Figure 3).



Course Companion GRMN 202

WIEDERHOLUNG: 1-Hamburg | 2-Froschkönig | 3-Fast-Food/Döner Kebab | 4-Subjunctive

German 202 Der Froschkönig

sich erbarmen

<=>
=>
Flip
Remove

Randomize flashcard order: No Yes
 Display direction: Original Reverse

Flashcard # 5 of 21

Reset | Keys | Open/close editor

Hide :englisch ä ö ü ß

Linguee

▼ Wörterbuch Englisch-Deutsch

sich erbarmen *Verb*

take pity *v (on sb.)* ◀ (took, taken)

Siehe auch:

Erbarmen *nt* ◀ – mercy *n* ◀ · pity *n* ◀ · compassion *n (on, for)* ◀

sich *pron* ◀ – herself *pron* ◀ · himself *pron* ◀ · itself *pron* ◀ · *c-3*

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▼ Externe Quellen (nicht geprüft)

<p style="margin: 0; font-size: small;">▲ Wird er sich erbarmen und mit seiner Sense Millionen Menschen niedermähen, bevor wir uns selbst und unseren Wirt, die Erde vollständig vernichtet haben? ↔ vhermt.org</p>	<p style="margin: 0; font-size: small;">▲ Will generous, sweeping strokes of his deadly scythe mow down millions of humans, stopping us before we destroy ourselves and our host? ↔ vhermt.org</p>
<p style="margin: 0; font-size: small;">▲ Bald wird Allah Sich mit Erbarmen zu ihnen wenden; Allah ist Allverzeihend, barmherzig.</p>	<p style="margin: 0; font-size: small;">▲ Perhaps Allah will turn unto them [in Mercy]; for Allah is Oft-Forgiving, Most Merciful.</p>

Schedule

- [Week 1](#)
- [Week 2](#)

Readings

Fast-Food Deutschland

- [Web](#)
- [E-book](#)

Der Froschkönig

- [Web](#)
- [E-book](#)

Figure 3: Course companion with flashcard app

Conclusion

The modules discussed here (annotated readings/media, interactive tutorials, associated glossaries/exercises) supplied the primary course content, but were not the only learning components. Although the major emphasis in the course is on development of reading ability, in-class and out-of class activities featured extensive listening and speaking practice. That included regular small group Skype conversation sessions, as well as assignments for students to connect in oral and written formats with other speakers through tandem learning and other services. As a means to encourage reflection through narrative inquiry (Barkhuizen, 2011), students maintained journals in which they chronicled their learning experiences, both related to the course and to out-of-class, informal learning. Writing prompts asked students to reflect on their experiences with specific course activities as well as with the e-text. Students in their journals, and in course evaluations, reacted favorably to the use of the e-text, with several citing increased motivation for learning German. Not all comments were enthusiastic; one student expressed a preference for "paper and pen" over online materials.

It seems inevitable that the use of digital language learning materials will increase, with students becoming more familiar and comfortable with their use, particularly as they become integrated into all learning levels. The setting today for situated language learning (Gee, 2004) is for many learners the Internet. As electronic resources become increasingly normalized in instructed language learning (Bax, 2003), this will have a significant impact on materials creation for language learners, as Chapelle comments (2010):

The historically-constructed line between applied linguists who work in CALL and those who produce other forms of language learning materials is difficult to maintain and not very useful. In a sense, today almost anyone who is working on materials for classroom language learning is working in CALL. This vertical spread of CALL and the considerable activity surrounding its development and evaluation prompts reconsideration of all language learning materials. (p. 67).

The project discussed here presents one example of this kind of merger of CALL and materials development. The e-text is shared as OER in order to make available to students all learning materials after the course is completed and, in fact, after they have left the university. There is no certainty that students will need or want later access. However, the content is available, something less likely if learning materials are supplied through an LMS. Learning a language other than German may well factor into students' futures. If so, this project may provide a helpful practical experience in using online resources for language study, as well as supplying a set of learning strategies as starting points towards becoming autonomous language learners.

CALL in Context

As outlined in the paper, the action research project described (creation of a modular, open e-textbook for intermediate-level German – roughly CEFR B1) is based on classroom practice and local needs, informed by research in the following areas: materials development, OER design, language learning strategies, learner motivation, and learner autonomy (see references in paper).

The project addresses the conference questions related to...

1) *Local context shaping the design of the learning environment*: The design of the e-text was developed in response to specific issues in the German program, namely the desire to have more students continue with their study of the language (formally or informally) after completing the language requirement. This led to a need for more flexible course content to demonstrate a range of disciplinary uses of German as well as to accommodate personal interests (such as sports, music, politics). This is much easier to accomplish using a modular, electronic format for content delivery. The integration of online resources helps guide students towards becoming more informed and independent language learners.

2) *Technologies affording context-dependent enrichment and personalization*: The-text offers students personal choice in reading selections, with some content available for user customization. Students themselves contribute (through a materials curation blog) to content selection for modules. Additionally, content is mobile-friendly (HTML authored with responsive design, modules also available in e-book format), inviting students to integrate use of the learning resources into their personal, everyday lives.

3) *Context-dependency of OER*: The e-text is modular, allowing for mix and match usage, with the modules designed in response to the profiles of the students in terms of disciplinary interests, proficiency levels, and metalinguistic knowledge.

4) *Role of technology in contextualization of the learning process*: Web-based interactive exercises and customizable tools such as a web flashcard app can be adapted to user preferences and proficiency levels. Learning materials are accompanied whenever feasible by contextual information on language learning strategies.

The project has been designed to address the following interconnected local issues:

- Students at the intermediate level at my institution represent a variety of disciplines. Very few students continue language study after the language requirement is fulfilled (in our case 4 semesters) because they see no relevance to their personal or aspiring professional selves
- The majority of our students are monolinguals and tend to have simplistic and unhelpful views on how language works and how to go about learning a second language
- Because we have used standard language textbooks in our classes, there is typically little exposure to the realities of actual language use, i.e. language variation (dialects, registers, texting vs. blogging) or language pragmatics
- As their use is not normally discussed in class, students use online language tools (such as Google Translate) naively, not with critical understanding of affordances and limitations
- Consequently, students don't gain the knowledge and skills in the use of online language learning services/tools that will assist in learning new languages in the future for personal or professional reasons
- Because of the perceived need to follow a fixed curriculum using a standard textbook, students who may have acquired language skills informally often do not see their language gains valued or acknowledged in the classroom

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Implementing IT Tools on Non-Receptive Academic Content Teachers and Receptive Students in CLIL Methodology

Bio data



As Director of the UMONS Centre for Modern Languages, Prof. **Viviane Grisez** is in charge of organising language courses (French, English, Dutch, Spanish and German) for the UMONS students and staff.

Besides her passion for bilingualism and intercultural aspects of language, she has been involved in many European language projects in the field of e-learning (text-to-speech technologies, online course content development). More recently, she has been involved in implementing CLIL methodology for academic courses using EMI (English as a Medium of Instruction).

Abstract

For the last two decades, some initiatives in Content and Language Integrated Learning (CLIL) have been implemented in higher education at the European level with mixed educational success.

In Belgium, in order to attract exchange students and encourage mobility, many universities are already offering Master's programmes which are partially or fully taught in English.

At the University of Mons, this means a very high commitment from the teachers of other disciplines, whose mother tongue is overwhelmingly French. The difficulty of teaching in a foreign language also questions traditional pedagogical practices, enhancing hereby the use of CALL tools with the aim to equip students with essential language skills that will have a lasting impact on their future professional life, and assist the teaching staff who are about to 'dive' into CLIL.

From the very start of this innovating project, the question was about determining the role and the shape of the most appropriate technologies for the touchy context which concerned both academic teachers, with their conservative educational habits, and digitally-minded students with their high expectations in terms of efficient knowledge transfer.

Finding appropriate IT tools which foster interaction was not taken for granted, but integrating those tools into the course design and bringing the class back to life were a real challenge. Through flipped classrooms, theoretical content could be acquired from a distance and practising could be focused on in class. Formative assesment could be implemented, using hereby MOOC's and SPOC's and apps such as Socrative, Memrise or VoiceThread. The face-to-face class, even with a large audience and in a large lecture hall, was definitely transformed into a living lab.

Tutorial workshops and individual coaching were set up for receptive content teachers and grateful students, contributing thereby to a refreshing and motivating new learning environment.

Conference paper

1 INTRODUCTION

1.1 The Lingua Franca Context

Language standards in a multilingual country like Belgium are particularly demanding. Indeed, the knowledge of French, Dutch, English, and even German is considered as a standard requirement for top positions, mainly in Brussels, but also in the other regions of the country.

At the same time, one language has been dominating the others, and has become the lingua franca. The result is quite paradoxical. On the one hand, the Belgians are expected to understand at least their neighbours' language, but, on the other hand, English has become the communication medium in bilingual business and scientific exchanges among both Flemish and Walloon communities. As a result of this specific Belgian context, English has acquired a privileged status, and more particularly, in the daily life of the scientific community, whether be student, researcher or teacher. The academic world has understood that, by offering English courses in English, it opens the gate to international mobility. In Belgium too, in order to attract exchange students and encourage mobility, many universities are already offering Master's programmes which are partially or fully taught in English.

But referring to another language of instruction is much more than simply transposing the course content from one language to the other. It is a long and fastidious process which involves many changes in thinking and acting. If we believe some experts, it even brings a revolutionary change in the learning environment.

We would like to examine to what extent learners and teachers behave differently when facing content learning through a language different from their own and using IT tools in that specific, somewhat artificial learning context.

For the last two decades, some initiatives in Content and Language Integrated Learning (CLIL) have been implemented in higher education at the European level with mixed educational success. What can go wrong and why?

1.2 CLIL in higher education

Enhancing the international profile of our students has been high on the agenda at the University of Mons for several years and this ongoing process has recently gained momentum, as more Master's programmes are being taught in English. From interactive English Bachelor's classes to specialist Master's courses in English, from general to academic English, lots of effort is being put into turning a basic user of English into a proficient user of the language. Both Bachelor's and Master's students deal with Shakespeare's language from their first steps at the university to their ultimate *moment de gloire* when defending their Master's or Doctoral thesis in English.

This means a very high commitment from the teachers of other disciplines, whose mother tongue is overwhelmingly French. The difficulty of teaching in a foreign language also questions traditional pedagogical practices.

1.3. CLIL and CALL

To what extent can IT tools be helpful and provide real assistance in both learning and teaching processes?

There is a false impression that the teacher's language level is the main issue and that the learner's ability to understand the course content exclusively relies on the instructor's ability to express himself in C1-level proficient English.

It is clear that language and pedagogy are equally important. Moreover, teaching effective CLIL, as with any other methodology, is time-consuming. (Ball, P., Kelly, K., & Clegg, J. (2015) *Putting Clil into Practice*, Oxford University Press). In all strategies required in order to help CLIL be successful, such as planning activities, teaching, assessing, creating a learning environment and collaborating, technologies can help both teachers and learners to acquire knowledge and know-how, opening thereby new paths to self-study and spontaneous enrichment through exploring websites and digital learning environments.

2 WHAT DOES CLIL REALLY MEAN?

2.1 Definition

CLIL stands for Content and Language Integrated Learning.

A first definition was suggested by David Marsh, from the University of Jyväskylä, Finland, in 1994.

"CLIL refers to situations where subjects, or part of subjects, are taught through a foreign language with dual-focused aims, namely the learning of content and the simultaneous learning of a foreign language." His words to explain a CLIL activity are: *"Any activity in which foreign language is used as a tool in the learning of a non-language subject in which both language and subject have a joint role"*

[1]

As the nominative CLIL itself suggests, the learning of the language is integrated with that of the content (which might be every subject taught at school or not) or as it is the case with many bilingual educational institutions, the learning of the content is integrated with that of the language, where the language is considered and used as a tool rather than a particular area of study. CLIL may be used for the study of one, two or more foreign languages at the same time. CLIL answers this way the change rush and the challenges of the recent world.

There is a global need for language learning, especially English. This means the potential for CLIL is enormous. The use of CLIL and the ability to teach it is an investment for students and also for teachers. For teachers of other curriculum subjects, being able to add language teaching to their existing skills and for language teachers, an understanding of how to teach a broader range of curricular subjects, could be the key to greater career opportunities.

2.2 Basic principles of CLIL methodology

Language is used to learn as well as to communicate and it is the subject matter which determines the language needed to learn. According to the 4Cs curriculum (Coyle 1999), a successful CLIL lesson should combine elements of the following:

- **Content** - Progression in knowledge, skills and understanding related to specific elements of a defined curriculum
- **Communication** - Using language to learn whilst learning to use language
- **Cognition** - Developing thinking skills which link concept formation (abstract and concrete), understanding and language
- **Culture** - Exposure to alternative perspectives and shared understandings, which deepen awareness of otherness and self. [2]

Language learning should be reconceptualised as follows:

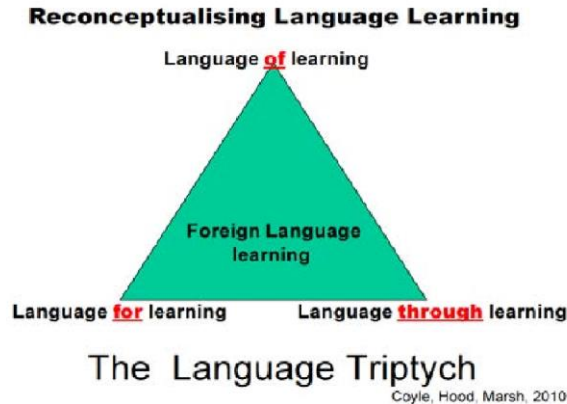


Fig.1 represents the language triptych as suggested by Coyle (2010).[3]

2.3 Strengths and weaknesses of CLIL

2.3.1 Strengths

The growing number of CLIL classes shows that there are many advantages to the CLIL approach.

- Language competence is at the centre of curriculum. There is no more need to talk any longer about the significance of language learning. Through CLIL language practice and study is multiplied with the number of subjects it is integrated with.
- Time saving. CLIL gives chance to more exposure to language. Better results are expected in less time compared to the traditional language class. Time is getting more and more precious and it is never enough to get sufficient qualifications. It is also difficult to follow the rhythm of development, technology, and change as life is always steps ahead of us and CLIL is one of the ways not to stay behind.
- Increased Motivation. Students are highly motivated in such classes, as language is used to fulfill real purposes. This means that CLIL partly meets the requirements of task-based learning (TBLT), where real tasks are offered in the field of a given subject. Very often the language used in language teaching is artificial and not authentic. Even when the language is authentic the activities are not so, while in the case of CLIL the context is meaningful and after the students get used to this approach they don't even think about the studying of the foreign language anymore. They concentrate on the content and language is acquired unconsciously and naturally having thus a better chance to foster in the long term memory. Switching the attention to the context lowers the anxiety provoked by the foreign language barriers. Krashen's hypothesis on the affective filter states that optimum learning occurs in an environment of high stimulation and low anxiety. According to his theory, the emotional state of the learner acts as a filter. Krashen sees the learner's emotional state as an adjustable filter that may pass or impede input needed for acquisition. Many ESL students come to class in a state of uncertainty. They often feel stopped from their native cultures and fight to adapt, causing a disturbance in their affective filters. Such disturbances can be overcome with the help of CLIL. Using a real context effects in the creation of a more relaxed learning environment, improving both the emotional states and the affective filters of the students.[4]
- Cultural awareness through the exposure to non-linguistic contents and activities which are more meaningful and better prepare students to study and working life

- Internationalisation is strongly boosted due to English as a medium of instruction.
- Variety of teaching methods. As every subject has got its own didactic means to transmit knowledge, in CLIL classes they double. Every potential is doubled in such classes. For example in engineering classes there is a large use of graphs and visual aids which is not encountered in the same amount in language classes. On the other hand, in the language class, there is a more intensive use of listening activities. By integrating these two disciplines there will be a greater variety of teaching methods, activities and resources, even digital resources (use of assessment software such as Socrative or electronic voting software for instance)

2.3.2 Weaknesses

In francophone universities the methodology of CLIL remains either totally unknown, or not very well-understood.

- Misconceived idea of CLIL. Many subject teachers think that CLIL is a synonym for using English as a medium of instruction and simply “transpose” the French course content into English by providing vocabulary lists, reference books and courseware in English to their students.
- Quality of language. Francophone teachers do not always master the English language. They are quite good at receptive skills, but feel anxious about expressing themselves orally in English (pronunciation is often a problem).
- Erroneous strategy in institutional language policy. Universities may think that setting up language courses as such is not necessary any longer and may not see the asset of combining CLIL and LSP (language for specific purposes) courses.

3 PUTTING CLIL AND CALL INTO PRACTICE BY ADAPTING TO THE LOCAL CONTEXT

3.1 Non-receptive academic content teachers

Most of the academic teachers are not acquainted with technologies such as interactive learning programs, interactive whiteboards, student response systems, tools for collaborative writing, wikis, spreadsheets, electronic learning environments, serious games, mobile systems, electronic testing systems.

And even if they have heard a lot about some of those technologies, they do not think they should use them, because their teaching style and the learning environment do not fit in the present high-tech world. Moreover, most of them are convinced that technologies should be used in collaborative projects or interactive seminars. The frontal context in which they have to teach or they want to teach reflects an old-fashioned vision of pedagogy. The content standards prevail on the performance standards. This brings us to say that a kind of passive and teacher-centered instruction is still very popular in European higher education. Introducing flipped classes is still difficult, for teachers do not see the advantages of learning theoretical content from a distance, which would enable to focus more on practice and interactive activities in class.

Another aspect we have to consider concerns the learning (or should I say: the teaching) spaces that are available for academic teaching. As **Malcolm Brown from Dartmouth College already noticed a decade ago**, learning and the space in which it takes place are of the utmost importance. “In order to best serve the educational enterprise, we must design learning spaces that optimize the convergence of the students, called the Net Generation, current learning theory, and information technology.”

Another touchy subject is the teachers' level of English. Receptiveness to CLIL and CALL mostly relies on the language fluency. But this is not a common rule, since we have seen content teachers who do not speak English very well, showing an amazing drive to experiment with IT tools in their class sessions. Those enthusiastic teachers have understood the added value, the role and the shape of IT tools in function of their own learning environment. They are ready to question their pedagogical approach and share their potential fear and anxiety with their students. Diving into CLIL and CALL becomes then a challenge, both for teacher and students.

3.2 Receptive digitally-minded learners

Students initially think that learning through language is increasing the level of understanding of the course. "More is expected in less time" is a recurrent remark. But it is easy to turn this statement into a positive element, since technology can help to understand better and faster.

Even though students are not familiar with specific IT tools such as response systems and testing devices, they are very much acquainted with social media and mobile devices. Using virtual walls and language apps belong to their everyday world.

In spite of their affection for some IT tools, they still feel uncomfortable in using them in class, and more particularly, while attending frontal teaching in large groups.

3.3 A step-by-step CLIL-CALL programme

The University of Mons has recently implemented a step-by-step CLIL-CALL programme, which involves an innovative way of teaching and learning, whether in face-to-face classes or in distance learning, both for teachers and students.

By offering language, pedagogical and technological support, a refreshing and motivating new learning environment is being developed for motivated teachers and students.

The following actions have been experienced so far:

Interactive seminars for teachers or students: the interactive two-hour seminars are spread out over the academic year and usually take place during lunch break or in the evening. They focus on a particular theme or skill and can be offered in blended learning. This means that the face-to-face activity can be prepared by the participants in advance through online activities (flipped classes).

Four types of skills can be trained across the curriculum: Communication skills, cognitive skills, learning skills and language skills.

Intensive workshops for teachers: one-week workshops are set up more particularly for teachers who would like to dive in the CLIL methodology. The focus is on methodology-related aspects, such as introduction to key CLIL concepts, introducing subject vocabulary, syllabus design, lesson planning, classroom language, scaffolding, developing supporting strategies, assessment and feedback in CLIL. These aspects are all trained by using language IT tools such as testing systems and language apps.

Individual coaching for teachers: all teachers, whether members of the academic or scientific staff, can send an individual request for help. The CLIL team helps teachers to improve their oral expression by attending their classes (observation) and by giving them appropriate feedback on the language and on their methodological approach (Do the students understand the teacher?) Both language and content are examined. Notes and written material, such as slides or graphs or technical glossaries, are corrected as far as

form and content are concerned. Teachers are often invited to present a shadow talk, which can be filmed and commented afterwards by the CLIL staff and the teacher himself.

Language workshops for scientists (*Speaking and Writing Practice for Scientists*): doctoral students, researchers and members of the academic staff can attend a large number of English interactive seminars in order to improve both oral and written expression

Useful digital tools are available, such as language software, electronic dictionaries, CLIL modules which are offered on the learning environment Moodle, an index of interesting websites, electronic glossaries and mobile helpdesk systems.

4 CONCLUSION

Developing CLIL strategies in higher education implicitly involves the use of CALL. The frontal class, even with a large audience and in a large lecture hall, definitely needs to be transformed into a living lab with appropriate learning spaces and appropriate IT tools. The content teacher needs to understand his role as a facilitator and students should feel comfortable with technology and blended learning methodology.

Last, but not least, one should not forget that the final key to success lies in the hands of the institutional authorities who need to provide full support to CLIL and CALL, as a means to further internationalization and mobility.

CALL in Context

How can/should we detect and formulate to what extent learners and teachers are different?

Teachers do not think they should use IT tools, because their teaching style and the learning environment do not fit in the present high-tech world. Moreover, most of them are convinced that technologies should be used in collaborative projects or interactive seminars. The frontal context in which they have to teach or they want to teach reflects an old-fashioned vision of pedagogy.

Even though **students** are not familiar with specific IT tools such as response systems and testing software, they are very much acquainted with social media and mobile devices. In spite of their affection for some IT tools, they still feel uncomfortable in using them in class, and more particularly, when **attending frontal teaching in large groups**.

To what extent can IT tools be helpful and provide real assistance in both learning and teaching CLIL contexts?

There is a false impression that the teacher's language level is the main issue and that the learner's ability to understand the course content exclusively relies on the instructor's ability to express himself in C1-level proficient English.

In all strategies required in order to help CLIL be successful, such as planning activities, teaching, assessing, **creating a learning environment** and collaborating, technologies can help both teachers and learners to acquire knowledge and know-how, opening thereby **new paths to self-study (flipped classes) and spontaneous enrichment through exploring websites and digital learning environments**.

Developing CLIL strategies in higher education implicitly involves the use of CALL. The frontal class, even with a large audience and in a large lecture hall, definitely needs to be **transformed into a living lab with appropriate learning spaces and appropriate IT tools**.

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Road map for the context-sensitive redesign of a technology-enhanced speaking practice environment

Bio data



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Abstract

Background

Beginner students in French at the North-West University (South Africa) spend proportionally less time on the development of oral communication skills than on the other skills. A limited number of contact hours (1 out of 5 is spent on developing oral skills), large groups (10-20 students per conversation group), and the absence of a francophone community means that there are limited opportunities for skills practice in the classroom and virtually none outside it. Occasions for students to receive formative feedback on their oral expression are, understandably, near non-existent.

Research

This research project started with the identification of contextual issues that are fundamental to the redesign process of a (technology-enhanced) practice environment. This practice environment was based on Laurillard's (2012) Conversational Framework (Grobler & Smits, 2016).

The first step in the investigation into important contextual factors that will shape the modified learning environment, involved a process of instrument selection and validation. This included an investigation into the psychometric properties of instruments for the South African context and adapting the instruments to the cultural context.

The selected instruments measure:

- a) students' levels of self-directed learning (Cheng et al., 2010) to gauge the degree of teacher support necessary when students participate in out-of-class practice activities;
- b) the degree of communication anxiety students experience (Aida, 1994), which will shape the progression of the practice activities so that students can mature into less anxious communicators;
- c) how well students accept the existing technology (Brown et al., 2002; Hwang et al., 2016; Koh et al. 2010; Nah et al., 2004) to determine the extent to which it should be modified to encourage effective learning;
- d) students' perceived level of computer self-efficacy (Cassidy, S. & Eachus, P., 2002), which will indicate (i) the extent to which technology should form part of the practice environment, and (ii) the appropriate level of complexity of the technology resulting from the redesign process.

Impact

We will present the instruments both within their respective theoretical frameworks and against the background of the contextual validation. First results of their implementation will be discussed as well.

In an effort to answer the question of how the local context shapes the methodological redesign of the learning environment, our paper focuses on the selection and preparation of instruments and the impact of the contextual information they provide will have on CALL redesign, thus contributing to the research agenda of instructional designers.

Conference paper

Background

Beginner students in French at the North-West University (South Africa) spend proportionally less time on the development of oral communication skills than on the other skills. A limited number of contact hours (1 out of 5) spent on developing oral skills, large groups (10-20 students per conversation group), and the absence of a francophone community means that there are very limited opportunities for skills practice within and virtually none outside the classroom. Occasions for students to receive formative feedback on their oral expression are, understandably, near non-existent.

Research

This research project started with the identification of the contextual issues that are fundamental to the redesign process of a (technology-enhanced) practice environment. The practice environment was originally based on Laurillard's (2012) Conversational Framework (Grobler & Smits, 2016).

The existing practice environment consists of several stages:

- a) **Listening to a model dialogue and short quiz on LMS:** students listen to a recording of a conversation modelling the aspects of the language they have to master by the end of the learning cycle. They then answer simple multiple choice questions in French about the content to ensure that they understand it.
- b) **Simulated conversation using *Papotons!***²⁰: students take part in a dialogue by listening to interview type questions and recording their answers. They can re-

²⁰ *Papotons!* is the name of a custom-designed software package developed at the NWU. It consists of three different components to prepare stage b) of the learning cycle. 1. Create: the teacher creates the Q&A activity; 2. Reply: students answer the questions created by the

record each answer as many times as they like before saving it and going to the next question. At the end of this activity, students are required to do a self-assessment of their performance and to answer a reflection question on an aspect of the work/procedure (for example 'Which aspect of this series of activities did you enjoy the most?'; 'How different was this second experience using the *Papotons!* software from the first activity that you did before?'). The work is then submitted for feedback and assessment.

- c) **Audio feedback and assessment:** the teacher gives audio feedback on each individual answer recorded. Feedback pertains to pronunciation, sentence structure, vocabulary, etc. The integrated recording (questions, answers and feedback) is made available to each student to help them improve their foreign language competency. Students then have to complete a short quiz on aspects of the feedback on the LMS after having listened to it (for ex. How many times they listened to the feedback, which aspects of the feedback were most helpful). Student performances are assessed by means of predetermined assessment criteria.
- d) **Production of student videos in pairs and comments on peers' videos:** in this step students make a short video in pairs where they illustrate their mastery of the outcomes for the learning cycle. They have to create a scenario where they have a conversation where they provide information and ask questions to learn about the other person (name, date of birth, hobbies, etc. depending on the outcomes). Peers then comment on one of the other videos according to certain guidelines (How fluently the people speak French, the degree to which they sound French (accent, pronunciation), how well you understood the conversation overall, etc.))
- e) **Individual oral:** a one-on-one oral with the teacher concludes the cycle. This oral focuses on the outcomes stated at the beginning of the cycle and plays out in question-and-answer style.

The *Papotons!* practice environment offered a solution to the problem of limited opportunity for students to express themselves and to get meaningful feedback. The proposed practice environment has, however, not yet been studied to discover its effectivity (i.e. whether it effectively offers more opportunities for oral communication and feedback) and suitability (i.e. the quality and the extent to which it suits the context). Since language teaching 'will always be amenable to improvement' (Colpaert, 2010:271), the practice environment, however well it accords with Laurillard's Conversational Framework, should be scrutinised.

Contextual factors such as learner characteristics, abilities and experience inform designers and provide either opportunities for or constraints on the design (Morrison, 2001:56). The first step in the investigation into important contextual factors that will shape the redesigned practice environment involved a process of instrument selection and validation. This included an investigation into the psychometric properties and reliability of instruments for the South African context and the adaptation of the instruments to the cultural context.

Instrument selection

Learner analysis should be oriented around characteristics most critical to the achievement of the objectives (Morrison, 2001:57). For this study, it was deemed important to measure the following aspects for the reasons provided here:

teacher, do self-assessment and answer a reflection question; 3. Feedback: the teacher gives audio feedback on students' work.

- a) students' levels of self-directed learning to gauge the degree of teacher support necessary when students participate in out-of-class practice activities;
- b) the degree of communication anxiety students experience which will shape the progression of the practice activities to have students mature into less anxious communicators;
- c) how well students accept the existing technology to determine the extent to which it should be modified to encourage effective learning;
- d) students' perceived level of computer self-efficacy, as this indicates (i) the extent to which technology should form part of the practice environment, and (ii) the appropriate level of complexity of the technology resulting from the redesign process.

The instruments that were used to gather contextual information were:

- a) the self-directed learning inventory (SDLI) by Cheng et al. (2010);
- b) the foreign language classroom anxiety scale (FLCAS) (Aida, 1994);
- c) Technology acceptance of *Papotons!* (TAP), a new questionnaire created based on different aspects found in existing instruments that are applicable to the context of this study (Brown et al., 2002; Hwang et al., 2016; Koh et al. 2010; Nah et al., 2004);
- d) the computer user self-efficacy questionnaire (CUSE) (Cassidy, S. & Eachus, P., 2002).

Instrument validation

The SDLI and the FLCAS underwent a process of translation/back translation to adapt the instruments to the cultural and linguistic context in which they were set to be used (Sperber, 2004). Time constraints made it impossible to follow the same procedures for the TAP and the CUSE. This will be done in preparation for the future use of the instruments.

Factor analyses were done when a sufficient number of data sets were available to perform a validity analysis. Since the population was too small in most cases, factor analyses were only possible for the FLCAS. The reliability (Cronbach's Alpha) of the SDLI, TAP and CUSE were investigated and the validity of factors (the degree to which questions measure the same construct) were confirmed (cf. next section).

Initial results from questionnaires

Self-directed learning (SDL)

The self-directed learning inventory (SDLI) consists of four factors: Learning motivation (LM), Planning and implementation (PI), Self-monitoring (SM), and Inter-personal communication (IC). The questionnaire was distributed the week before the first practice cycle was launched. A scale of 1 to 5 was used, with 1 being 'Strongly disagree' and 5 'Strongly agree'. The higher the mean for each factor, the higher the level of learning motivation, the self-perceived ability to plan and implement, to self-monitor and to communicate.

Question 1 (*I know what I need to learn*) was removed to improve the reliability of the factor 'Learning Motivation' from 0.476 to 0.608. Scores for items that were negatively phrased, were reversed.

	N	Mean	Std. Deviation ²¹	Cronbach's Alpha ²²
SDL_LM	48	4.2708	0.47488	0.608
SDL_PI	48	3.6563	0.63059	0.811
SDL_SM	48	3.8281	0.65468	0.743
SDL_IC	48	3.6198	0.68415	0.613

Table 1: SDLI - Descriptive statistics and Cronbach's Alpha values per factor

Learning motivation and self-monitoring scored the highest with a mean around 4, i.e. 'Strongly agree', indicating that the learners who participated in this study have high levels of motivation and are able to monitor their learning. This questionnaire will be distributed again at a later time to determine whether the results have changed over the course of a semester.

Communication anxiety

Following an investigation into the psychometric properties of the FLCAS, three main factors were identified, namely Speech anxiety in the classroom (Speech); Anxiety about foreign language learning processes and situations (FLL); and Communication with native speakers), of which the first two were retained for this study.

The questionnaire was distributed to students six weeks after the beginning of the academic year and a few days before the start of the first practice cycle. A scale of 1 to 5 was used, with 1 being 'Strongly agree' and 5 'Strongly disagree'. The lower the mean for each factor, therefore, the higher the level of anxiety experienced by students. Scores for items that were negatively phrased, were reversed.

	N	Mean	Std. Deviation	Cronbach's Alpha ²
Speech	43	3.0784	0.71069	0.886
FLL	43	3.3471	0.75888	0.866

Table 2: FLCAS - Descriptive statistics and Cronbach's Alpha values per factor

Results indicated that students are slightly more anxious in a situation where they have to speak than they are in other classroom and learning situations. Both factors have a mean of around 3, i.e. 'Agree', indicating that anxiety levels in general are moderate.

This questionnaire is to be distributed to students another three times over the course of the semester: after the first individual oral, before the next practice cycle and again after the last individual oral. This will give a better indication of possible changes in students' level of anxiety at different points in time.

Acceptance of the existing technology

²¹ The standard deviation for each of the instruments are provided for the sake of completeness, but is not discussed in this paper.

²² A Cronbach's Alpha coefficient of 0.7 and above is generally accepted as an indication of reliability, but in the early stages of research, like in this case, values of 0.5 or above are also sufficient (Field, 2014:708-709).

This questionnaire (TAP) was distributed to students directly after their first encounter with the *Papotons!* software. It consists of four factors: Perceived ease of use (PEU); Perceived usefulness (PU); Perceived attitude (PA); and Symbolic adoption (SA). A scale of 1 to 5 was used, with 1 being 'Strongly agree' and 5 'Strongly disagree'. The lower the score, the higher the level of perceived ease of use, usefulness and adoption of the software by students and the more positive their attitude towards the software.

	N	Mean	Std. Deviation	Cronbach's Alpha²
PEU	48	2.2569	1.05239	0.93
PU	48	1.9965	1.23746	0.97
PA	47	2.1787	1.08205	0.949
SA	45	2.2352	1.19081	0.957

Table 3: TAP - Descriptive statistics and Cronbach's Alpha values per factor

All the means are around 2, i.e. 'Agree', with the perceived usefulness slightly more positively rated than the other three factors. *The Papotons!* software seems to be well-received by students. The TAP is to be distributed a second time after the second practice cycle towards the end of the semester to determine whether students' perceptions regarding the software have changed over time.

Computer self-efficacy

The CUSE instrument was distributed to students the week before the launch of the first practice cycle. A scale of 1 to 6 was used, with 1 being 'Strongly disagree' and 6 'Strongly agree'. The scores for all 30 items add up to provide the total self-efficacy score. Using this scoring method, a high total scale score indicates more positive computer self-efficacy beliefs (Cassidy et al., 2002:151).

	N	Mean	Std. Deviation	Cronbach's Alpha
Sum	52	135.7523	25.63343	0.949 ²
Average		4.5251	0.85445	

Table 4: CUSE - Descriptive statistics and Cronbach's Alpha value

The mean of 135.7 out of a possible 180 (i.e. an average of 4.5 out of 6) indicates that the students see themselves as highly self-efficient where computer use is concerned.

Impact of contextual information obtained on redesign

In SDL environments, the instructor acts as a facilitator and guide and students experience a feeling of ownership of the learning process (Ellis, 2007:55 cited in Tredoux, 2012). The more self-directed students' learning is, the more independent they are. They subsequently need less teacher support when they participate in the practice environment. Morrison et al. include support services as part of their instructional design process (Morrison et al., 2011). It is therefore important to investigate the extent and type of resources necessary to support instruction and learning activities.

The results from this study show that the students perceive themselves as self-directed learners. It is therefore not necessary to provide for extensive support services during the redesign process. The results from the SDLI at the end of the semester can reveal possible changes in students' levels of learning motivation. Information on motivation can play an

important role when investigating CALL systems and may explain practice efforts and learning gains, amongst other things (Bodnar et al., 2016:201). Studies should adopt a dynamic view of motivation and employ methods that capture changes over time (Bodnar et al., 2016:191), necessitating repeated measuring of motivation levels.

Anxiety when having to speak French does not prove to pose an exceptional challenge to the students involved in the study. For the moment, it does not seem necessary to make far-reaching efforts to alleviate anxiety when redesigning the practice environment. The level of speech anxiety after the first individual face-to-face oral will, however, shed more light on the difference between pre/post levels. If levels are much higher, this might be an indication that the phases of the practice cycle should be investigated further to possibly add a phase to the practice cycle or to transform one/some of the phases in an attempt to alleviate anxiety.

Students' indication of the level of acceptance of the *Papotons!* software in its current form shows that the software can be retained without extensive adjustments. The final design of the software would, however, still depend on the redesign of the practice environment and the implications that this new environment would have for the software that has to support it.

The results from the CUSE questionnaire show that the students feel quite confident when using computers in general. This firstly means that not much technical support is required within the current CALL practice environment and, secondly, that instructional designers should not hesitate to include technology – and even technology of a more complex nature – in the redesigned environment for the context described.

After completion of the first semester, focus group interviews with students will be conducted to obtain richer data about the different aspects involved in the practice environment and its design. These interviews will provide important insights on students' experience and needs and on the necessary changes that should be made during the redesign process. This might give a more varied view on the aspects investigated by the questionnaires.

The local context shapes the methodological redesign of the learning environment. This paper focuses on the selection and preparation of instruments and the impact that the contextual information they provided will have on CALL redesign, thus contributing to the research agenda of instructional designers.

CALL in Context

This contribution fits within the conference theme by answering the question **how the local context shapes the redesign of a technology-enhanced learning environment** (cf conference announcement). We were faced with the following **problems**: (a) beginner students at NWU (SA) do not have enough qualitative opportunities to practice their oral communication skills in French; (b) due to the nature of the traditional conversation class, all beginner students don't receive meaningful formative feedback on their oral expression. In recent times, teachers started to turn to **asynchronous and synchronous computer-mediated communication** (ACMC and SCMC) to facilitate speaking activities outside the classroom (cf. Pino James, 2013). Various CALL-inspired practice environments (text-based/oral-based synchronous/asynchronous CMC) are proposed to give students the opportunity to develop their oral communication skills outside the classroom. There are various reasons why only the option of asynchronous CMC using software that is custom

designed for a particular context could be implemented in the NWU context. These reasons range from a lack of manpower or money to the choice of LMS or textbook used in this context. One of the main reasons, though, pertain to the need for alignment between the learning outcomes stated in the course description of the beginners module, the materials used in class, the activities to be done by students and student assessment. A **software package, *Papotons!***, was designed, developed, implemented and evaluated over several cycles, following the **ADDIE design model**. This software was **embedded in a practice environment cycle, the design of which was based on Laurillard's Conversational Framework** (Laurillard, 2012). The *Papotons!* practice environment proposed a solution to the problem of limited opportunity for students to express themselves and to get meaningful feedback. In order to verify the effectivity and suitability of the proposed solution, one should **investigate its use in the context for which it was designed**, including investigating the context itself, as it is crucial to ensure that (a) this environment responds to the needs that were at the heart of the creation of the practice environment, and (b) that this practice environment is the optimal solution for this particular context.

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Contextual challenges to project-based CALL in China**Bio data**

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Abstract

As China enters the age of information and globalization, the use of English and technology is increasingly connected with the purpose for international communication, collaboration and research. There is an enthusiastic governmental and public embrace of technology integration in English education in China. While much research suggests effectiveness of project-based CALL (computer-assisted language learning) for ESL learners, few studies discuss the substantial difficulties with implementing such programs in a Chinese EFL context. This paper reports on a twenty-year (1997-2016) study at a Chinese university of a faculty team's attempts to develop and disseminate a project-based CALL program for students' new literacy development. The study aims to gain some insights into the complex realities of the implementation process, believing such challenges seldom exist in isolation. The study is intended to be helpful to Chinese educational administrators, educators, and others facing similar challenges outside China, particularly in those countries that are planning the implementation or expansion of similar programs. It should also be helpful to Western professionals working within China.

The project-based CALL program was initiated by the author in 1997 after her return with two graduate degrees from some topnotch progressive university in the US. The program aims to help teachers and students learn to use whatever information technology available to carry out research projects and communicate with other students and teachers around the world. To fulfil this purpose, the author first acquired some funds from the university and set up one of China's first multimedia language labs linked to the Internet. With some international expert support, the author started staff training, offered an on-going graduate course in CALL for new teacher development. Meanwhile, the faculty team developed several project-based courses and integrated technology into traditional lecture courses. The persistent exploratory practice and research bore fruits, such as successful completion of a dozen of educational research projects across national, provincial and university levels, and research paper publications home and abroad. By 2006, the CALL team has become one of the leading forces developing and promoting technology-enhanced language education reform in China, and has been awarded several prizes by the university and the government for the outstanding achievements. The program has since continued to be

successful in new literacy development, making new contributions to a long-term process of educational reform in the university and in China.

Despite the expertise and enthusiasm as well as the support from the government, the university, and several international experts, the faculty team's efforts to expand the program have not been smooth. The number of faculty members teaching project-based CALL classes never exceeded five in any academic year. What were the major challenges to expanding a project-based CALL program in the university? What underlying factors contribute to the challenges? These questions are addressed through the author's ongoing participant observation, surveys and text-analysis, in addition to open-ended interviews with teachers, students and administrators in this university. Analysis of the qualitative data from the study reveals three main barriers to scaling up the educational reform with technology in this university, namely professional value conflicts, pedagogical philosophy clashes, and restraints of institutional culture. First, the discouraging professional value rewarding system constantly inhibited teachers' participation in the new ways of teaching. Second, the conflicting teaching philosophies affected teacher decisions and practice. Third, unfavorable institutional culture—in particular, teachers' concerns about interpersonal relationships—restricted teacher actions or commitment to the new practices. These three barriers exist not in isolation at this university, but rather are related to broader economic, cultural, and social political aspects of the nationwide educational climate. While resistance to change is part of the human condition, Chinese teachers' experience with project-based CALL implementation comes from sources unique to Chinese culture and needs to be addressed in culture-specific ways. These sources include deeply held cultural beliefs about the nature of knowledge, about teaching, and about interpersonal relationships. From a socio-cultural perspective that emphasizes China's cultural-educational background and supports the Chinese holistic view of knowing and doing within social relationships, this paper further analyzes two major underlying factors (Chinese culture of learning, Chinese relational philosophy) that contributed to the challenges that are unique to Chinese culture. Based on the findings, the paper discusses how the implementation of project-based CALL for Chinese EFL learners needs to be founded upon a good understanding of China's socio-cultural contexts and how it might be tailored in order to be more responsive to the local university context. The paper concludes by suggesting a path that practitioners might take in light of these circumstances and challenges.

Conference paper

Introduction

Language teachers in China as elsewhere face challenges brought about by economic and technological changes that are characterized by the emergence of global English(es), changing employment patterns, and the introduction of new technologies (Warschauer, 2000). Such changes have caused many Chinese teachers to question the long-standing transmission model of teaching oriented towards passing exams rather than developing communicatively competent language learners. Meanwhile, there is an enthusiastic governmental and public embrace of technology integration in English education in China. The year of 2016 witnessed government announcements of several important normative and instructive documents, such as the "Thirteenth Five-Year Plan" for Educational Informatization (Ministry of Education [MOE], 2016) and National Standards of Teaching Quality for Undergraduate English Majors (MOE, In press). The former document calls for deepening and expanding technology integration in all subject areas for students at all levels in China, while the latter emphasizes the urgent need to cultivate new talents with critical thinking, information literacies, cross-cultural communicative competence, self-directed learning and research abilities. Encouraged by the supportive global and local discourse, Chinese university teachers have started to

integrate technology in their language teaching programs for project-based learning (e.g., Gu, 1999, 2002, 2006, 2010) and web-based collaboration (e.g., Sun & Chang, 2012; Wang, 2014; Zou et al., 2016).

While much constructivist learning research suggests effectiveness of project-based CALL (computer-assisted language learning) for ESL learners, few studies discuss the substantial difficulties with implementing such programs in a Chinese EFL context. This paper reports on a twenty-year (1997-2016) study at a Chinese university in eastern China of a faculty team's attempts to develop and disseminate a project-based CALL program for students' new literacy development. The study aims to gain some insights into the complex realities of the implementation process, believing such challenges seldom exist in isolation. The study is intended to be helpful to Chinese educational administrators, educators, and others facing similar challenges outside China, particularly in those countries that are planning the implementation or expansion of similar programs. It should also be helpful to interested Western professionals working in or out of China.

This Study

The project-based CALL program was initiated by the author in 1997 after her return to the university with two graduate degrees from some topnotch progressive university in the US. The program aims to help teachers and students learn to use whatever information technology available to carry out research projects and communicate with other students and teachers around the world. To fulfil this purpose, the author first acquired some funds from the university and set up one of China's first multimedia language labs linked to the Internet. With some international expert support, the author started staff training, offered an on-going graduate course in CALL for new teacher development. Meanwhile, the faculty team developed several project-based courses and integrated technology into traditional lecture courses. The persistent exploratory practice and research bore fruits, such as successful completion of a dozen of educational research projects across national, provincial and university levels, and research paper publications home and abroad. By 2006, the CALL team has become one of the leading forces developing and promoting technology-enhanced language education reform in China, and has been awarded several prizes by the university and the government for the outstanding achievements. The program has since continued to be successful in new literacy development. Six more Moodle-supported courses have been since offered to 30-100% of students in the English Department at different levels with various teaching approaches that engaged the participants in experiences ranging from task-based, project-based, to problem-based learning, leading to various kinds of student products reflecting both individual and collective efforts. The PB CALL program is making new contributions to a long-term process of educational reform in the university and in China.

Despite the expertise and enthusiasm as well as the support from the government, the university, and several international experts, the faculty team's efforts to expand the program have not been smooth. The number of faculty members teaching project-based CALL classes has never exceeded five in any academic year. What were the major challenges to expanding a project-based CALL program in the university? What underlying factors contribute to the challenges? These questions are addressed through the author's ongoing participant observation, surveys and text-analysis, in addition to open-ended interviews with teachers, students and administrators in this university.

Findings

Analysis of the qualitative data from the study reveals three main barriers to scaling up the educational reform with technology in this university, namely professional value conflicts, pedagogical philosophy clashes, and restraints of institutional culture.

First, the professional values conflicts and discouraging rewarding system inhibited teachers' participation in the new ways of teaching. The project-based instruction called for a great deal of time, energy, and intellectual attention. Teachers had to deal with large numbers of teacher-student e-mails and forum postings, complicated student assessment procedures, and heavy teaching loads. At this university, as elsewhere in China, faculty members receive a bonus for every extra class they teach. The required minimum weekly teaching load was 8 periods (each period now lasts 50 minutes). However, most instructors taught 10-14 periods weekly. The negative economic pressure is further reinforced by the promotion system. The faculty's professional expertise is evaluated primarily by research and publications, rather than teaching innovation. Faculty members are respected more for publications on linguistics and literature than on learning processes and outcomes (Xu & Warschauer, 2004). These factors together help explain mainstream teachers' reluctance to implement educational reform with technology.

Secondly, the pedagogical philosophy clashes affected teacher decisions and practice. The project-based learning with technology challenged not only institutionalized values but also deep-rooted cultural norms and beliefs about teaching. My observations suggest that the major difficulty with implementation was the pedagogical shift from a teacher-centered approach to a learner-centered one. Just as most students found it hard to get out of their habitual obedience to authority, the majority of faculty felt reluctant to change their deep-rooted beliefs that such authority was justified and appropriate. Observation data also suggest that the use of computer-mediated communication tools (e.g., e-mail and online forum discussion) did enhance the relationship between teachers and students, but the invisible power relations between teacher and student persisted. Overall, the strong emphasis on teacher dominance in China presents a dual challenge to implementing project-based CALL with a learner-centered structure.

Thirdly, unfavorable institutional culture—in particular, teachers' concerns about interpersonal relationships—restricted teacher actions or commitment to the new practices. The decentralized nature of networked teaching challenged the habitual control and dominant role of school administrators. They showed little interest in the CALL Group's reforming practice and tried to keep such reform efforts only as showcases. Also, faculty who were not directly involved were skeptical and often perceived the CALL projects differently. Some complained directly or indirectly that the Group's technological innovations threatened to supplant their usual approaches and expertise. Unfortunately, these prevailing sentiments, constraints, and unequal relationships still apply to some extent in many higher institutions today, though they are rarely reported in the literature.

Discussion

The three major barriers exist not in isolation at this university, but rather are related to broader economic, cultural, and social political aspects of the nationwide educational climate. While resistance to change is part of the human condition, Chinese teachers' experience with project-based CALL implementation comes from sources unique to Chinese culture and needs to be addressed in culture-specific ways. These sources include deeply held cultural beliefs about the nature of knowledge, about teaching, and about interpersonal relationships. From a socio-cultural perspective that emphasizes China's cultural-educational background and supports the Chinese holistic view of knowing and doing within social relationships, this author believes that two major underlying factors (Chinese culture of learning, Chinese relational philosophy) contribute to the challenges that are unique to Chinese culture (Gu, 2011).

Factor 1: Chinese culture of learning

One important reason for teachers' resistance to new educational approaches is that such reform challenges the Chinese culture of learning, which is a set of fundamental beliefs, values, assumptions, and behaviors that are characteristic of Chinese society with regard to knowledge, teaching, and learning (Hu, 2002; Jin & Cortazzi, 2006). My data analysis confirms that the most important constraints on the project-based CALL reform efforts are some culturally rooted assumptions of educational practice in Chinese society. The traditional Chinese mode of teaching is characterized by knowledge transmission with strict teacher control. Both teachers and students who are accustomed to such a top-down classroom structure do not fully understand the need for a shift in pedagogy and, at least initially, find it extremely uncomfortable. It is not surprising that the new approaches such as project-based CALL, which emphasizes learning by using, clashes with the traditional learning to use philosophy. In addition, the new and traditional approaches have contrary assumptions about the roles of teachers and students (e.g., learner-centeredness versus teacher dominance). They encourage different learning strategies (e.g., verbal activeness versus mental activeness), they reward different qualities in students (e.g., independence and individuality versus receptiveness and conformity), and they value different classroom etiquette (e.g., active participation versus listening attentively and taking notes) (Hu, 2002). All these different cultural beliefs and practices have made Chinese teachers' adaptation of new practice a much more daunting challenge.

Factor 1: Chinese relational philosophy

Because China is a country that sees things as holistically interconnected, people seek harmony across differing philosophies and exert great care in managing interpersonal relations (Midgley, Gu, & Campbell, 2000). Unlike Western thought, with its focus on product and the relationship between actor, action, and outcomes, Chinese thought focuses on process and human relations with the world, with the mind, and with others. "Knowledge is power," is often said, but in a Chinese context, two other domains also exert power. They are "sensing the world" and "caring for others" (Gu & Zhu, 2000). It is dangerous to emphasize knowledge alone because it denies the importance of individual differences and interpersonal relations. In other words, one's knowing and doing should be in harmony with each other and with one's being (in a good relationship with others). If there is any conflict, compromise is important, which often means that an individual temporarily gives up the pursuit until he or she finds a right way of doing things. This may explain why many of our Chinese colleagues can live and work for a long time in the presence of a mismatch between their dreams and reality if that reality is approved by some higher authorities and/or textbooks and/or is accepted by most other colleagues. This may also explain why most of our student participants felt uneasy with the forum discussions at the beginning and characterized their peers' misunderstandings as painful experiences. How others talk about whether it was "the right way of doing things" can lead people to a horrible feeling that they didn't do the right things, carrying with it the danger of being excluded from the "group" or "community." In Chinese society, we say "doing the right thing is more crucial than doing things right." This cultural behavior reflects the Chinese relational philosophy and holistic views of whole person learning.

Implications and conclusion

This study holds several implications of the Chinese world view in dealing with contexts for project-based CALL programs by educators in China, as well as for those in the West who may wish to work with Chinese colleagues. For Chinese colleagues, this study suggests that because of heavy influence of the Chinese culture of learning, it is neither desirable nor workable to replace all the traditional general English courses with those project-based learning with technology. Rather, Chinese teachers should integrate the new literacy teaching into the general English teaching process. As for interested colleagues in the West,

this study suggests that adequate knowledge about Chinese society, culture, history, and politics is prerequisite to comfortable and effective work with Chinese students or colleagues in or out of China. In particular, great attention should be paid to seeking harmony across differing philosophies and to developing new ways of working that respect Chinese and Western practice, both associated with a great care with interpersonal relations.

This study examined the social and cultural context of a faculty team's on-going efforts to develop and disseminate a project-based CALL program at a Chinese university. Results from the study show that China's overall socio-cultural and educational climate is not yet ready for extending project-based CALL within this university or to others. Three major challenges reported above, namely professional/academic value conflicts, pedagogical philosophy clashes, and institutional culture complexities, indicate that there are still many missing elements in practice, as well as mismatches of pedagogical beliefs between the traditional Chinese culture of learning and the newly imported approaches with their Western traditions. Further analysis suggests it is Chinese relational philosophy which stresses a holistic view of knowing and learning within social relationships that guides people on how to think about what we do in our socio-cultural contexts. Implications were drawn for teachers and professionals both in and outside China with the focus on the power of socio-cultural context and Chinese world view, with its emphasis on harmony and its careful management of interpersonal relations.

Finally, it is important to remember that educational development occurs not through transmission but through a long-term process of experience and reflection. One of the most famous Chinese folktales is about an old man who eventually moved a mountain through his own efforts and through the efforts of others who joined his cause over generations. This study thus suggests that educational reformers in China who seek to suddenly and dramatically reshape the educational landscape will not likely succeed, and may even be buried by landslides. The Chinese culture of learning that has developed over thousands of years will not change overnight because English has become an international language or because ICT continues to advance in China. We need to develop the wisdom and sophistication to understand the value of diversity and the opportunities presented by an increasingly globalized economy. At the same time, we need to keep working at these challenges to reform with small, patient, and well-defined efforts.

CALL in Context

This paper fits the conference theme in that:

- 1) it answers the major question about CALL in Context by providing evidences of contextual challenges in China to show that constructivist-based pedagogies are context sensitive, which clashes with the instructivist learning cultures based on contrasting philosophies and pedagogies (Porcaro, 2011)
- 2) it also answers the question "To what extent can general theories such as Constructivism be applied to our local context?" . It suggests China's economic and sociocultural development calls for new talents with critical thinking, information literacies. One effective way seems to be the incorporation of problem-based CALL, which is backed up by constructivism. But it is such a new approach that it not only challenges both Chinese teachers and students' learning beliefs and styles, but also requires comprehensive instructional design to bring the effects into being. Therefore, the implementation of project-based CALL for Chinese EFL learners needs to be founded upon a good understanding of China's socio-cultural contexts, and be tailored in order to be more responsive to the local university context.
- 3) It may help answer the question "To what extent can technology contribute to contextualization of the learning process?"

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The effects of lecturer's model of e-comments and graduate students' e-comments and writing revision

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Abstract

The purpose of the current study was to investigate if the lecturer's model of e-comments helps graduate students enhance the quality of peer e-comments and writing revision. Fifty graduate students at HCMC Open University in Vietnam participated in the study. Data collection was from the students' drafts, lecturer's sample e-comments, peer e-comments and semi-structured interviews. The study found that the graduate students were able to produce more qualified e-comments addressing to global issues throughout the e-peer comment activities. In addition, there were no statistically different effects between the lecturer's e-comments and peer e-comments on the students' writing revision.

Conference paper**Rationale for the study**

Ferris (2007) claims that giving comments on students' writing is one of the most challenging job of the writing instructors and it is the most time-consuming, so training future teachers how to provide qualified comments on students' writing is an important aspect. In addition, given appropriate feedback to meet the students' needs allows the instructor to invest in each student's progress (Ferris, 2003). Many research studies have compared the effects of lecturer and peer comments on student writer revision, and assessed student writer attitudes towards lecturer and peer comments. Ertmer et al. report (2007), Nelson and Carson (1998), Treglia (2006), Tsui and Ng (2000), and Yang, Badger and Yu (2006) reveal that students considered instructor comments are more helpful in improving their writing. More specifically, Tsui and Ng (2000) found that students have more confidence in lecturer comments because they perceive the lecturer to be more experienced and more authoritative. Students considered lecturer comments to be of better quality, more specific, and they were able to explain what the problems were, and gave concrete suggestions for revision. Yang et al. (2006) also found that students considered lecturers to be more professional, experienced, and trustworthy than their peers. One reason that student writers did not welcome peer comments is that the peer comments

seemed “incorrect” to them (Treglia, 2006). Cultural factors also made students feel uncomfortable with peer commenting and discourage them from being critical of each other’s work (Hyland, 2000).

In another vein, other researchers claim that peer commenting activities seem fruitful in the training of writing. According to Lui and Hansen (2005), peer commenting activities help get students involved in their responsibilities for their own learning, build critical thinking skills, augment linguistic knowledge, enhance participation, and improve both oral and written styles. Peer comment activities result in students taking more responsibility in their own learning process (Hyland, 2000). Therefore, a trend of research in this field is to find ways to train students to become better peer reviewers.

In order to train students to become successful peer comments to provide qualified comments on global and local areas, Min (2005) made use of four steps to train students to do peer comments. 18 EFL sophomore students participated in the researcher’s composition class at a large university in southern Taiwan. The results indicate that the numbers of comments and number of words produced post-training were significantly higher than those prior to training. In addition, the students were able to provide a greater amount of comments on the global issues after training. This indicates that students tended to allocate more attention to macro issues such as idea development and organization post-training. Besides, the students pointed out that the four-step procedure helped them become better reviewers, although following the four steps was both time- and energy-consuming. They also learned from their peers how to focus their ideas and view things from different perspectives. The study did not investigate the direct training peer comments via the lecturer’s own commentary practices.

In terms of investigating the effects of peer comments on writing revisions, Min (2006) examined the impact of trained peers’ comments and found that trained peer review did enhance the quality of students’ revisions. Most of the revisions after peer review training were on global areas such as idea development, unity, and organization. The result of this study also demonstrated that 77% of the trained peer review feedback was incorporated into students’ revisions. The training in the study did not take place during the course, but just at the short beginning of the course.

Pham V. P. Ho and Usaha (2015) conducted a study training students to provide blog-based peer comments on students’ writing papers. The results indicated that though the comments on global areas were greater than those on local areas, the qualified comments (revision-oriented comments) were not. The total revisions made during e-peer comments were greater than the total revision-oriented comments delivered by peers. The study failed to compare the effects of lecturer’s e-comments vs. e-peer comments.

Earlier research studies succeeded in training students to provide peer comments to help student writers improve their writing revision; however, they failed to compare the differences between lecturer’s and peer comments, and failed to investigate the effects between lecturer comments and peer comments on student writers’ writing revision. The current study aims to fill in these gaps in literature. Therefore, the purpose of the current study was an attempt to search for responses to the following research questions.

1. Are there any differences between lecturer’s and peer e-comments in terms of global and local areas? If yes, are there any differences between global and local qualified comments?
2. Are there any difference between the total revision-oriented comments and the total number of revision?

Research methods

Participants & Setting

The current study employed a quasi-experiment study. The characteristic of a quasi-experiment study is that it deals with the phenomenon of cause and effect (Walliman, 2001; Thomas, 2003; Hult, 2006; Charles & Mertler, 2004). In a quasi-experimental study, research is conducted under the conditions in which it is difficult to control many of variables and in which subjects cannot be assigned to special groups for the purposes of the research (Seliger & Shohamy, 2001). Nunan (2001) and Hult (2006) claim that it is not always feasible to carry out a true experiment for humanities due to the impossibility of randomly assigning subjects to experimental and control groups and controlling the research environment. 45 graduate students enrolling in the 45hr-course of Academic Writing for graduate students participated in the study. During the course, the graduate students were requested to writing 6 different assignments based on the training syllabus. Most of the assignments were composed outside the classroom as homework. It aimed to provide lecturer and students spaces to conduct e-comments to help enhance writing quality.

Previous researchers such as Berg (1999), Min (2005, 2006), Stanley (2003), Tuzi (2004), and Pham Vu Phi Ho & Usaha (2011 & 2015) have found its benefits when applying to the writing classrooms. Lecturer/peer e-comment activities help make students become more active and responsible for their own learning process in order to help one another improve their writing products, help lecturers reduce the amount of work when dealing with big-size classes (Pham Vu Phi Ho, 2015).

Students were required to work in a group of four or five (randomly selected) during the writing process. After completing their writing assignment, they needed to share their papers with their peers to seek for help. Meanwhile, they had to read their peers' papers and provide e-comments to help them correct mistakes and word usages, reorganize the ideas, make it in logical order, improve their writing quality in terms of unity, coherence, and organization, etc. These activities aimed at not only helping their peers to enhance their writing, but also helping student-writers themselves look back their writing for better revision. Each of them needed to read and provide comments to other three of their group members. Although these were time-consuming activities, they helped students learn from one another and perfect their writing faster. Peer comments were much appreciated if they focused more on the content and organization of the essays.

After collecting all the peer comments and revising their papers based on peer comments, they handed to the lecturer/researcher via email or the website (phamho.com/classes), including the peer comments and revised version. Then the lecturer selected the first five or six papers to provide e-comments using the function of Microsoft Word Processor (Menu => Review => New Comment). Figure 1 presents a sample of e-comments used during the training process.

A CRITIQUE OF THE JOURNAL “AN INTEGRATED APPROACH TO DISTRIBUTED VERSION MANAGEMENT AND ROLE-BASED ACCESS CONTROL IN COMPUTER SUPPORTED COLLABORATIVE WRITING”

By Lee, Narayanan and Chang

Using an activity identification tag to manage multiple versions of a document is a new and helpful approach of the Journal in computer supported collaborative writing environment. This paper, however, contained several repeats in content. For example, the passages “the most important ...of granularity” and “its unique... AID tag” in the abstract part is repeated in the design and implementation section. Therefore, it would have been better if the authors had paraphrased these sentences by different structures. A second weakness, in my opinion, is that the researchers did not talk about the participants clearly by establishing a specific item. In fact, participants section is one of the most important features in a Journal. For this reason, a short passage giving particular information for this would have been necessary. The final weak point, the authors are sometimes too technical in their writing style which creates multiple difficulties for the average readers to understand. For example, the words granularity, protocols and Motif toolkit set are really hard for persons who are not computer experts to understand. Therefore, explaining the difficult technical terms in the brackets would have been helpful. However, the conclusion gave a wonderful summary about findings of the article.

- pham ho**
What do you mean by Chang? Include full name. Where is the year of publication?
- pham ho**
You need to include the authors here. Where is the summary of the journal?
- pham ho**
The compliment is OK.
- pham ho**
This is not a clear comment. The keywords are required to repeat throughout the article.
- pham ho**
They copy and paste the exact passage or paraphrase it? If just paraphrases, it is fine.
- pham ho**
Good structure of suggestion.
- pham ho**
The structure of the 2nd critique is beautiful but you did not provide a good critique. It would be better if you mentioned about method of sampling for this.
- pham ho**
I don't understand what you mean?
- pham ho**
This should not be a point for critiques because this is the best thing in writing a research article ad it is a requirement.
- pham ho**
These are keywords and they have to use, e.g. You cannot change to term protocols or Motif toolkit.
- pham ho**
Should be a compliment for the whole paper rather than just for the summary.

Fig. 1 Lecturer's e-comments on student's writing paper.

At the beginning of each training session, the lecturer showed the his e-comments to the whole class via the projector and explained every comment that he made. The purpose was to use those model e-comments to train the students' writing skills as well as to train them how to provide e-comments on their peer writing papers. The lecturer also observed peer e-comments on each paper to see if peers provided qualified comments or not. In case some comments provided by peers but led to no revision by the student writers, the lecturer also mentioned in his e-comments to get the student writer valued their peer's e-comments. After each training session, the lecturer sent back those comments to the whole class so that they could read to learn from the comments provided by the lecturer. The purpose was that the students has chances to reflect their own writing from the model e-comments or learned how to provide qualified comments on their peers' papers.

Data collection & analysis

Totally, 31 papers from those students who received lecturer's e-comments, including their e-peer comments were collected for analysis. In order to analyze areas of comments to respond to the first research question, I adopted coding scheme of Pham V. P. Ho and Usaha' (2015). In order to compare the revision made by the student writers after receiving e-comments to respond to the second research question, I made use of the feature of "Compare" in the Microsoft Office vs. 2016 (Menu => Review => Compare). This helped much for the comparison between the two writing versions. This feature traced back every single change in the subsequent draft such as insertions, deletions, Moves, formatting. Figure 2 presents the analysis for changes between drafts.

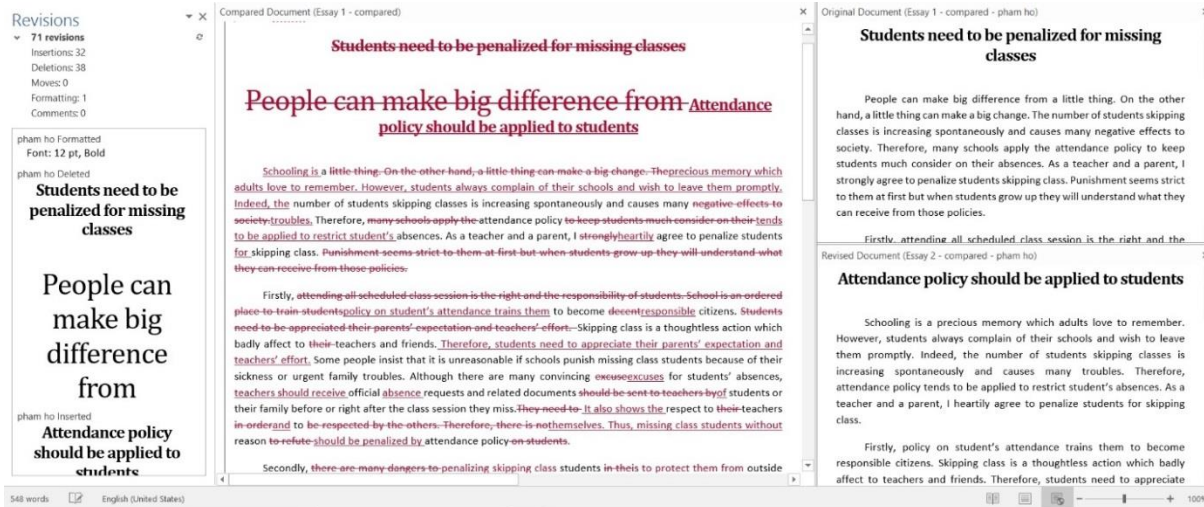


Fig. 2 Analysis of revisions

Findings and discussion

Research question 1: Are there any differences between lecturer’s and peer e-comments in terms of global and local areas? If yes, are there any differences between global and local qualified comments?

This research question was mainly responded by quantitative data. Some responses from the students’ interviews related to this issue (qualitative data) were also regarded. In order to respond to this research question, I compared the areas (local and global) and nature (revision-oriented comments) of comments between the lecturer’s and peer e-comments. Descriptive statistics, Paired-sample t-test, and independent sample t-test were employed from the SPSS vs. 22. Table 1 presents the comparison between peer and e-comments lecturer’s.

Table 1. Comparisons between peer and lecturer’s e-comments

Variable	M	SD	MD	t	df	p
Number of words in the comments						
Peer e-comments	194.57	123.105	-8.318	-0.227	54	.822
Lecturer's e-comments	202.88	151.438				
Total comments on both global and local areas						
Peer e-comments	20.87	9.999	5.871	2.161	55	.035
Lecturer's e-comments	15	10.469				
Total comments on local areas						
Peer e-comments	12.97	8.179	8.912	5.240 ^a	44.755 ^a	.000
Lecturer's e-comments	4.06	3.638				
Total comments on global areas						
Peer e-comments	8.75	5.147	-3.442	-1.72	52	.091
Lecturer's e-comments	12.19	9.152				

^aThe t and df were adjusted because variances were not equal.

Independent Samples t-test

Table 1 summarizes the comparisons of peer e-comments and lecturer's e-comments on student writers' papers. First, in terms of the number of words in the e-comments written by both lecturer and peers, on average, three or four group members composed 195 words on each peer's written paper ($M = 194.57$; $SD = 123.105$) while the lecturer made it for 203 words in the e-comment deliveries ($M = 202.88$; $SD = 151.438$). It seems that the lecturer provided more words (lengthier) in the comments than the whole group members when delivering e-comments (203 vs. 195). The difference between the means is 8.3 words. However, the independent sample t-test with $t(45) = -.227$, $p = .822$ ($P > .05$) indicates that there was not statistical significant difference between the lecturer and peer e-comments in terms of number of words. This indicates that the number of words provided by a group of three or four students are equal to that of a lecturer when providing e-comments on the peer's written paper. In terms of considering the lecturer as more preferable and professional in providing comments found by Nelson and Carson's (1998), Tsui and Ng's (2000) and Yang et al.'s (2006), the current study sets a different light to see the values of peer e-comments.

Second, table 1 also illustrates the total e-comments of lecturer's and peers' on both global and local areas. As can be seen, on average, each written paper received 21 peer e-comments on both global and local areas ($M = 20.87$; $SD = 9.99$). Lecturer seemed to provide less number of e-comments than peers ($M = 15.00$; $SD = 10.47$) on both global and local areas. The difference between the means is 5.87 points. The result of the Independent sample t-test with $t(55) = 2.16$, $p = .035$ ($p < .05$) indicates that the number of peer e-comments on both global and local areas in general were greater than those of lecturer's. In other words, the group members provided more comments to student writers' papers than the lecturer did. This means, three or four peers in a group could work more than the lecturer could in terms of numbers of e-comment deliveries. Compared to the number of words written in the comments, the lecturer seems to write lengthier in each comments in order to explain or give suggestions to each writing problem. This finding was an inventory compared to previous research in terms of comparing the number of words in the comments and the number of e-comments between lecturer's and peers' which were not found in key research studies in this field such as Berg's (1999), Pham V. P. Ho & Usaha's (2015), Min's (2005), Stanley's (1992), and Tuzi (2004).

Third, regarding the e-comments on local areas, comments addressing to wording, grammar, spellings, sentence structure, or punctuation, table 1 illustrates that on average, each written paper received 13 peer e-comments on local issues ($M = 12.97$; $SD = 8.18$); however, each paper received only 4 comments on local areas provided by the lecturer's ($M = 4.06$; $SD = 3.64$). The difference between the means is 8.9. The result of the independent t-test, $t(44.75) = 5.24$, $p = .000$ ($p < .01$), shows that there was a statistical significant difference between the peer e-comments and lecturer's e-comments addressing to the local issues. This finding indicates that the students provided e-comments on local areas greater than the lecturer. As mentioned earlier in this study, the lecturer who had to deal with big size classes, from 40 to 50 graduate students. Then if peers helped address to local areas when providing e-comments, the lecturer would have more time to focus on global issues such as content, idea development, or organization of the written papers which helped enhance the quality of students' writing. Truscott (1996) argued that only comments addressing to the global/macro-issues would help student writers improve their writing quality. In some sense, the activities of peer e-comments could help the lecturer received less local-error papers so that he/she could have time to focus more on the global issues to help student writers improve their writing quality.

Finally, in terms of e-comments on global areas relating to commenting on contents, idea development, and organization of the written papers, table 1 reveals that each written

paper received, on average, 8.8 peer e-comments ($M = 8.75$; $SD = 5.15$) on global issues. However, the lecturer seemed to address more to global issues when providing e-comments on student writer's papers ($M = 12.19$; $SD = 9.15$) than the peers'. The mean difference between e-peers' and lecturer's e-comments is -3.44. However, table 1 shows that there was no statistical significant difference between lecturer's and peer e-comments addressing to the global areas when providing comments ($t(52) = -1.72$, $p = .091$, $p > .05$). The null hypothesis was not rejected. This indicates that when providing e-comments, group members also addressed to global issues such as content, idea development or organization of the written papers to help peers enhance their writing quality. This was a big conflict with previous studies such as Nelson and Carson's (1998), Treglia's (2006), Tsui and Ng's (2000), and Yang et al. (2006) who found that peer preferred lecturer's comments than those of peers. Table 2 presents the comparison of revision-oriented e-comments (qualified comments) on both global and local areas.

Table 2. Comparisons between peer and lecturer's revision-oriented comments

Variable	M	SD	MD	<i>t</i>	<i>df</i>	<i>p</i>
Local revision-oriented comments						
Peer e-comments	12.77	8.094	8.774	5.214 ^b	44.745 ^b	.000
Lecturer's e-comments	4	3.597				
Global revision-oriented comments						
Peer e-comments	4.88	3.542	-4.856	-2.677 ^c	34.018 ^c	.011
Lecturer's e-comments	9.73	8.483				

^bThe *t* and *df* were adjusted because variances were not equal.

^cThe *t* and *df* were adjusted because variances were not equal.

Independent Samples t-test

Revision-oriented comments are seen as qualified comments which trigger revision. These comments identified writing problems and requested the writers to make changes to enhance the quality of the papers. Table 2 compared global and local revision-oriented e-comments delivered by the lecturer and peers. Though the number of global issues of the lecturer's e-comments were more and the local issues were less addressed by the lecturer compared to those of peer e-comments, they didn't say much during the e-comment activities until qualified comments or revision-oriented comments, which trigger revision, were measured (Pham V. P. Ho & Usaha, 2015). In terms of comparing the revision-oriented comments on local areas during the e-comment activities, table 2 reveals that peers were found to deliver 13 revision-oriented comments ($M = 12.77$; $SD = 8.09$) which triggered revision on local areas and the lecturer provided much less than peer e-comments on this issues ($M = 4.00$; $SD = 3.60$). The mean difference is 8.77. There was certainly a statistical significant difference between the lecturer's and peer e-comments in terms of revision-oriented comments on local areas. That is, the peers provided greater local revision-oriented comments than the lecturer ($t(44.75) = 5.214$, $p = .000$, $p < .01$). Again, as mentioned earlier, peer e-comments were a great activity employing in the Academic writing classes for graduate students because peers provided much more qualified comments on local issues so that the lecturer had more time to focus on areas such as content, idea development, or organization of the written papers to help student writers enhance writing quality. This is a good support to previous research by Pham V. P. Ho and Usaha's (2015) who found that student writers needed more e-comments on global areas while local e-comments could be made by students themselves.

Particularly, table 2 shows that peers provided 4.9 revision-oriented comments ($M = 4.88$; $SD = 3.54$) on global areas while lecturer provided 9.7 revision-oriented e-comments ($M = 9.73$; $SD = 8.48$). The difference between means is -4.86. Independent sample t-test with

$t(34) = -2.68, p = .011$ ($p < .01$) indicates that there was a statistical significant difference between lecturer's and peer e-comments in terms of qualified comments (revision-oriented comments) addressing to the global issues. That means the lecturer provided more qualified e-comments than peers on global areas during the e-comment activities. This finding helped clarify what previous researchers such as Nelson and Carson (1998), Treglia (2006), Tsui and Ng (2000), and Yang et al. (2006) who claimed that lecturer comments were more professional and qualified than peers'. Furthermore, this finding filled the gap of Pham V. P. Ho and Usaha's (2015) for they didn't investigate this area of comparing lecturer's and e-peer comments.

Research question 2: Are there any different between the total revision-oriented comments and the total number of revision?

In order to respond to this research question, I compared the total of revision-oriented comments or qualified comments delivered by both lecturer and peers on both global and local areas during the e-comment activities with the total number of revisions made by the student authors to see if there is/are any correspondent between the total qualified comments and the total of revisions. In this case, paired sample t-test was used to compare. Table 3 presents comparison between the total of qualified comment deliveries and the total of revisions actually made by the student writers after receiving e-comments from both lecturer and peers.

Table 3. Comparing the effects of total revision-oriented comments on total writing revision

Variable	M	SD	Correlation	MD	<i>t</i>	<i>df</i>	<i>p</i>
The effects of revision-oriented comments on writing revision							
Total of revision-oriented comments on both global and local areas	14.83	9.765	0.710	-16.75	-6.525	51	.000
Number of revision	31.58	24.075					

Note: Paired Samples test

Table 3 reveals the comparison of mean differences in total of revision-oriented comments which triggered revisions addressing to both global and local issues. It was supposed that the means of these two were equal because after receiving these kinds of qualified comments to request for changes, the student writers might revise only what were asked to change. However, the result of the paired sample test indicates that the null hypothesis was rejected. On average, each written paper received about 15 qualified comments to request for changes ($M = 14.83$; $SD = 9.77$). However, nearly 32 revisions were made by the student writers ($M = 31.58$; $SD = 24.08$). The difference between means is -16.75. In other words, each subsequent draft made nearly 17 changes beyond the requests provided by the lecturer and peers. The result of the paired sample test ($t(51) = -6.53, p = .000, p < .01$), indicates that there was a statistical significant difference between the total of revision-oriented comments deliveries and the total of writing revisions made by the student writers. The correlation at .71 shows that there was 71% to say that these two variables were correlated. That is, the students revised the papers by themselves far from what were expected from the commenters (67%). In other words, after receiving e-comments, the student writers took more responsibilities for their own writing products. It is suggested that modeling e-comments in the classrooms is a powerful tool and should be employed as part of the lecture in the writing classroom.

This finding bolsters previous research studies such as Pham Vu Phi Ho & Usaha's (2015) who found that 61% of revisions were made by the student writers themselves, and Tuzi's (2004) found that of 60%. The result of the current study found 67% of the revisions made by the students themselves. However, other research studies such as Min (2006) found that 10% of the revision-oriented comments were not incorporated into revisions while other researchers such as Liou and Peng (2008), Rodriguez (2003) found that more 50% of revision-oriented e-comments were not incorporated into revisions; even worse, Liu and Sadler (2003) found that of 70%. The success of the current study suggests use of the model of consistent e-peer comment training during the course of academic writing rather than making it in a short period of training as in earlier research.

Conclusion

In short, in comparison between lecturer' and peer e-comments, the findings of the current study show that first, the total number of words written in the e-comments of both lecturer's and e-peers were not statistical significant difference. In other words, the number of words producing in the peer e-comments were as many as those producing in the lecturer's e-comments. Second, in terms of the total number of e-comments deliveries on both global and local areas, peer e-comments were statistically greater than those provided by the lecturer. That is, the graduate students provided more total of e-comments on both global and local areas on their peers' papers than those provided by the lecturer. Third, there was no statistical significant difference between the lecturer's and peer e-comments on global areas although the peer e-comments on local issues were more than those from the lecturer's e-comments on the local issues. Fouth, in terms of qualified comment deliveries or revision-oriented comments which trigger revision, there was a statistical significant difference between lecturer's e-comments and peer e-comments on both global and local issues. The lecturer tended to provide more qualified comments on global areas whereas the peers provided more on local issues. Finally, the results of the current study reveal that 67% of revision was made by the writers' own decision. The study suggests that lecturer's modeling e-comments in the classroom was a great effect on the students' learning reponsibilities.

The finding of the current study raises a controversy issue to previous research studies. Hyland (2000) found that the lecturers tended to view peer comment activities as a passive process, focusing on 'fixing up' the texts rather than as an active activity like the current study which viewed it as a supportive tool additional to lecturer's e-comments. Nguyen Thi Kieu Thu (2002) found that lecturer's comments were mostly on grammar and Montgomery and Baker (2007) found that the lecturer provided most of comments on local issues and little on global during the writing process.

CALL in Context

This study is part of a bigger research project at a University in Vietnam. The current research study fills the gap in research on lecturer and peer electronic comments (comments implemented via Word Processor of Microsoft Office) in terms of comparison between lecturer and peer e-comments. Previous research studies claim that student writers prefer lecturer e-comments to peer e-comments because the lecturer's comments are more trustworthy, experienced and professional. However, they failed to compare those e-comments between the lecturer's and peers' to provide statistical evidence. The aim of the current study is an attempt to investigate this gap. Its findings contribute to the body of knowledge with statistical evidence in this area of research. The findings of the study help lecturer and students value peer e-comments as qualified as lecturer's comments in some

aspects in the writing classrooms. Also, it values the peer e-comments as an important tool to help polish the language before handing in students' papers to the lecturer to seek for e-comments. This helps reduce quite a lot of work for the lecturer. Furthermore, the current study also found similar results to previous research in terms of comparing the total number of e-comments with the total of revision. Besides, the current study introduces a teaching model which helps the local context to deal with big size classes by consistently training graduate students to learn how to provide e-comments on one another's papers to help enhance writing quality. The current study fits the conference theme in such a way that the training model of e-comments for graduate students in the local context might shape the design of the learning environment of other contexts which share the similarities of big size classes. In addition, the study presents the statistic evidence that formulates the values of lecturer and peer e-comments so that other researchers could draw some ideas to handle their writing classroom, particularly to graduate studies.

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The Effect of Captioned Video Clip with Glosses on Incidental Professional Vocabulary Retention of EFL Learners

Bio data



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Abstract

The current study examines the effect of captioned video clip with glosses on the incidental target professional vocabulary acquisition of EFL learners. A sample of fifty college students from business-related majors were at intermediate in an English listening and speaking course. A pretest, three types of tasks (video clip without captions, video clip with captions and captioned video clip with glosses), an immediate posttest, a three-week delayed posttest and a questionnaire were used for data collection. Each posttest included two production tests and two recognition tests. One-way repeated-measures ANOVA was conducted to examine target vocabulary word retention between and within each task. The findings reveal that Task Three (captioned video clip with glosses) significantly outperformed Task One (video clip without captions) and Task Two (video with captions) in the immediate posttest and the three-week delayed posttest. Therefore, in this study, captioned video clip with glosses significantly assist in incidental target vocabulary acquisition for participants in their professional context. This study suggested that learners in their specialized domains apply captioned video clip with glosses on their incidental professional vocabulary acquisition. Captioned video clip with glosses can facilitate the enhancement of learners' incidental professional vocabulary load in their context. Consequently, learners in different contexts can make use of captioned video clip with glosses to incidentally gain their professional vocabulary. Furthermore, all of the participants had positive attitude towards captioned video clip with glosses in incidental professional vocabulary learning. Pedagogical implications of the results for captioned video clip with glosses in incidental vocabulary learning in the professional context are considered.

Key Words: captioned video clip, glosses, incidental professional vocabulary learning, multimedia, CALL

Conference paper

Over the past decades, the effectiveness of multimedia on foreign language learning and teaching has attracted great attention. The advent of multimedia learning environment (Brett, 1995) made audiovisual materials to be easily accessible. The accessibility of video such as DVD and YouTube have created important platforms for second language (L2) listening development (Vandergrift, 2011). These platforms provide learners with a number of listening support options by means of the form of a "technology overlay" (Robin, 2007, p. 109) such as native language (L1) subtitles (L2 video, L1 text), reversed subtitles (L1 video, L2 text) and captions (L2 video, L2 text). Captioned videos represent words and pictures in oral and visual form. They are more probable to activate both coding systems in the processing than words or pictures alone (Harji, *et al.*, 2010). The combination of words and pictures is supported by dual code theory proposed by Paivio (1969, 1972 and 1975). In this theory, verbal and nonverbal information are processed in functionally independent, but interconnected system. The theory involves the continuous interaction of a verbal or propositional code with a nonverbal code. The nonverbal code can most easily be characterized as a visual mental image. Although the captions were originally developed for hearing-impaired persons in the 1980s, they have been proven by language teachers and researchers to be beneficial for enhancing vocabulary learning (Markham, 1999; Sydorenko, 2010). Some research showed that L1 captions and L2 captions facilitated learners' vocabulary learning (Bean & Wilson, 1989, Katchen, 1997 and Neuman, 1990). The results of the previous studies revealed that the effectiveness of captions was beneficial for fostering L2 learners' vocabulary learning (Chai and Erlam, 2008, Huckin & Coady, 1999, Markham, 1999 and Sydorenko, 2010). Moreover, glossary has played an important role in L2 learners' incidental vocabulary learning (Hulstijn, Hollander & Greidanus, 1996). Hulstijn (1989) indicated that learners aimed to comprehend the language meaning when they conducted reading or listening activities; however, learners have learned many words in an incidental way by means of glossary. Results of many studies showed that incidental L2 vocabulary learning can be enhanced by the use of glosses in printed materials, electronic glossary and multimedia annotations (Chun & Plass, 1996, Groot, 2000, Hulstijn, Hollander & Greidanus, 1996, and Laufer & Hill, 2000).

However, two gaps are somewhat ignored in the previous studies. The first gap is that according to the research evidence presented earlier, captioning could foster learners' vocabulary learning, but the effects of glossary in captions on learners' incidental vocabulary learning have not been investigated in research. The final gap is that the previous studies just focused on the effectiveness of captions for enhancing vocabulary learning in general English context, not in professional English context. Therefore, it is not clear whether captions can contribute to the enhancement of incidental vocabulary load in learners' professional contexts or not. The purpose of this present study is to bridge the two gaps and expand previous research by investigating the effect of captioned video clip with glosses on incidental vocabulary learning in participants' professional context. Fifty participants were college students with business-related majors were at intermediate in an English listening and speaking course. A pretest, three types of tasks (video clip without captions, video clip with captions and captioned video clip with glosses), an immediate posttest, a three-week delayed posttest and a questionnaire were instruments used for data collection. In each video clip, eight professional words were selected as target words. In each posttest, there were two production tests and two recognition tests. One-way repeated-measures ANOVA was adopted to examine target vocabulary word retention between and within each task. In terms of the results, participants in Task Three (captioned video clip with glosses) had the highest retention of the target business words among the three tasks in the short term and in the long term. Glossary indeed assisted participants in their incidental target words learning in their professional context. All the participants thought that glossary in captions could attract their attention to the target professional words, so they could incidentally learn these target words.

Therefore, the enhancement of learners' incidental professional acquisition can be attributed to the captioned video clip with glosses. The glosses in the video caption seems to have a positive impact on learners' vocabulary learning in their professional context. For pedagogical implications, teachers need to take learners' professional context and glossary in captions into consideration when they design teaching materials and create a multimedia learning environment in order to meet learners' specific and professional needs and increase the amount of learners' professional vocabulary.

CALL in Context

The present study can fit the conference theme, CALL in Context by answering two questions: (1) how does the local context shape the design of our learning environment? and (2) how generalizable are the findings from experimental research in our context? For the first question, English for Specific Purposes (ESP) is obviously different from General English (GE). ESP is a linguistic field of study that deals with the specific needs of learners for a target language which is required for professional purposes. Harding (2007) indicated that two elements (the sense of purpose and the sense of vocation) of ESP are axiomatic. The sense of purpose gives the language work an immediacy and a relevance which is perhaps not always found in the GE variety and can present the teacher with challenges. The sense of vocation means that teachers need to focus on the vocation learners including learners in the professions, industry, and technology. Hossain (2013) showed that many terms and phrases are very important for ESP. Those are specific needs, language skills, designed for specific disciplines, and designed for adult learners. Based on the concepts of ESP, learners' professional context (local context) have to be taken into consideration when teachers design the multimedia learning environment. Furthermore, the design or selection of multimedia materials in the multimedia learning environment has to be in accord with learners' professional contexts in order to meet learners' specific needs. In the present study, learners' professional context is the major consideration for designing captioned video with glosses in incidental professional vocabulary learning. From the results of the present study, glosses in the video caption can facilitate learners to incidentally acquire the target words in their professional context. Captioned video with glosses is a great multimedia material to assist learners in incidentally gaining their professional vocabulary. Consequently, participants in the present study are business-related majors, so glosses in the video caption were designed for the acquisition of the target words (business words). For the second question, the present experimental research in business context presented the positive results on the application of glosses in the video caption on the enhancement of the target professional words. Hence, the research can be generalizable and researchers may conduct the similar research in different professional contexts (medicine, engineering, law and so on) in the future. Learners in different contexts could obtain benefits from the present multimedia glossary in video captions for the acquisition of their target professional words.

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Investigating the latent language phenomena of the context-dependent lexical bundles in research articles

Bio data



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Abstract

Research article writing is full of conventions in both structure and content. Many studies have tried to investigate particular linguistic features that characterize the organization of the different sections of the research articles. Among them, there has been an increasing interest in identifying lexical bundles in different sections of the research articles (e.g., Abstract or Introduction) or analyzing the relationship between lexical bundles and moves and steps in research articles. In research articles, the frequent lexical bundles could have different linguistic features. Based on our preliminary investigation on the Abstract and Conclusion sections, tenses and positions are two latent linguistic features which received little attention. Take the lexical bundle “*we present*” as an example. The tense of “*we present*” varies from one section to another. It tends to be used in the simple present tense form at the first segment of the Abstract section whereas it is used more frequently in the present perfect tense at the first segment of the Conclusion section. Another lexical bundle “*the experimental results*” illustrates the varied positions it appears. It typically appears at the third segment of the Abstract section while it can be frequently seen at the first or second segment of the Conclusion section. These language phenomena are very likely due to the conventions of research articles. In other words, these linguistic features are selectionally preferred or context-dependent.

The aim of the current study is two-fold: to investigate some interesting language phenomena and to assist language learners in research paper writing. The ongoing investigation is conducted on ACL reference corpus (approximate 10K scientific articles on computational linguistics). Unlike previous studies, we extract frequently used lexical

bundles from in the Abstract and Conclusion sections and examine their linguistic phenomena (e.g., positions or tenses). A further step is to develop a computer-assisted lexical bundle suggestion system. Besides suggesting frequent lexical bundles, the system will allow the comparison the uses of lexical bundles in the Abstract and Conclusion sections by visualizing their linguistic features.

Conference paper

Research article writing is full of conventions in both structure and content (e.g., (Chen, 2015; Glasman-Deal, 2009). There has been an increasing interest in identifying lexical bundles in different sections of the research articles, such as Abstract section (e.g., (Jeong, Nam, & Park, 2014; Shahriari Ahmadi, Ghonsooly, & Hosseini Fatemi, 2012) or analyzing the relationship between lexical bundles and moves and steps in research articles (e.g., (Cortes, 2013; Swales, 1990).

In this paper, we investigate the two important sections, Abstract and Conclusion, in research articles. Specifically, the investigation is conducted on ACL reference corpus (<http://acl-arc.comp.nus.edu.sg/>), consisting of 10K scientific articles in the domain of computational linguistics. To examine the context-dependent selectional preferences in the usages of lexical bundles in these two sections, we first evenly divide abstracts and conclusions/summaries of the scientific articles into three segments: the first segment representing the beginning of the section, the second representing the middle, and the third representing the end of the section. Then the occurrences of consecutive words in different segments of Abstract and Conclusion are automatically computed and frequent consecutive words are identified. Take the sentence for example "*This paper describes a natural language based expert system route advisor for the public bus transportation in Norway.*" Consecutive words include "*This paper*", "*This paper describes*", "*natural language based*", "*expert system route advisor*", and so on. These consecutive words are also known as n-grams where n stands for the number of words in n-grams.

The frequent n-grams in different segments of Abstract and Conclusion are examined by an experienced English professor. Thus, meaningful n-grams with respect to Abstract's and Conclusion's three segments are determined as lexical bundles which exhibit context-dependent or selectional preference properties in academic writing. As we can see in Table 1, lexical bundle "*This paper describes*" and "*This paper presents*" appear in the first segment of Abstracts much often than the others while "*Experimental results show that*" is used in the last segment of Abstracts more frequently than the other segments. On the other hand, as shown in Table 2, "*We have presented*" appears in the first segment of Conclusions much often than the others while "*we plan to*" and "*we would like to*" are frequently used in the last segment of Conclusions.

Table 1. Frequencies of example lexical bundles in Abstract w.r.t three segments

lexical bundle	frequency of		
	first segment	second segment	third segment
This paper describes	475	36	26
This paper presents	398	40	12
Experimental results show that	1	11	39

Table 2. Frequencies of example lexical bundles in Conclusion w.r.t three segments

lexical bundle	frequency of		
	first segment	second segment	third segment
We have presented	269	16	8
we plan to	10	34	93
we would like to	5	21	43

Such linguistics phenomenon of selectional preference in different contexts/segments of Abstract and Conclusion is interesting and observed semi-automatically through our framework. Moreover, to raise language learners' awareness of the appropriate use of lexical bundles as well as to assist their research paper writing, we develop a system (http://140.128.114.44/vizAW_v1/) which visualizes the usage preferences of lexical bundles in these two sections. For instance, Figure 1 and 2 visualize the preference/distributions among segments in Abstract and Conclusion respectively.

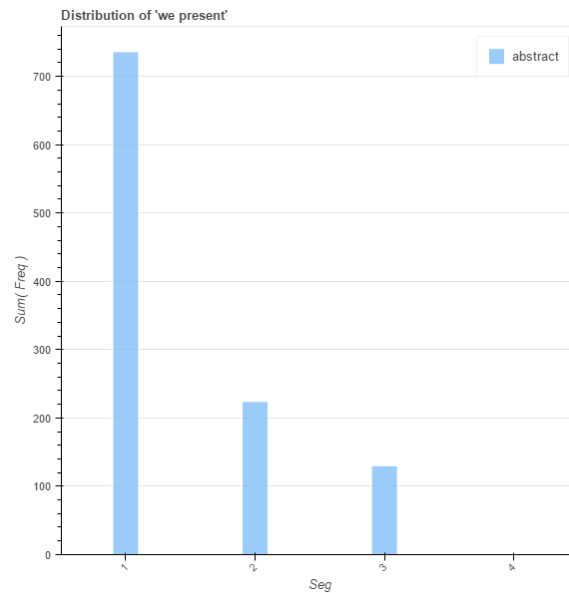


Figure 1. Preference among segments in Abstract for lexical bundle "we present". Note segments are denoted as *Seg* while preference is indicated by frequencies denoted as *Sum(Freq)*.

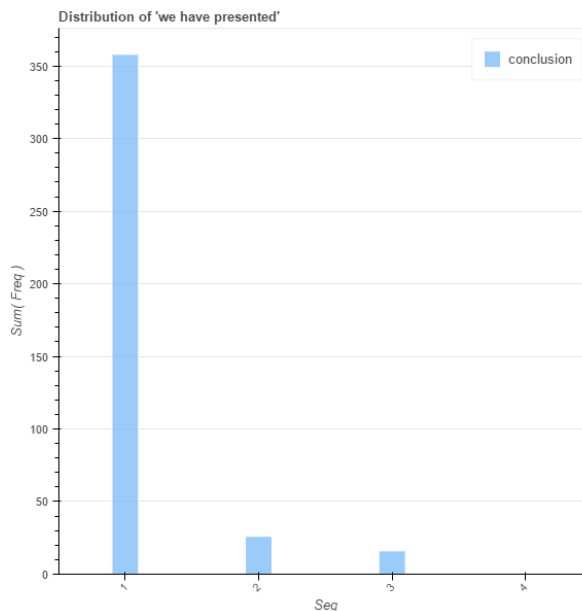


Figure 2. Preference among segments in Conclusion for lexical bundle “we have presented”. Note segments are denoted as *Seg* while preference is indicated by frequencies denoted as *Sum(Freq)*.

As suggested in Figure 1 and 2, in academic writing we prefer to use “we present” in Abstract’s beginning segment rather than the other two segments and, in Conclusion section, “we have presented” appears much frequently in the beginning segment than the other two. Combining this with the fact that the occurrence of “we present” in the first segment of Conclusion declines to around 50, we observe the linguistics phenomenon of how tenses may shift from one section to another in academic writing.

In summary, this paper not only identifies meaningful lexical bundles but examines selectional preferences regarding to the lexical bundles. Specifically, selectional preferences are investigated depending on contexts/segments (i.e. the beginning, the middle, and the end) of two different but important sections (i.e. Abstract and Conclusion) of research articles. The meaningful lexical bundles and their associated selectional preferences explored in this paper could be leveraged to improve academic writing for professionals and language learners alike.

CALL in Context

Besides the standardized structure of research articles, the expressions are also conventional. Specifically, lexical bundles in research articles have their own selectional preferences to serve specific communicative purposes. Also, the use of the lexical bundles could vary in different disciplines or genres. **Because of their context-dependent nature, lexical bundles in research articles are worth extensive investigation in terms of other potential linguistic features and different disciplines.** Knowing and mastering the conventional features is beneficial to engaging non-native speaker researchers in the research community. In this exploratory study, we attempt to identify the frequently used lexical bundles in Computational Linguistics articles and specify their linguistic features (i.e., tenses and positions).

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**Developing and Validating a Computerized Adaptive Testing System for
Measuring the English Proficiency of EFL College Students**

Bio data

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Abstract

Computerized adaptive testing (CAT) has gained immense popularity in recent years due to the rapid advancement of computer technology. For each test-taker of a CAT system, an item tailored most to his or her provisional proficiency estimate is selected from the item pool. After the item is answered, the test-taker's proficiency estimate will be updated in real time according to the response. With these features, CAT's efficiency is considered as an improvement over linear testing because much fewer items are needed to reach the comparable precision of proficiency estimation. Drawing on these advantages of CAT, this study described a research project that capitalized on the local language learning context and CAT to develop an English proficiency test battery (EPT-CAT) consisting of a reading component and a listening component and attempted to validate this battery with two simulation studies and one validation study. The first simulation study compared the test length needed for the EPT-CAT and that for a random selection method to reach the pre-specified test reliabilities. The random selection method was used to mimic the traditional testing which does not administer items adaptively. The results showed that the test length of EPT-CAT was much shorter than that of the random selection method. For instance, under the condition of test reliability equaling .90 in the reading component, 18 and 32 items were needed for the EPT-CAT and for the random selection method, respectively. The second simulation study evaluated the relationship among the true proficiency, the estimated proficiency by the EPT-CAT, and the estimated proficiency by the entire item

pool. The results revealed that high correlations existed between the true proficiency and the estimated proficiency by the EPT-CAT ($r = .96$) and between the estimated proficiency by the EPT-CAT and that by the entire item pool ($r = .97$) for both the reading component and the listening component. The validation study investigated the validity in estimating the English proficiency with the EPT-CAT. The criterion-related validity was calculated for the overall EPT-CAT, its reading component, and its listening component separately. The Test of English for International Communication (TOEIC) was chosen as the criterion of EPT-CAT. The results showed that the criterion-related validity measures, after undergoing the corrections for range restriction and attenuation, were .85, .80 and .76 for the overall EPT-CAT, its reading component, and its listening component, respectively. These values revealed that the EPT-CAT possesses a fair level of external validity.

Conference paper

Computer adaptive testing (CAT) has gained immense popularity in recent years due to the rapid advancement of computer technology. Essentially, it represents a form of computer-based testing and possesses a number of advantages as compared to traditional paper and pencil testing. Firstly and most importantly, CAT administers a unique set of items to each test-taker based upon his/her responses and requires less time for each test administration. For each test-taker, an item tailored most to his or her provisional proficiency estimate is selected from the item pool. After the item is answered, the test-taker's proficiency estimate will be updated in real time according to the response. As Silye and Wiwczarowski (1999) put it, "this flexi-level strategy [of test administration] eliminates the need for students to answer numerous questions that are too difficult or too easy for them" (p. 2). With these features, CAT's efficiency is considered as an improvement over linear testing because much fewer items are needed to reach the comparable precision of proficiency estimation. Secondly, CAT offers immediate feedback and eliminates the problem of scoring delays. That is, in addition to providing test-takers with their scores, CAT also generates immediate diagnostic feedback "to each student on those items answered incorrectly" (Brown, 1997, p. 48). This allows the test-takers to reflect on their incorrect answers before the memory fades.

Drawing on these advantages of CAT and the absence of computer-adaptive English proficiency tests in Taiwan, the current researchers capitalized on the local language learning context and CAT to develop an English proficiency test battery consisting of a reading component and a listening component (EPT-CAT) and performed two simulation studies and one validation study to validate this test battery. The first simulation study compared the test length needed for the EPT-CAT and that for a random selection method to reach the pre-specified test reliabilities. The random selection method was used to mimic the traditional testing which does not administer items adaptively. The results showed that the test length of EPT-CAT was much shorter than that of the random selection method. For instance, under the condition of test reliability equaling .90 in the reading component, 18 and 32 items were needed for the EPT-CAT and for the random selection method, respectively.

The second simulation study evaluated the relationship among the true proficiency, the estimated proficiency by the EPT-CAT, and the estimated proficiency by the entire item pool. The results revealed that high correlations existed between the true proficiency and the estimated proficiency by the EPT-CAT ($r = .96$) and between the estimated proficiency by CAT and that by the entire item pool ($r = .97$) for both the reading component and the listening component.

The validation study investigated the validity in estimating the English proficiency with the EPT-CAT. The criterion-related validity was calculated for the overall EPT-CAT, its reading

component, and its listening component separately. The Test of English for International Communication (TOEIC) was chosen as the criterion of EPT-CAT. The results showed that the criterion-related validity measures, after undergoing the corrections for range restriction and attenuation, were .85, .80 and .76 for the overall EPT-CAT, its reading component, and its listening component, respectively. These values revealed that the EPT-CAT possesses a fair level of external validity. In light of the derived findings, the researchers propose implications for L2 testing theory and practices.

CALL in Context

The current researchers performed this CAT project mainly as a response to the absence of computer-adaptive English proficiency tests developed specifically for the Taiwanese English-as-a-foreign-language (EFL) context. Therefore, they constructed the EPT-CAT by taking careful account of the characteristics of the Taiwanese EFL context and learners. Further, this project presented theoretical and practical impact for the field of language testing. With respect to the impact on language testing theories, the findings further corroborated the assumption that CAT, compared with traditional testing, can manage to maintain precise proficiency estimation with fewer items administered to the test-takers, thereby constituting a more reliable and efficient testing method. In regard to the impact on language testing practices, by requiring fewer items for each test-taker, CAT can reduce the burden of generating items, the time needed for taking the test, and the fatigue arising from the test-taking process.

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Touch-Screen ESP Courseware Design for the Smartphone-dominated Classroom Context

Bio data



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Abstract

This study aimed to devise touch-screen materials and activities for an ESP course (English for Information Technology) offered for Information and Multimedia majors at a Taiwan's university in order to solve the classroom problem of smartphone abuses. The study proposed a framework of touch-screen ESP courseware in which a fundamental ESP curriculum involves course information, ESP materials, professional culture knowledge of the career area, and interaction. These four parts were carried out in four individual sections designed in the courseware: course information, ESP materials, in-class peer interaction, and out-of-class peer interaction. Based on the framework and applying ubiquitous-learning features of smartphone technology, this study employed a free web builder providing both layouts compatible with the interfaces of desktops and smartphones, instead of using apps design software requiring fees and compatible only with either IOS or Android. Additionally, the study discussed the principles of instructional design in terms of 4-WHs: What components can be included into touch-screen materials and activities, when they are used, where they are taken place, and how they are carried out. The impact of context on this study has been that whiteboard- or projected screen-delivered materials and course activities in the ESP class have been drastically losing attractions for smartphone-addicted students. Such an impact of the smartphone-dominated classroom context has seriously challenged teaching activities and classroom interactions, significantly lowering teaching effectiveness. Traditional curriculum design and instructional technology can no longer tackle such a classroom context. Since there is no way against smartphone technology in class, a practical solution is finding a possible place for it in the context, taking advantage of it, and teaching with it. The touch-screen ESP courseware design of the study was thus shaped by turning the smartphone into a constructivist learning tool to flip the negative impact of context into the positive one. To flip the smartphone-dominated classroom, this study integrated the smartphone into learning, transforming the role of the distracting smartphone into a learning focus and a learner-directed tool. Students self-construct their own learning process using the smartphone to interact with touch-screen materials at their own pace, synchronously evaluate peer presentations, synchronously or asynchronously post group topic discussions, etc. The flipped smartphone can accordingly facilitate

constructivist and personalized learning to an optimal extent, as it is most learner-friendly ever for constructivist learning, drawing the phubber to a leading role. Follow-up research will experiment the devised touch-screen courseware to examine its effectiveness.

Conference paper

Introduction

Background and Purpose

The prevalence of smartphones has brought extensive impacts on our daily life, which phenomenon has also shown in school. Today's students are addicted to smartphones which cause many heavy users appear anxious if their eyes leave the small screen for a minute. Students' distractions from the smartphone in class have been a teaching issue from elementary schools to universities today. The impact of context on this study has been that whiteboard- or projected screen-delivered materials and course activities in the ESP class have been drastically losing attractions for smartphone-addicted students. Such an impact of the smartphone-dominated classroom context has seriously challenged teaching activities and classroom interactions, significantly lowering teaching effectiveness. Traditional curriculum design and instructional technology can no longer tackle such a classroom context.

Since there is no way against smartphone technology in class, a practical solution is finding a possible place for it in the context, taking advantage of it, and teaching with it. The touch-screen ESP courseware design of the study was thus shaped by turning the smartphone into a constructivist learning tool to flip the negative impact of context into the positive one.

To flip the smartphone-dominated classroom, this study integrated the smartphone into learning, transforming the role of the distracting smartphone into a learning focus and a learner-directed tool. In this sense, the smartphone was no longer an entertaining distraction in the classroom; rather, it played a role of convenient hand-held learning tool in class and outside the class at any time. By creating the touch-screen courseware for an ESP course (English for Information Technology) offered for Information and Multimedia majors at a Taiwan's university, this design study aimed to introduce its instructional design and applications, transforming the smartphone into a positive teaching and learning tool for educators who suffer from frustrations due to the smartphone's negative influences in class.

Literature Review

Mobile-assisted language learning (MALL) has developed over two decades. Previous studies have examined a variety of mobile technology such as MP3 players, personal digital assistants, tablets, and mobile phones which were mostly used in the areas of four language skills, and many studies have found positive effectiveness in teaching and learning (Burston, 2014; Fuente, 2012; Golonka, Bowles, Frank, Richardson, & Freynik, 2012). Research has indicated that MALL can not only implement a behaviourist, teacher-centered, and transmission model of instruction, but also support constructivist, collaborative, and learner-centered instruction (Burston, 2014).

Among mobile devices, cellphone technology is the type that has drastically developed and is prevalently used by learners, especially the emergence of the smartphone which significantly impacts learner behaviors-both positively and negatively. Research has delved into diverse issues mostly related to teacher and learner perceptions, impacts, and problems in terms of using smartphone technology in the classroom (Buck, McInnis, & Randolph, 2013; Gikas & Grant, 2013; O'Bannon & Thomas, 2014). Other studies

addressed the presentation effects, concentration, and classroom polling (Stowell, 2015; Warnich & Gordon, 2015; Yang, Li, & Liu, 2015). The instructional design of touch-screen materials and activities integrated into the courseware, especially in the ESP courseware, is deficient and has large room to explore.

Among learning theories, how constructivism can be applied in mobile technology has been increasingly explored in the age of mobile learning. As constructivist activities often focus on problems and demand active inquiry techniques (Anderson, 2016), mobile technology with advanced network techniques can afford and better facilitate individual and collaborate constructivist activities anytime and anywhere. As far, previous studies have looked at the effects of social constructivist mobile learning environments on knowledge acquisition (Marzouki, Idrissi, & Bennani, 2017), the use of mobile devices in language learning (Dashtestani, 2016), the impact on the lecture's role and learner's motivation (Alssaid, Ismail, & Hashim, 2016), and so on.

Instruments

Regarding touch-screen contents used on the smartphone, there are two kinds of application: One is apps and the other is web builders which provide both layouts for the interfaces of desktops and smartphones. Although many existing apps builders claim to be free, in fact most of them only release a trial version for 30 days or are usually invalid when installed on the smartphone. Considering usability and budgets, thus, free web builders which require no programming skills and provide both layouts for the interfaces of desktops and smartphones are more useful and cost-efficient for educators.

Applying the features of ubiquitous learning of smartphone technology and based on the above reasons, this study employed a free web builder offered by Wix.com which provides both layouts compatible with the interfaces of desktops and smartphones with no charge, instead of using apps design software requiring fees and compatible only with either IOS or Android.

Touch-screen ESP Courseware

Framework of touch-screen ESP courseware

On account of the small size of the smartphone touch screen, the touch-screen courseware design cannot accommodate everything. The instructor must carefully consider what information, materials, and activities are essential and important in order to make touch-screen content categories concise and efficient, so as to meet crucial uses of the course.

To make the smartphone-supported touch-screen courseware maximally afford context-dependent enrichment and personalization of the learning process, a basic ESP curriculum involves course and instructor information, ESP lessons, professional culture knowledge which prepares students for the knowledge of professional culture in a specific career area, and interaction. These four parts are carried out in four individual sections designed in the touch-screen courseware: course information, Lesson materials, in-class peer interaction, and out-class peer interaction. The fundamental framework of smartphone-supported touch-screen ESP courseware which indicates the contents of each part is manifested as follows:

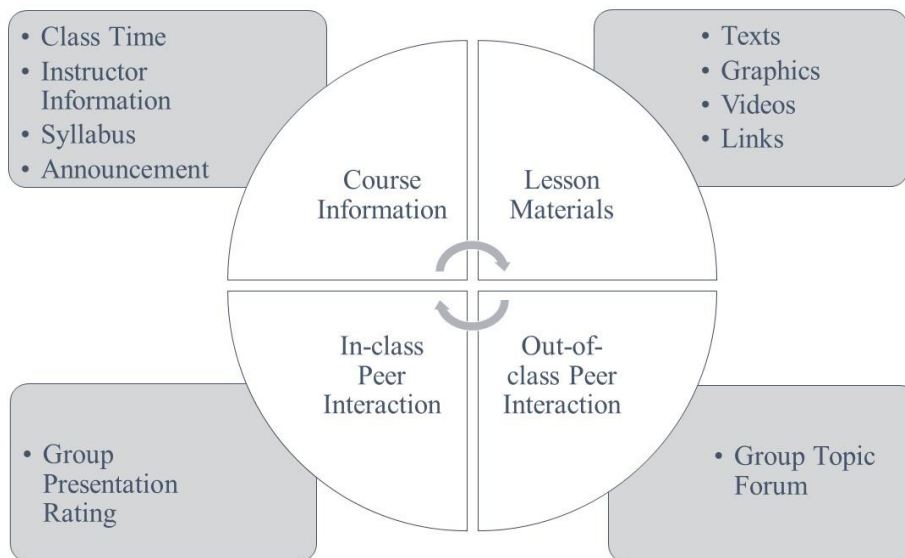


Figure 1. The Framework of touch-screen ESP courseware

As shown in Figure 1, the function and use of each section are elaborated as below.

The Course Information section covers class time, instructor information (i.e., name, email, office location, office hours, etc.), syllabus, and course announcement. In addition to information is directly displayed in this section, students can also open the syllabus attached as a word file.

The Lesson Materials section provides lesson texts, graphics, topic-related videos, recorded instructional video links, and other resource links. In the classroom, students may either listen to lectures by watching the projected large screen or their own smartphone screen. If they want to look up vocabulary, they may easily copy and paste the word or phrase to any preferred online dictionary or translation tool. Out of the class, students may take advantage of the pocket-sized smartphone to review lessons, watch videos, and other resources through the smartphone anytime and anywhere, with or without the earphones. Above all, they can pace their own learning based on personal learning conditions.

The In-class Peer Interaction section provides a real-time peer-interactive activity in which students can immediately rate group presentation performance through on the touch-screen screen. This in-class rating activity using the smartphone can engage students into real-time class participation and peer interaction.

The Out-of-class Peer Interaction section (i.e., Group Topic Forum) provides a peer-interactive activity outside the classroom. This activity requires each presentation group posts a discussion question related to their presentation topic after their group presentation (e.g., wearable technology, Internet of Things, etc.) on the forum site for classmates to brainstorm and share ideas within one week. The activities of the group presentation and group topic forum can encourage students to self-construct the information and ideas of professional cultures through resource searching and idea sharing.

This socially constructivist activity can be better carried out through the smartphone-enabled forum, as the touch-screen smartphone is an ideal device which facilitates interactive and constructivist learning ubiquitously and on the go. The group-led forum of

user-generated information and ideas can boost the constructivist interactions and promote learner ownership, transforming students from passive recipients of information to active participants in the learning process.

The 4-WHs of touch-screen ESP materials and activities

Based on the proposed framework, the touch-screen ESP courseware was accordingly designed. Figure 2 illustrates the selected layouts of the touch-screen courseware.

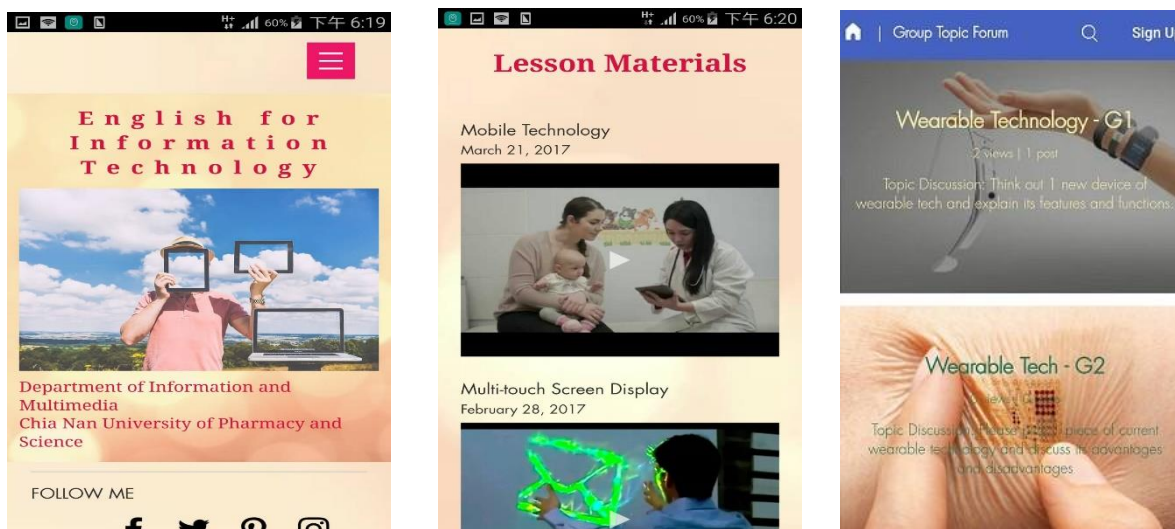


Figure 2. Touch-screen Courseware Screenshots: Home, Lesson Materials, and Group Topic Forum (From Left to Right)

With the touch-screen courseware designed, Table 1 briefly lists what, when, where, and how touch-screen ESP materials and activities are carried out. As shown in Table 1, lesson materials can be lectured in the classroom and students can either watch the projected large screen, touch-screen smartphone, or tablet. Group presentation rating can be conducted after each group's presentation, and students immediately use their smartphone or tablet to rate group presentation performance. Group topic forum is conducted outside the class. Each group chooses a presentation topic and posts a discussion question in their topic forum for classmates to brainstorm and share ideas in the forum. This activity can be conducted anywhere and anytime outside the class, using the smartphone, tablet, desktop, or laptop. For lesson review, students can make use of the smartphone, tablet, desktop, or laptop anytime and anywhere after class.

Table 1.
The 4-Whs of Touch-screen ESP Materials and Activities

Instructional Dimension	What	When	Where	How
	● Lesson Materials	in-class	classroom	projected screen; smartphone; tablet
Instructional Design	● Group Presentation Rating	in-class	classroom	smartphone; tablet
	● Group Topic Forum	out-of-class	anywhere	smartphone; tablet; desktop; laptop
	● Lesson Review	out-of-class	anywhere	smartphone; tablet; desktop; laptop

Conclusion

Today's students interact with the touch screen of the smartphone more often than watching the whiteboard or projected large screen in class. To solve the classroom problem of smartphone abuses, integrating students' preferred gadget into learning can make this distraction a learning focus.

This study of instructional design for ESP touch-screen courseware aimed to transform general ESP materials and activities into interactive touch-screen courseware in order to engage students in class and outside the class. In this interactive touch-screen courseware, students can self-construct their own learning process using the smartphone to interact with touch-screen materials at their own pace, synchronously evaluate peer presentations, synchronously or asynchronously post and respond to topic discussions, etc. By integrating learning into the smartphone use, the flipped smartphone not only facilitates constructivist and personalized learning to an optimal extent but also simultaneously flips the smartphone-abused classroom context, as it is most learner-friendly ever for constructivist learning, drawing the phubber into a leading role of learning. With this convenient smartphone-enabled courseware, students can even more efficiently make most of fragmented time in any possible learning contexts. This is what smartphone-enabled courseware significantly contributes to contextualization of ubiquitous learning.

This study provided general guidelines and an example of touch-screen courseware design as the first step for those educators who encounter teaching challenges in the smartphone-abused classroom and would like to seek to transform traditional materials and instructional activities in order to flip the smartphone-dominated classroom. Follow-up research will further experiment the devised touch-screen courseware to examine its effectiveness and learner perspectives.

CALL in Context

To flip the smartphone-dominated classroom, this study integrated the smartphone into learning, **transforming the role of the distracting smartphone into a learning**

focus and a learner-directed tool. In this sense, the smartphone was no longer an entertaining distraction in the classroom; rather, **it played a role of convenient hand-held learning tool** in class and outside the class at any time.

On account of the small size of the smartphone touch screen, the touch-screen courseware design cannot accommodate everything. The instructor must carefully consider what information, materials, and activities are essential and important in order to make touch-screen content categories concise and efficient, so as to meet crucial uses of the course.

To make the smartphone-supported touch-screen courseware maximally afford context-dependent enrichment and personalization of the learning process, a basic ESP curriculum involves course and instructor information, ESP lessons, professional culture knowledge which prepares students for the knowledge of professional culture in a specific career area, and interaction. These four parts are carried out in four individual sections designed in the touch-screen courseware: course information, Lesson materials, in-class peer interaction, and out-class peer interaction. The fundamental framework of smartphone-supported touch-screen ESP courseware which indicates the contents of each part is manifested as follows:

As shown in Figure 1, the function and use of each section are elaborated as below.

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The In-class Peer Interaction section provides an real-time peer-interactive activity in which students can immediately rate group presentation performance through on the touch-screen screen. **This in-class rating activity using the smartphone can engage students into real-time class participation and peer interaction.**

The Out-of-class Peer Interaction section (i.e., Group Topic Forum) provides a peer-interactive activity outside the classroom. This activity requires each presentation group posts a discussion question related to their presentation topic after their group presentation (e.g., wearable technology, Internet of Things, etc.) on the forum site for classmates to brainstorm and share ideas within one week. **The activities of the group presentation and group topic forum can encourage students to self-construct the information and ideas of professional cultures through resource searching and idea sharing.**

This social constructivist activity can be better carried out through the smartphone-enabled forum, as the touch-screen smartphone is an ideal device which facilitates interactive and constructivist learning ubiquitously and on the go.

The group-led forum of user-generated information and ideas can boost the constructivist interactions and promote learner ownership, transforming students from passive recipients of information to active participants in the learning process.

In this interactive touch-screen courseware, students can self-construct their own learning process using the smartphone to interact with touch-screen materials at their own pace, synchronously evaluate peer presentations, synchronously or asynchronously post and respond to topic discussions, etc. By integrating learning into the smartphone use, the flipped smartphone not only facilitates constructivist and personalized learning to an optimal extent but also simultaneously flips the smartphone-abused classroom context, as it is most learner-friendly ever for constructivist learning, drawing the phubber into a leading role of learning. With this convenient smartphone-enabled courseware, students can even more efficiently make most of fragmented time in any possible learning contexts. This is what smartphone-enabled courseware significantly contributes to contextualization of ubiquitous learning.

This study provided general guidelines and an example of touch-screen courseware design as the first step for those educators who encounter teaching challenges in the smartphone-abused classroom and would like to seek to transform traditional materials and instructional activities in order to flip the smartphone-dominated classroom. Follow-up research will further experiment the devised touch-screen courseware to examine its effectiveness and learner perspectives.

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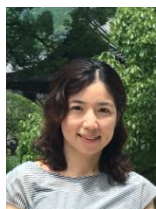
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Lessons Learned from Flipping an English Classroom for Vocabulary and Grammar Learning with Video Lectures

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Abstract

This study reports on an implementation and evaluation of a flipped language classroom, using a quasi-experiment with two groups of university-level English language learners. The curriculum contained a total of six weekly lessons, geared toward enhancing the students' vocabulary and grammar learning. The research findings revealed that this flipped classroom intervention did not lead to better English learning performance of the students in comparison with the conventional instruction, and the students' English learning motivation was at a slightly higher level with no significant differences as compared to that seen with the conventional instruction. The students' unfavorable perceptions of this flipped English classroom were also identified, and these were generally associated with more time and effort required for flipped learning on the part of the students. Taken together, critical reflections on this intervention point to the need to re-design the instruction for more satisfying outcomes, and lessons learned from this flipped English classroom will be discussed.

Conference paper

Lessons Learned from Flipping an English Classroom for Vocabulary and Grammar Learning with Video Lectures

1. INTRODUCTION

With its reversed structure of lecture and homework components, the flipped classroom approach has gained much research attention in recent years (Sams & Bergmann, 2013). In English language teaching (ELT) contexts, pioneering studies on flipped language classrooms have addressed varying learning aspects, such as English writing (Zhonggen & Guifang, 2016), reading comprehension (Huang & Hong, 2016), and vocabulary learning (Chen Hsieh, Wu, & Marek, 2017). However, since a limited number of empirical studies are currently available in the ELT literature (Egbert, Herman, & Chang, 2014), the effects of the flipped classroom approach on the learning of English as a second or foreign language are still inconclusive. To extend the research on flipped classrooms in ELT contexts, this study thus reports on an implementation and evaluation of a flipped English classroom, asking the following research questions: 1) Did the flipped classroom approach enhance the students' English vocabulary and grammar learning more than the conventional instruction? 2) Did the flipped classroom approach enhance the students' English learning motivation more than the conventional instruction? 3) What themes characterized the students' perceptions of this flipped English classroom?

2. METHOD

2.1. Participants

The participants were 81 sophomore university students, enrolled in an English language course. They were recruited from two classes of the same course, taught by the same instructor in the fall semester of 2015 at a public university in central Taiwan. The participants were mostly male, with a gender ratio of 6.4 to 1, and their ages ranged from 19 to 23. All the participants were non-English majors, and their English proficiency levels were estimated to be pre-intermediate (equivalent to the CEFR B1 level), as measured by a placement examination administered by the university.

2.2. Instructional Design

The instruction involved in this study lasted for six weeks, containing a total of six weekly lessons. Table 1 presents an overview of the instructional design and summarizes the major learning activities conducted in both settings of the flipped and non-flipped classrooms.

Table 1. The instructional designs of the flipped versus non-flipped classrooms

Setting	Pre-class activity	In-class activity
Flipped classroom	Watch a weekly video lecture	1. Receive a recap of the pre-class video lecture 2. Participate in group-based activities 3. Take a weekly quiz
Non-flipped classroom	Read a weekly unit of the textbook	1. Receive a face-to-face lecture 2. Take a weekly quiz

Every week, the students who learned with the flipped classroom approach were directed to watch a one-hour video lecture of the weekly unit before class to prepare for its associated lesson quiz. The six instructional videos used in this study were created by the instructor using MS PowerPoint. During the class, the instructor started the lesson with a recap of the video lecture and asked the students whether they had questions when they previewed or

self-studied the content. Next, the instructor put the students into small groups of three to four for them to practice the vocabulary and grammatical knowledge that they learned from the pre-class video lecture. Examples of such group-based activities were Vocabulary Bingo and Grammar Jeopardy. The students were thus engaged in different activities every week to produce language output in various ways, so as to enhance their mastery of the English language. Lastly, the instructor closed the lesson with a brief summary, and the students were then directed to take a weekly quiz, as a summative assessment of the unit.

In the non-flipped classroom or conventional instruction, the students did not watch any PowerPoint video lectures prior to class, but they had to preview certain assigned units of the textbook by themselves every week. The instructor spent most of the class time lecturing the content material, adopting the Grammar Translation Method, which has been widely recognized as a conventional pedagogical approach to the teaching of vocabulary and grammatical knowledge in ELT contexts. Similar to that in the flipped classroom, the lesson in the non-flipped classroom also concluded with a weekly quiz, covering the content of the lesson.

2.3. Data Collection

The data sources of this study include an academic learning assessment, an English learning motivation questionnaire, and participant interviews, and these are briefly described below. The academic learning assessment contained 25 multiple-choice questions, with a maximum score of 100 points. This assessment was designed by the instructor to assess the participants' academic learning performance with a focus on their development of vocabulary and grammatical knowledge. The academic learning assessment was administered to both groups of participants in the first and last weeks of this study, based on a pre- and post-test design.

The English learning motivation questionnaire was adapted from Dörnyei and Taguchi (2010) and implemented in the last week of this study. Both groups self-reported their English learning motivation by rating the 27-item questionnaire on a five-point Likert scale, ranging from 1 (not true) to 5 (very true). Negatively worded items were reverse-coded such that higher scores reflected more positive motivation. The Cronbach's alpha coefficients for the questionnaire ranged from 0.72 to 0.84.

A set of participant interviews were conducted, involving 20 volunteer participants recruited from the experimental group who learned with the flipped classroom approach. Each interview was conducted with a group of two to three self-selected participants for approximately 15 minutes, at their preferred schedule upon the completion of the flipped classroom intervention. These interviews were guided by one generic question regarding the students' perceptions of their flipped learning experiences: What do you like and dislike about learning in the flipped classroom? To better elicit the participants' points of views, all the interviews were conducted in the participants' native language, Mandarin Chinese.

3. RESULTS

3.1. English Learning Performance

Both groups' pre- and post-test scores in the academic learning assessment were compared using one-way ANCOVA. No significant difference was found in the pre-tests, indicating that both groups started at the same level. As shown in Table 2, the participants in the non-

flipped classroom outperformed their counterparts in the post-tests. This suggests that the flipped classroom approach did not benefit the participants' English learning performance more than the conventional instruction was able to.

Table 2. Group comparison results of English learning performance

Group	N	Mean	SD	F	p
Flipped classroom	40	67.40	18.80	0.28	0.59
Non-flipped classroom	41	69.60	20.98		

3.2. English Learning Motivation

An independent samples t-test was conducted to compare the mean scores of the participants' English learning motivation, as measured by the two post-questionnaires under the instructional contexts of flipped versus non-flipped classrooms. As can be seen in Table 3, there was no significant difference in the participants' motivation scores between the two instructional contexts, although those who studied in the flipped classroom demonstrated slightly higher levels of motivation than those who studied in the non-flipped one. This implies that the flipped classroom approach was not able to significantly enhance the students' motivation in comparison with the conventional instruction.

Table 3. Group comparison results of English learning motivation

Group	N	Mean	SD	F	p
Flipped classroom	40	4.04	0.70	0.57	0.57
Non-flipped classroom	41	3.97	0.72		

3.3. Student Perceptions

Content analysis was used to examine the participants' interview comments with regard to their perceptions of learning in the flipped English classroom. Many of the participants who liked or appreciated the flipped classroom cited more interactions with the teacher and their peers. They also perceived their own active participation and involvement in class as the merits of this approach. The students' positive comments often highlighted their active roles in learning. One noted, "It's more fun learning and interacting with others. I can actually use the vocabulary and grammar I've learned when communicating in English." Another stated, "I enjoyed participating in group activities more than studying the textbook by myself. I also felt that my direct involvement in the activities reinforced my vocabulary memory." Clearly, these students were satisfied with their flipped learning experiences.

By contrast, some of the participants disliked learning in the flipped classroom because this approach appeared to demand more workload compared to traditional teaching, which in turn led to their negative views of the flipped classroom approach. One complained, "Viewing the video lectures before class was too time-consuming for me." Another stated, "The lecture-style videos are too lengthy to watch, and not as attractive as face-to-face lectures." A few students also mentioned that they often skipped substantial amount of the video lectures to save time or simply because they were distracted. One admitted, "I lack self-discipline to conduct the previews and to stay focused during the in-class activities. I

would rather the teacher lecture and 'teach to the test' in the traditional way, so that I don't have to spend extra time and effort preparing for the course tests." These comments indicated that not all students "buy into" the spirit of flipped classrooms.

4. DISCUSSION

The overall results suggest that exposing students to a flipped classroom does not always lead to effective and engaging learning, as much preparation from both the teacher and students needs to be done before a learner is ready to take more responsibility for active learning. This section now discusses the major findings of this flipped classroom intervention, based on its affective and cognitive impacts.

Regarding the affective impact, the findings of this research were broadly consistent with relevant studies on flipped classrooms in ELT contexts (e.g., Chen Hsieh, Wu, & Marek, 2017; Zhonggen & Guifang, 2016), in that the student-centered benefits of such classrooms were generally valued by the participants. However, some of the participants in this study appeared hesitant and disoriented during the self-paced process of flipped learning, echoing the results of earlier works. For example, Hao (2016) flipped two undergraduate courses with 84 Taiwanese university students, and surveyed their perceptions of learning. Although the students' general perceptions seemed positive, only 39% perceived that learning in the flipped classroom was able to meet their needs. It was further found that the need for self-discipline and academic motivation on the part of the learner was among the main reasons why the students disliked their flipped learning experiences. These learner perceptions are in line with the concerns and complaints expressed by the students in the current study, who dismissed the idea of flipped learning because they were either unmotivated or unable to self-regulate effectively when doing the previews before class and/or participating in collaborative activities in class. These students' dissatisfaction could also be attributed to the greater demands on student time and heavier workload in the flipped classroom, as confirmed in the current study.

Turning to the cognitive impact, while many previous studies conducted in the disciplines of science, technology, engineering, and mathematics (STEM) have revealed enhanced student performance of subject-matter learning (e.g., Christiansen, 2014; Kima, Kim, Khera, & Getman, 2014), the findings of this work showed that the flipped classroom approach failed to improve the participants' academic achievements (in this case, English vocabulary and grammar learning) more than the conventional instruction. These conflicting research findings may be due to the differences between this and the earlier works in the instructional design and the learning content being flipped. It appears that there exists ample flexibility as to what teachers can actually do in practice when flipping their own classrooms. Taking the design of the instructional material as an example, the creation tool, content, and length of the video material are not explicitly defined in the current literature on flipped classrooms, making it difficult to compare the empirical results derived from research with varying instructional designs, since certain design elements may have been compounding factors that affected the success of a specific flipped classroom in a local context. For instance, the present study employed teacher-made video lectures in the PowerPoint format as the flipped learning material, but the results regarding the students' English learning performance were not satisfactory. In contrast, Hung (2017) made use of short videos that were authentic and readily available online, and the results showed that the students' academic achievements were positively influenced by their exposure to the flipped English classroom. Along the same lines, the instructional designs of other studies that reported improved academic achievements involved, for example, the use of a self-regulated monitoring system to guide students' self-paced learning processes (Lai & Hwang, 2016), the use of a clicker system to facilitate the in-class polling and discussion activities (Zhonggen & Guifang, 2016), and so on. Briefly, the lack of a consensus view regarding

student learning outcomes between this study and others, as discussed above, suggests that not every flipped classroom looks and works the same. While identifying the best practices and predictors of effective flipped classrooms is beyond the scope of this study, future research is recommended to examine related issues, with special attention to the efficacy of specific design elements associated with the flipped classroom approach in different contexts.

5. CONCLUSION

The overall results of this study revealed that this flipped classroom intervention did not lead to better English learning performance in comparison with the conventional instruction, and the students' English learning motivation was at a slightly above average level with no significant differences as compared to that seen with the conventional instruction. The students' unfavorable perceptions of this flipped English classroom were also identified, and these were generally associated with more time and effort required for flipped learning on the part of the students. Accordingly, this study concludes with a caution that not every flipped classroom leads to effective learning, and that not every student can be engaged to learn well in the same way. Critical reflections on this research point to the need to re-design the instruction for more satisfying outcomes, taking into consideration the roles of engaging flipped classroom activities, effective material design of instructional videos, and appropriate student workload for flipped learning. This work thus concludes with a call for more research on innovative practices of flipped classrooms.

CALL in Context

This study was set up to investigate undergraduate students' vocabulary and grammar learning experiences in a flipped English classroom in Taiwan. With regard to the design of technology-enhanced learning environments in this research context, the flipped English classroom was constructed through guiding the students to preview teacher-made video lectures created by MS PowerPoint prior to class and then engaging the students to participate in various group-based activities in class. Surprisingly, this instructional intervention did not lead to satisfying student learning outcomes that were anticipated. Drawing on the research findings, this study argues that flipping the classroom is not merely about creating instructional videos or lecture replacements, but also requires the thoughtful integration of instructional technologies and strategies in order to establish an effective and engaging learning environment.

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The effects of multimodal videoconferencing on efl learners willingness to communicate, self-efficacy, and communication confidence

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Abstract

Although studies on computer-mediated communication (CMC) abound in the literature, most target the text-based modality. Not enough studies investigate the pedagogic potential of synchronous multimodal videoconferencing in enhancing aspects of students' affect in learning a second language (L2). Furthermore, most examine the effects of virtual communication on learning performance or the issues encountered while participating in virtual communication. Few, if any, are situated in the English as a Foreign Language (EFL) context to explore how videoconferencing influences affective elements of L2 learning. Hence, the current study explored how the participation in multimodal videoconferencing sessions affected three affective factors –Willingness to Communicate (WTC), Self-efficacy (SE) and Communication Confidence (CC). Twenty participants from the experimental group took part in three 30-minute telecollaboration tasks via multimodal videoconferencing that included interactions in textual, audio, and visual modes while another twenty participants from the control group completed the same tasks face-to-face. Instruments include an adapted WTC, SE, CC scales, semi-structured interviews and learner reflections. Data analyses led to two major findings. First, learners in the experimental group exhibited significantly higher levels of WTC than those in the control group, suggesting that multimodal videoconferencing increased learners' WTC. Moreover, qualitative findings indicated that learners' WTC in multimodal videoconferences was influenced by task topic, support from multimodal texts, the patterns of multimodal interaction and the interlocutors. Second, there were no significant differences in SE and CC between learners in these two groups, indicating that learners' SE and CC were not enhanced after the multimodal videoconferencing intervention. Qualitative investigations revealed some possible reasons

that included the lack of verbal persuasion (i.e. verbal feedback and encouragement or discouragement), limited attributional feedback, and insufficient intervention time.

Conference paper

Background

Research on computer-mediated communication (CMC) in the second language (L2) context has grown rapidly since the early 1990s. Nevertheless, much research in the CMC strand of research has focused on written communication, whether synchronous or asynchronous while little effort has been invested on oral CMC (Yanguas, 2010). Consequently, the studies on communication and discourse have also focused on single-mode, text-based written CMC. As technologies have evolved, CMC forms have evolved into synchronous voice-based and multiple-mode CMC. As Shih (2014) indicates, the advent of synchronous CMC tools has shifted much of the communication from texting to talking within the virtual environments. These tools facilitate more sophisticated communication in terms of information depth, manners of communication, enhanced synchronicity and user autonomy.

Due to the advancement of educational technology, there has been a pedagogical transition toward using multimodal environments (Stockwell, 2007). According to Hampel and Stickler (2012), an increasing number of teachers have started to incorporate multimodal videoconferencing environments into their teaching. The applications of multimodal environments include audio-conferencing and desktop video-conferencing.

Therefore, a number of empirical studies have been conducted to examine the use of videoconferencing in the language classrooms (Hampel & Stickler, 2012; Develotte, et al, 2010; Yanguas, 2010; Shih, 2014).

Although studies on virtual communication abound in the literature, most of them target the written modality. Not enough studies have made systematic attempts to investigate the pedagogic potential of multimodal videoconferencing system in enhancing students' communication experience. Furthermore, among these studies, most examine the effects of virtual communication on learning performance or the issues encountered while participating in virtual communication. Few, if any, are situated in the EFL context to explore how videoconferencing system affects learners' Willingness to Communicate (WTC), Self-efficacy (SE) and Communication Confidence (CC). Hence, in light of these problems, the current research project attempted to bridge the gap in the literature by exploring if the participation in video conferencing system can enhance students' WTC, SE and CC.

Proceeding from the foregoing purposes, this research project proposed two research questions for investigation in the first year.

1. Does the participation in the multimodal videoconferencing sessions enhance EFL learners' WTC? If it does, in what ways does the participation in multimodal videoconferencing sessions influence EFL learners' WTC?
2. Does the participation in the multimodal videoconferencing sessions enhance EFL learners' SE? If it does, in what ways does the participation in multimodal videoconferencing sessions influence EFL learners' SE?
3. Does the participation in the multimodal videoconferencing sessions enhance EFL learners' CC? If it does, in what ways does the participation in multimodal videoconferencing sessions influence EFL learners' CC?

Methods

Participants

The study recruited participants from two intact English classes, one as the experimental group and the other as the control group. The experimental group consisted of 16 students while the control group consisted of 18 students.

The videoconferencing system: *JoinNet*

JoinNet is the multimedia communication client software developed by HomeMeeting Inc. Once *JoinNet* is connected to the Home Meeting server, a user can start online synchronous talking with other participants using audio, video, and text chat in the meeting room of *JoinNet*. Users can also share and discuss uploaded slides, figures, documents, and websites. It even allows users to control other participants' PCs or laptops remotely through the interactive board. Since *JoinNet* provides one-to-some online videoconferencing program, it allows teachers to instruct multiple students simultaneously (Lin, Hsiao, Chiang, & Huang, 2013). Furthermore, it also enables multiple users to discuss at the same time. That is to say, one student user can act as the chair of the meeting, while the rest can discuss questions and share ideas as meeting participants. Additionally, as stated by Chen, Ko and Kin (2005), *JoinNet*, serving as one form of SCMC tool, can provide the multi-functionalities like whiteboard, text chat, audio/video communication to allow information sharing, and everyone could upload their documents to the whiteboard and discuss group assignments and collaborate on projects. Besides, participants' interpreting and discussion would all be automatically audio and video recorded by the system. Therefore, *JoinNet* can also be seen as the one of the reliable and stable two-way video and audio platforms for e-learning (HomeMeeting, 2007). Thus, *JoinNet* will serve as the multimodal videoconferencing platform for the current study.

The intervention

Students were instructed to participate in three instructional tasks. Adapted from Sweeney (2004), these three tasks, in the format of role-play-based discussion, intend to give learners experiences of participating in videoconferencing. Learners were given a role to play or a position to argue so that each participant had equal footing in contributing to discussion. The first task was about decision-making while the second and third tasks pertained to problem-solving.

Instruments

The data were collected through three instruments: adapted questionnaires, interviews and reflections. The questionnaire was adapted from Peng and Woodrow (2010). After reviewing some items to better suit the current context of the study, the questionnaire was administered twice, before the intervention and after the intervention. Next, after the intervention, 6 students from the experimental group were invited to participate in two semi-structured interviews, conducted in their native language, Chinese, to minimize the potential misunderstandings caused by language barriers and to ensure effective communication. Finally, all of the students in the experimental group were asked to submit a reflection of 400 to 500 English words. They were encouraged to reflect on their communication experience in the multimodal videoconferencing sessions.

Findings

Data analyses led to two major findings. First, before the intervention, the WTC questionnaires were administered as a pre-test to compare students' level of WTC between the experimental and control groups. The results revealed that there was no significant difference between both groups, indicating that before videoconferencing treatment, there was no significant difference in WTC between two groups. After the intervention, the WTC questionnaire was administered again as a post-test. The results indicated that the

experimental group generated a significantly higher level of WTC than the control group (Table 1).

Table 1. *The t test for independent samples comparing the mean difference in the post-treatment WTC levels between the Videoconferencing group and Non-videoconferencing group*

Group	N	M	SD	Skewness	Kurtosis
Videoconferencing group	16	46.94	3.71	-.20	-1.63
Non-videoconferencing group	18	43.00	5.90	-.44	-.97
Independent comparisons					
Comparison	M	SE	t(32)	Sig.	
Video v.s. Non-video	3.94	1.72	2.29	.03*	

* $p < .05$

Hence, it can be concluded that learners in the experimental group exhibited significantly higher levels of WTC than those in the control group, suggesting that multimodal videoconferencing increased learners' WTC. Moreover, qualitative findings indicated that learners' WTC in multimodal videoconferences was influenced by task topic, support from multimodal texts, the patterns of multimodal interaction and the interlocutors.

Second, there were no significant differences in SE and CC between learners in these two groups, indicating that learners' SE and CC were not enhanced after the multimodal videoconferencing intervention. Qualitative investigations revealed some possible reasons that included the lack of verbal persuasion (i.e. verbal feedback and encouragement or discouragement), limited attributional feedback, and insufficient intervention time.

Implications

Based on the findings, two implications are proposed. First, EFL teachers can employ effective instructional tasks in videoconferencing to foster learning and teaching in the EFL curriculum as well as to raise learners' WTC. Second, teachers can create multimodal environment that combine text, audio, video to enhance peer collaboration through diverse patterns of multimodal interaction. However, in order to draw a sound conclusion on the effects of videoconferencing on SE and CC, more extensive interventions should be planned.

CALL in Context

The findings of this study bridged the research gap in the literature on multimodal videoconferencing in the L2 contexts. Specifically, the study contributed to the existing literature in that (1) it examined the effects of videoconferencing on EFL learners' WTC, (2) it also determined the effects of videoconferencing on learners' SE and CC, (3) it investigated learners' perceptions toward multimodal videoconferencing. The impacts from the current videoconferencing project can shed light on telecollaboration and telecommunication process.

Different from face-to-face interaction, videoconferencing provided a more dynamic mode of communication—one that required digital literacy. Because of multimodality, CMC has shifted from being predominantly text-based to being audio-visual-media-based. To keep up with this gradual transition, learners have learned to utilize multimodal affordances to convey and decode messages in the videoconferencing platform.

With these findings and impacts in mind, EFL professionals can create multimodal environments that combine text, audio, and video to not merely foster learners' negotiation of meaning but also promote WTC through diverse patterns of multimodal interaction. In brief, With this information in mind, they can employ more effective instructional interventions to foster communication performance in the virtual learning environment. However, they should also engage learners in a more extended intervention in order to foster learners' SE and CC.

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Teaching English in Post-Soviet Countries: How does an Eastern European setting inform and help shape the role technologies play in a modern English language learning environment?

Bio data



Nicholas Huzieff has been teaching English since 2007 and has taught in Ukraine, Saudi Arabia, Moldova and now in Armenia. He holds a CELTA, received his BA from the University of California, Berkeley and received an MA in TESOL from The New School in New York. He was a co-trainer for Fulbright English Teaching Assistants in Washington, D.C. in the summer of 2015. He enjoys spending time with his wonderful wife and two little princesses.

Abstract

Knowing our context and the reasons we do the things we do in the classroom is no doubt important. Using a certain procedure in tandem with a core belief justifying this procedure is essential. My ongoing research touches upon the central role that Audiolingualism has generally helped play in the field of English as a Foreign Language (EFL) and educators' decisions to design curricula to conform to relatively strict learning practices in many language learning institutions in Eastern Europe along with the incorporation of technologies. The Audiolingual Method was the primary approach employed by a large number of English language teachers in this vast territory, an approach that placed a distinct focus on accuracy. Its primary purpose was (and still remains in many parts of Eastern Europe)...`habit-formation through constant repetition of correct utterances, encouraged and supported by positive reinforcement in the form of teacher praise or the simple acknowledgement that the student got it right' (Harmer, 2015:57). In a post-method era, the communicative language teaching approach has effectively taken center stage since the 1970s and 1980s and is still considered by many to be the norm in many English language learning institutions around the world today along with the incorporation of technologies. Some questions arise here: how does the context (of Eastern Europe specifically) shape the look of the learning environment? To what extent do technologies provide context-dependent enrichment and personalization of the learning process? What may be some appropriate models for doing so? How can technologies contribute to the contextualization of the English language learning process? What does the research say in regards to effective practices of incorporating forms of technology in the English language learning classroom? What exactly counts as effective practice anyway?

Having taught English as a Foreign Language in this part of the world since 2007, I have been afforded a unique first-hand experience of what contemporary English language classrooms in Eastern Europe look like and the seemingly undying belief as to a form of Audiolingualism as an effective approach in some circles. As part of my ongoing research, a

survey examining educators' preparation experiences was developed and distributed to practicing EFL teachers in the above-mentioned countries. The ongoing research for my project examines current English language teaching practices in Eastern European environments incorporating educational technologies relative to persevering English language learning beliefs and common instruction practices and what this all means.

Conference paper

Teaching English in Post-Soviet Countries: How does an Eastern European setting inform and help shape the role technologies play in a modern English language learning environment?

Eastern European Context & the Learner

About a century ago, 'Behaviorism' largely influenced the practices of many English language teachers. Behaviorists accounts of lanugage learning became quite popular in the early part of the 20th century and the Direct Method (also known as the Berlitz Method) tranformed into a related yet novel method in the United States: *The Audiolingual Method* (the so-called *Oral-Situational Approach* in Great Britain). This method...'attempted, through a continuous process of such positive reinforcement, to engender good habits in language learners' (Harmer, 2015:56). The following example displays a typical audiolingual drill as would have been employed in the English language classroom:

Teacher: *There's a cup on the table...repeat.*

Students: *There's a cup on the table.*

Teacher: *Spoon.*

Students: *There's a spoon on the table.*

Teacher: *Book.*

Students: *There's a book on the table.*

Teacher: *On the chair.*

Students: *There's a book on the chair.*

(*ibid.*)

Although this method in its straightforward execution seems relatively rigid and somewhat unnatural, Jim Scrivener notes that...'although based on largely discredited theory, the techniques and acrtivities continue to have a strong influence over many classrooms...[the Audiolingual Method] aims to form good habits through studednts listening to model dialogues with repetition and drilling but with little or no teacher explanation' (Scriver, 2011:31).

Audiolingualism & Technology

Since Audiolingualism was first used in the then-U.S.S.R. and is still being used today in many post-Soviet countries (in its various modified forms), it seems to be a mainstay in standard methodology. To what extent do technologies provide context-dependent enrichment and personalization of the learning process then and what may be some appropriate models for doing so? How can technologies contribute to the contextualization of the English language learning process? Using the popular YouTube internet-based platform has proved to be an extremely effective means of providing learners with real people around the world engaged in real and meaningful dialogues. Simply typing the name of the country one is teaching in can offer a wealth of information that teachers can then use as a starting point for creating communicative tasks for students. Often, colleagues of mine in some of the Eastern European countries I have taught in will, for example, routinely

use drills for some of the sentences or words that the people on the YouTube video have used if these sentences or words prove difficult to pronounce for students. Students will then be given the opportunity to practice a given dialogue (normally shown on the board as a model to practice) before being allowed to do a freer form of a similar dialogue of their choosing.

Context-responsive teaching & Technology

What about the modern-day classroom and context-responsive teaching? How can technology be utilized in terms of context-responsive teaching? The idea of context-responsive teaching draws from and expands on the teaching strategies and repertoires described in education literature as culturally responsive teaching, place-based and community-based teaching, differentiated teaching and teaching that collaborates with families and communities, as well as on my own experiences as an English as a Foreign Language (EFL) teacher for ten years. Teaching in a context-responsive manner requires that teachers not only understand the contextual factors that influence their students' lives, but also that they have practical strategies for learning about these factors and a range of meaningful ways to incorporate and respond to this contextual information in their classroom practices. Often this includes incorporating technology in the classroom, whether through images displayed on an interactive whiteboard using Google as a search engine or through allowing students to use their cell phones to find information and to then share with the class. In blended learning, students can be asked to 'look things up on their mobile phones in the middle of the lesson or search for more texts like the one the class have been working with' (Harmer, 2015: 205). However, according to my research, many teachers are still somewhat reluctant to try out new technology in the classroom and some are still unsure of what context-responsive teaching entails exactly.

Adapting to a Modern World

It appears that a good number of educational establishments in many parts of the former Soviet Union support a more student-centered and communicative-based classroom in keeping with current English teaching trends. Education establishments in Eastern Europe seem to have been following suit with many countries around the world in that they have been increasing their budgets to allow for purchasing technology for equipment to use in the classroom according to the survey I carried out with a total of 90 English language educators in post-Soviet countries which included Ukraine, Moldova, Romania and Armenia. However, professional development in how to *effectively* use technology in the classroom tends to largely be the responsibility of the teacher herself and not the school in which she teaches. My research has shown that the English language teaching field here in Eastern Europe is attempting to 'catch up' with Western European and other countries in terms of the quality and the frequency in which technology is integrated into and employed in the English language classroom.

Survey Results

Even though we live in the so-called 'age of technology', many English language teachers I have interviewed in this part of the world appear to be somewhat uncomfortable with the idea of integrating technology into their own classrooms due to a number of reasons. These reasons include a certain lack of preparation and proper tools (82%), negative perceptions about technology in general (70%) and not being truly convinced of the effectiveness of classroom technologies (85%). In addition, many of the educators whom I interviewed are fully committed to technology integration in their own classrooms (92%), yet are often uncomfortable with utilizing it effectively (88%). What exactly does it mean to incorporate technology in an *effective* manner anyway though (i.e. in a way that facilitates and even maximizes learning and student engagement)? How would we thoroughly measure this? What standard(s) would we use to compare and contrast and how long should the study go

on for in order to have plausible results? The teacher survey that I have carried out for a decade now shows that although a considerable number of English language educators are wary about using technology, many still opt to utilize it.

Conclusion

How do English language educators effectively incorporate forms of technology in the English language learning classroom? As Jeremy Harmer notes...‘we, as teachers, should consider carefully where online material contributes (and blends) most appropriately with the other things that are happening in class and use it then, rather than just using it ‘because it is there’ (Harmer, 2015: 205). Engaging students by utilizing technology seems to be key to maximizing learning and motivation, and learning about one’s students seems to be the bridge to doing just that. Provided that the emphasis in many language schools in Eastern Europe seem to be on ‘getting it right’ (i.e. getting students to provide correct utterances in the target language), many English teachers subscribe to employing some form of Audiolingualism. Technology does continue to play a role in classrooms, and the role it plays seems to largely be based on what available technology the teacher is aware of and then whether she knows how to properly use it. What exactly counts as effective practice though given that Audiolingualism appears to be the predominant method routinely practiced in teaching English as a Foreign Language (EFL)? How to incorporate technology with the Audio Lingual Method in a way that is justifiable to all relevant stakeholders and that maximizes student learning? These questions are still up for debate and continue to stimulate engaging conversation in this part of the world (and beyond).

CALL in Context

The CALL 2017 conference theme is *the role of the local context of the learner*. My research project considers how an Eastern European setting informs and helps shape the role technologies play in a contemporary English language learning environment. That said, my work focuses on the extent to which the context of some so-called Post-Soviet states (i.e. mainly Eastern Europe) helps shape the look of the learning environment. Provided that language learning in this part of the world was governed by the Soviet education system, the Audiolingual method had a large role in language teaching, specifically English language teaching. To what extent do technologies provide context-dependent enrichment and personalization of the learning process? What may be some suitable models for doing so? How can technologies contribute to the contextualization of the English language learning process?

My project touches upon certain mediums that the English language educators I interviewed tend to use in their own practices, which include online platforms such as *YouTube*, *Google* apps and a current fad, a popular medium called *Kahoot* which can be utilized in a number of different ways to engage learners in the classroom. What are some effective practices of incorporating forms of technology in the English language learning classroom? What exactly counts as effective practice? How can we thoroughly measure this? These kinds of valid points are debatable, and certain key figures in the TESOL field (e.g. Scott Thornbury) have questioned the motivation for English language educators to incorporate technology in their classrooms in the first place—what added value does technology provide?

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Using Animation to Connect Local Context to Enhance Chinese Characters Learning

Bio data



Ming-Yueh Hwang is a professor in the Dept. of Adult & Continuing Education, National Taiwan Normal University. She got PhD from the University of Texas, Austin. She is interested in the application of instructional technology in the lifelong learning. Moreover, She concerns the instruction for the disadvantaged adult learners who are elders and the women from the transnational marriage in the adult basic education programs.

Abstract

All Chinese characters are logograms, and radicals are their basic components. The radicals can be classified into two categories: phonetic radicals and semantic radicals. A phonetic radical represents the sound of a character whereas a semantic radical provides clues to the meaning of the character. That means a semantic radical has the story of its symbol origin which is connected to the culture or life experience of local context. Written Chinese words are constructed via three-tiers orthographic structures: characters, radicals, and strokes. There are several handwriting errors found among the adult learners from the transnational marriage due to insufficient knowledge of radicals, for example, stroke missing, incompleteness of radicals, radicals misplaced, or incorrect radicals. Based on literature review, the orthographic knowledge-based cognitive strategies are the most commonly used to learn Chinese characters. Moreover, recalling stories requires a learner to engage actively in the process of interpreting and integrating knowledge into his/her schema. Therefore, this study aims to use Chinese character animation to reduce Chinese handwriting errors by promoting the learners' understanding of the stories of the radicals including original meanings and shapes of the radicals, their transformations, and the logic of the combinations of the radicals to form Chinese characters.

The "Chinese characters animation" is constructed according to the hierarchy of Chinese words, that is: radical-> character-> words. Moreover, using radical-deriving strategy increases Chinese learners' Chinese knowledge. In this animation, within 3 minutes, the origin and transformations of each radical are introduced in the contexts of Chinese historical stories or metaphors, then, the characters family with the same radical are presented to understand the parts assemble the characters and their meanings. Furthermore, the popular words through the linkage of characters are introduced. Except narrations, full captions in Chinese or English are presented on the bottom of the screen, and key images are used in need.

This study was implemented following the procedures of pretest, treatment (watching the animation), discussion, and posttest in each section for a series of six weeks to 16 learners

from transnational marriage in the adult literacy education program in Taiwan. During watching and discussion, the learners tried to understand and memorize the Chinese radicals and characters through reflecting and connecting the stories with their life experiences in local context. This study found the Chinese characters animation could reduce learners' Chinese handwriting errors significantly.

Conference paper

Background and Purpose

Due to the transnational marriage, there are more and more female immigrants from Southeast Asia in the adult basic education programs to learn Chinese in Taiwan. Languages in the most Southeast Asia countries are alphabetic-oriented. However, most Chinese characters are logograms and the radicals are the basic components. Therefore, there are several handwriting errors found among the adult learners from the transnational marriage due to insufficient knowledge of radicals. For example, stroke missing, incompleteness of component, component misplaced or incorrect radicals. As a Chinese character, missing one stroke would lead to another character with quite different meaning. In order to enhance Chinese character learning, it is useful to understand the stories of the radicals including original meaning and shape of the radicals, their transformations, and the combination of the radicals to form Chinese characters as well as words. Since the development of the technology, there are more and more video programs developed for Chinese characters learning based on radicals introduction. Current studies have proved the psychological entity as well as pedagogical meaning of the radical, however, little has done for effects of radical learning through animations. Therefore, this study aims to use Chinese character animation to reduce Chinese handwriting errors by enhancing the learners' understanding of the stories of the radicals.

Theoretical foundations

The ancient Chinese created written language by drawing pictures of objects according to their shape and form, rather than their sound. New characters were formed by combining two or more symbols to represent more complex or abstract concepts. Each character reflecting a story or suggesting a logical or philosophical idea (Li, 1996). Chinese characters can be classified into two categories according to their physical structure: integral characters and compound characters. An integral character contains only one radical. For instance, the character 人 consists of one radical indicating the meaning of the character person. A compound character, on the other hand, consists of two or more radicals. Therefore, Radicals are the basic orthographic units in characters. The radicals can be classified into two categories: phonetic radicals and semantic radicals. A phonetic radical represents the sound of a character and a semantic radical provides clues to the meaning of the character. That means the semantic radical has the story for its symbol which is connected to the culture or life experience of local context. Moreover, strokes are the basic building materials for radicals. To cite an example, the radical 人 consists of two strokes.

As far as learning Chinese characters, Shen (2005) indicated that the learners used seven types of strategy. Among them, rote repetition was the most frequently used strategy; then next was the creation of their own idiosyncratic stories about the characters. Kuo & Hooper (2004) pointed out that learners' interpretations of the Chinese characters were rooted in their cultural backgrounds and personal experiences.

Wang (1998) recommended that students should create mnemonics, using the visual and semantic information coded in the characters to generate meaning. However, learners considered knowledge of radicals more useful than creating their own stories about the appearance of characters in learning new characters. Many researchers have supposed that

skill in visual-orthographic analysis would be important in learning to read and write Chinese (Ho & Bryant, 1997; Huang & Hanley, 1995; Siok & Fletcher, 2001). According to Paivio's (1986) dual-coding theory, the superiority of pictures over words as memory aids is supported (Kobayashi, 1986; Rieber & Kiri, 1991). Dual coding theory (Paivio, 1986) posits that human memory consists of two subsystems, one verbal and one visual. The visual system processes and stores more-concrete information such as images, sounds, and feelings. The verbal system processes and stores language and other abstract information. Accordingly, dual coding is more likely to occur when the learning content is highly imageable (Paivio, 1986; Sadoski, Goetz, & Avila, 1995). Chinese characters are highly imageable logographic words (Steffensen et al., 1999). Logographic words provide graphic and semantic contexts that can lead to successful character recognition even when the reader does not know the character's etymology (Ke, 1996).

Based on the theories mentioned above, the Chinese Character Animation was developed and applied to enhance Chinese Character learning.

Research method

The subjects of this study were 16 adult learners from transnational marriage in the adult basic education program in Taiwan.

Quasi field experiment was the major method for this study. This study was implemented following the procedures of pretest, treatment (watching the animation), and posttest. Moreover, the processes in each section for a series of six weeks were as follows: (1) After showing the target new characters, the Chinese Character Animation was displayed focusing on the target radical for that section. (2) Class discussion was followed. The adult learners were asked to recall the contents of the animation. Furthermore, the learners tried to recall the Chinese characters with the same radicals in the animation just watched by free connections. (3) During this process, to recognize the radicals or characters were made through observations, reflections, comparisons and discussions. (4) Finally, formative evaluation of this target radical or character was implemented. The pretest and posttest were made by listening and writing down the target Chinese characters through recalling.

The "Chinese characters animation" is constructed according to the hierarchy of Chinese words, that is: radical-> character-> words. Moreover, using radical-deriving strategy increases Chinese learners' Chinese knowledge. In this animation, within 3 minutes, the origin and transformations of each radical are introduced in the contexts of historical stories or metaphors, then, the characters family with the same radical are presented to understand the parts assemble the characters and their meanings. Furthermore, the popular words through the linkage of characters are introduced. Except narrations, full captions in Chinese or English are presented on the bottom of the screen, and key images are used in need.

The target radicals learning in this study were 口 (mouth), 日 (sun), 目 (eye), 人 (person), 木 (wood), and 宀 (roof). The effectiveness of the Chinese Character Animation was determined by the difference between pretest and posttest. In addition, discussions in the class were analyzed as reference.

Findings

These adult learners were learning Chinese characters by rote. They memorized the Chinese characters by elements not by holistic shapes and their radicals' meanings. Their major handwriting errors were from missing strokes of radicals or misplaced radicals. For example, they were confused the character of 品 (critique) with 晶 (Shining), since they were lack of

the knowledge of radicals of 口 and 日. 口 is the shape of mouth, three mouths mean critique, whereas, 日 is the shape of sun, three suns mean shining. These interpretations came from Chinese cultures and daily life experiences (local context). Similarly, the learners made errors on writing the characters related to sight (目). 目 (sight) has one more stroke inside the sun (日) and is the shape of eye. However, the average correct rate of the learners in the pretest was 67%.

The development of Chinese is based on agriculture that lean on the tree to take a rest is a very popular behavior of the people. The character 休 with people on the left side and wood on the right side denotes the phenomenon. However, the learners misplaced the radicals because they didn't connect the shapes and meanings of the radicals with the Chinese cultures (local context).

Another example revealing the importance of the connection with the cultures in local context was the radical 宀 (roof). For example, a woman (女) under a roof (being protected by the roof) means safe (安), a pig under a roof (people settle down and raise animals) means home (家), and a measure under a roof means following the rules (守). In each section, by watching the animations, the learners tried to understand and memorize the Chinese radicals and characters through observing, reflecting and connecting the stories or metaphors with their life experiences in local context. They got better performances in formative evaluations. Finally, The learners made significant progress in posttest. And this study confirmed the effectiveness of the Chinese character animation.

CALL in Context

I would like to relate my presentation to the conference questions of "How does the local context shape the design of our learning environment?". Due to the development of Chinese character are based on the Chinese cultures and the major context surrounded the learners' daily life are of Chinese cultures. Therefore, it is meaningful to understand the relations between the Chinese characters and Chinese cultures.

There are many Chinese characters are constructed based on the shapes of the objects in the Chinese cultural context. However, the major learners in this study are from Southeast Asia countries with different cultures and language systems. The contribution of this study is to use the animation as the bridge to connect the local cultures to learn Chinese characters. The teaching strategies of this animation are storytelling and metaphors based on Chinese cultures. Based on the animation, the adult learners distinguish the differences between the Chinese radicals through observing, comparing the concrete objects or physical cultures in the local context with the Chinese radicals as well as Chinese characters that help reducing errors of handwriting of Chinese Characters. In addition, the stories embedded in the describing of the development of the radicals in animation enhance the adult learners' understanding of the local context cultures.

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Using the Mobile App in the EFL Classroom to Facilitate Learners' Oral Accuracy and Fluency

Bio data



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Wen-chi Vivian Wu, who received her doctoral degree in 2006, is a distinguished professor of the Department of Foreign Languages as well as an associate dean of International College at Asia University in Taiwan. Her recent research areas include CALL, MALL, cross-cultural communication, robotics learning, and learner motivation for English as a global language. She has published extensively on CALL and technology-related prestigious journals, including CALL, System, Computer in Human Behavior, Educational Technology and Society, etc. Over the past few years, she has integrated international experiences into her conversation and writing courses linking her students with college students and university professors in America and Japan. She serves on the editorial board of the CALL Journal, and as a senior advisor of Asian EFL Journal and associate editor of Asian ESP Journal.

Abstract

While previous studies have demonstrated the effectiveness of using mobile apps in the field of language education, few studies have probed into how innovative mobile technologies

could be utilized to meta-analyze language progress, particularly to learners in EFL contexts. This study, therefore, investigates the Taiwanese EFL learners' oral accuracy and fluency through the Mobile App, Audio Boom. It seeks to assess the usefulness of the Mobile app in enhancing learners' English speaking and pronunciation skills. The participants of the present study included 78 Taiwanese College Freshmen who attended the course entitled English Pronunciation Drills were required to practice orally and made individual speech sound recorded by Audio Boom for 15 minutes from the beginning to the end of the 16-week-long semester. Data were collected through the pre-and-post and delayed post-test oral reading test. The data obtained from analysis of oral reading errors: omissions, substitutions, and mispronunciations of the isolated word and word in context measures for all phases of the experiment in quantitatively way. The findings of a pretest and posttest revealed that learners' oral performance improved in accuracy and fluency. Hence, the mobile App played an important role for the Taiwanese EFL learners as it allowed them to self-review or reflect on their speech sound. The study concluded that integration of mobile apps, such as Audio Boom, into EFL learners' classes could enhance their spoken English language learning processes.

Keywords: mobile app, EFL classroom, oral accuracy and fluency

Conference paper

Introduction

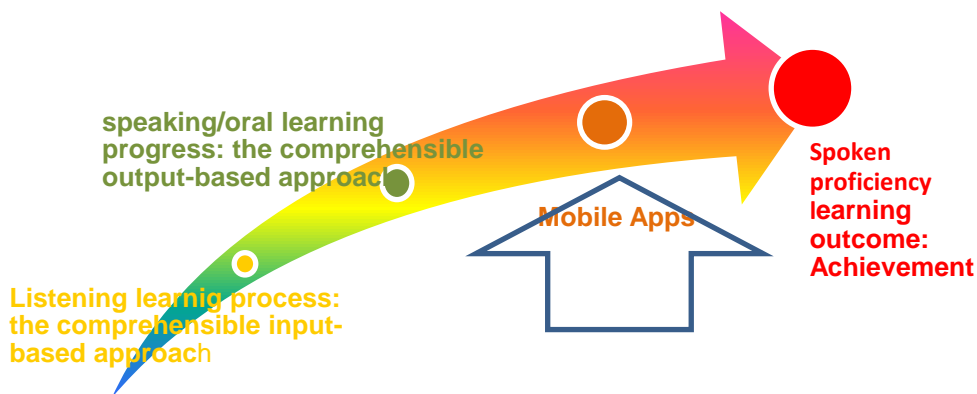
Mobile devices are becoming more and more prevalent in modern world for educational purpose. Mobile learning (m-learning) specifies the use of mobile technologies for teaching and learning objectives. As indicated by Obari and Lambacher (2014), m-learning is "highly motivating to learners, as it offers them a rich, contextual, and prompt learning environment" (p. 267). These devices can offer learning offers that are: casual, spontaneous, portable, pervasive, and independent (Kukulska-Hulme *et al*, 2011).

In the past decade, a growing number of research studies on mobile technology have examined the benefits to get them into English language teaching and learning. The hand-held mobile tools enhance instruction to engage EFL students in learning and to make the teachers' job easier in teaching. (Prensky, M., 2007; Lee, K.J & Kim. J.E, 2013; Arús-Hita *et al*, 2013). Furthermore, teaching with mobile technologies can fortify student engagement by supporting instructional objectives (Seilhamer, R., Chen, B. & Sugar A., 2013; Cestnik, B., Bohanec, M., Urbančič, T., 2015). Additionally, using mobile technologies have changed teachers' practices in teaching and offer the most ubiquitous and flexible environment because the classroom became more student-centered rather than teacher-centered (Chen, B., & DeNoyelles, A., 2013). Moreover, integrating mobile technologies into the classroom definitely has advantages to reach diversity in learning styles (Free, *et al*. 2012; Khaddage and Lattemann, 2013).

Mobile technologies, such as smartphone educational applications (Apps), are not only promptly increasing students as alive and authentic tools, but also play a big role in enhancing instruction and process to better foreign language skills. Additionally, they are one of the useful instructive resources for English teaching in EFL context. Using App through mobile phones has the potential to not only develop motivation for listening but also inspire the learners to enthusiastically partake in the reading practice (Nah, 2008; Nah, White, & Sussex, 2008), as the learners are able to access learning resources and work together with the teacher and peers (Collins, 2005; Han & Kim, 2003; Inkpen, 1999; Kiernan & Aizawa, 2004; González, 2012; Nadire Cavus, 2013). Researches on Mobile educational apps as mentioned above are constantly growing in listening and reading skills,

the comprehensible input-based approach; however, few studies have probed into how innovative mobile technologies could be utilized to meta-analyze the speaking/oral learning progress, the comprehensible output-based approach, particularly to learners in EFL contexts. As illustrated in figure 1, we identify the conceptual framework of the current study.

Figure 1: The conceptual framework of the current study is illustrated.



This study, therefore, investigates the Taiwanese EFL learners' oral accuracy and fluency through the Mobile App, Audio Boom. It seeks to assess the usefulness of the Mobile app in enhancing learners' English speaking and pronunciation skills. The present study addressed the following four research questions:

1. Is there a significant difference on numbers of omission on the isolated words' errors from English oral reading in pre-test, post-test and delayed post-test after the application of Mobile App?
2. Is there a significant difference on numbers of submission on the isolated words' errors of English oral reading in pre-test, post-test and delayed post-test after the application of Mobile App?
3. Is there a significant difference on numbers of mispronunciations on the isolated words' errors of English oral reading in pre-test, post-test and delayed post-test after the application of Mobile App?
4. Is there a significant difference on numbers of mispronunciations on the words' errors in the context of English oral reading in pre-test, post-test and delayed post-test after the application of Mobile App?

Methods of the Research Design

This study, therefore, investigates the Taiwanese EFL learners' oral accuracy and fluency through the Mobile App, Audio Boom. It seeks to assess the usefulness of the Mobile app in enhancing learners' English speaking and pronunciation skills. The participants of the present study included 78 Taiwanese College Freshmen who attended the course entitled English Pronunciation Drills were required to practice orally and made individual speech sound recorded by Audio Boom for at least 15 minutes per day from the beginning to the end of the 16-week-long semester.

Data analysis

To examine the participants' errors on words' omissions, submissions, mispronunciations on the isolated words, the participants completed the respective pre- and post-test of 50-items word list from the TOEIC Speaking standardized test form self-developed and chosen by their English instructor. To probe into the participants' errors on mispronunciations on the words' errors in the context of English oral reading, the TOEIC Speaking standardized test

was employed. The test weeks for pre-test, post-test and delayed post-test were indicated as illustrated in figure 2.



Results and discussion

Table 1 indicated the outperformance showed in numbers in the following.

Tests/ Changes No. of Errors	pretest	posttest	changes/ improvement	delayed post-test	changes/ improvement
RQ1 omission on the isolated words' errors	117	110	6%	93	21%
RQ2 submission on the isolated words' errors	55	49	11%	43	22%
RQ3 mispronunciation on the isolated words' errors	156	144	8%	127	19%
RQ4 mispronunciation on the words' errors in the context	234	219	6%	188	20%

From 6% to 21%, the result displayed with the changes of omissions on the isolated words' errors from English oral reading after the application of Mobile App. From 11% to 22%, the result indicated on the changes of submissions on the isolated words' errors from English oral reading after the application of Mobile App. From 8% to 19%, the result pointed to the changes of mispronunciations on the isolated words' errors from English oral reading after the application of Mobile App. From 6% to 20%, the result showed on the changes of omission on the isolated words' errors from English oral reading after the application of Mobile App. These results reflects and echoes findings in previous studies that mobile apps improved EFL learners' English oral proficiency (González, 2012; Nadire Cavus, 2013; Arús-Hita et al, 2013).

Conclusion

This study has also shed light on users' perceptions of the current mobile apps for English speaking learning and using mobile apps for leaning a foreign language in general. It is beyond the scope of this study to make the theories presented in the literature that are little relevant to learning English with mobile apps. Nevertheless, there is no predominant 'theory of mobile learning'. It is necessary to work on an integrated pedagogy for the use of mobile apps for support in language learning, especially its application in EFL context. Since the current study was specifically concentrated on the apps for English speaking, the pedagogical approaches and the theoretical features of the English-learning apps for other language skills may have been limited. To extend the present study, more comprehensive literature review could be undertaken and conducted to identify other possible theories which are connected to mobile apps-assisted language learning.

CALL in Context

This paper addresses the conference theme focusing on the role of the local context of the learner by specifically taking into account how innovative technologies could be integrated into the design of effective learning environment in an EFL context. Such probe also helps determine whether chosen technologies are appropriate for EFL learners in a more general scope, particularly to what extent oral learning outcomes among EFL learners can be enhanced as a result of technological application. As the learners utilized Audio Boom for a semester, they could better understand their development and progress via a longitudinal perspective by examining their oral reading errors (omissions, substitutions, and mispronunciations of the isolated word and word in context). In-depth analysis of the learners' verbal output for a prolonged period of time helps create a more comprehensive scenario that enables language researchers, instructors, and even learners themselves to have a broader comprehension of ELF learners' language competence in a contextualized learning process.

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Technology Affordances in the Context of Blended Learning and Speech Communication

Bio data

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Abstract

Language and technology are highly intertwined in contemporary language teaching practices. The close relationship between the two gets intrigued with new contexts imposed by technology and learning environments. This study approached the design and development of a speech communication course considering the contextual needs of blended learning environment and team based learning. We designed a blended speech communication course and integrated technologies to foster the social interaction students needed to engage in for effective language learning and speech communication in relation to team based learning. Design and development process and focus groups interviews with the students enrolled in the course were used as data sources in the present study. First, we found that the blended context of the course required the design team to make use of the most appropriate technologies to help students practice their speeches at a distance. Second, blended learning environment imposed meticulous organization of the content for face-to-face (F2F) and online components of the course. Lastly, the focus group interviews revealed that the Web 2.0 tool utilized in speech delivery assignments contributed positively to speech practice.

Conference paper

The present study investigated the affordances of technology in the context of blended learning and speech communication. The study focuses on the design and development of a blended speech communication course covering the fundamentals of public speaking and reports on the research investigating the role that technology integration played in relation

to the context in which the course was developed. The course is required for all students at a major Midwestern research university and is offered in face-to-face (F2F) environment at around 35 sections each semester. In the course, theory and practice of basic speech communication principles are applied to public speaking and students prepare and deliver extemporaneous speeches. Driven by the increasing enrollment statistics for the course, blended and online course development unit at the university was contacted to design and develop a blended version of the course. Following the course design approval, the course instructor and instructional designer met iteratively to design the course. However, as the course was being offered the first time in a blended context, the design team went through new experiences that were shaped by the design of the learning environment.

First, what exacerbated the newly emerging context of the course was the integration of Team Based Learning (TBL), which is viewed as an effective pedagogy in teaching and learning (Haidet, Kubitz, & McCormack, 2014). It promotes the social interaction students need for effective language learning and speech communication (Sibley & Ostafichuk, 2014). For example, the context of blended delivery imposed on the design team to meticulously lay out the content for F2F and online portions of the course. In fact, students took Individual and Team Readiness Assurance Tests (IRATs and TRATs) online through the Learning Management System (LMS) and discussed their test results virtually at a distance. In addition, group workshops for the preparations of public speech were held in the classroom setting F2F. The new blended context required a new rethinking of the asynchronous and synchronous components in the course.

Second, blended context of the course led the design team to draw on some convenient technologies in relation to the objectives of the course. In that, one of the foremost objectives of the course was to equip the learners with the necessary skills of public speaking through three speech deliveries. To this end, students were expected to prepare and deliver an informational, persuasive and special occasion speech. As students needed to practice their speech at a distance to get prepared for the delivery, the blended context of the course required the design team to make use of the most appropriate technologies. More specifically a Web 2.0 tool, VoiceThread, was used to record and post speech samples at a distance and students commented on the speech practice recordings of their teammates. In this way, using VoiceThread afforded context-dependent enrichment in the blended and team based environment of the speech communication course.

As the preceding sections emphasized, the course was designed and developed considering the affordances of technology in the context of blended learning and TBL pedagogy. The course was offered two consecutive semesters across three blended sections. The focus group interviews were conducted with volunteered students (n=14) enrolled in the course in 2015-2016 Spring semester to probe into students' experiences with blended learning, technology integration and TBL. The results of the focus group interviews revealed that the Web 2.0 tool (VoiceThread) used in team speech delivery assignments contributed positively to students' practice for speech deliveries by simulating the real-time F2F environment virtually at a distance. In fact, analysis of the focus group interviews pointed out that Web 2.0 technology appeared to help students become more self-aware of speaking habits and/or simulate the same mental processes that are happening in real-time communication. The students also highlighted that they would not be able to practice their speech in traditional classroom delivery to the extent they practiced speeches through the naturalization of the technology use in the blended version. The presentation session will showcase course design and development artifacts as well.

CALL in Context

As the course was based on a blended environment, we had to consider how we can best fit the objectives of the course with the blended learning environment. As one of the primary objectives of the course was to equip learners with the characteristics of fundamentals of public speaking and have them deliver their speeches, we could not compromise this objective with the limitations of the learning environment. For this reason, we sought for the most convenient technology that would assure that students get prepared for their speeches online even if they are not physically available together. Our search resulted in utilizing VoiceThread as the mediating technology. Students reported overall positive experience of using VoiceThread for practicing their speech. The ease of recording their practice speech using VoiceThread even with their mobile phones enhanced the number of practice recordings. Some students shared that they would not be able to make adequate practice for their speeches if they had taken the course in F2F environment. For these reasons, the context in which the speech communication course was designed and developed led the instructional designers and the instructor select a technology that worked quite well in that context with the objectives of the course. From this perspective, it could be considered that the technology used in the course afforded context-dependent enrichment for learners in the course.

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Flipped Class for a Solution to Underachievement in Language Education**Bio data**

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Abstract

This study explores the possibility of using FC (Flipped Class) to solve the underachievement in English learning. The underachievement is largely caused by the lack of motivation and basic component skills necessary to reach a functional level of language learning in school setting. The study conducted needs analysis of students and teachers with FC experiences for an initial FC model. Based on the needs analysis, an FC model is drafted and experimented with 45 sixth graders for eight weeks. The pre-/post- performance data have been collected and compared along with qualitative data to explain the issues on and around the initial model. The data are used to modify the FC model in its optimal form to be used in assisting underachieving students to improve the necessary component skills of English and maintain their initial motivation and interests in the language. The initial FC model drafted by the needs analysis underwent substantial changes to be the final form of FC model through the pre-/post-effect test and qualitative feedback from both students and teachers who participated in the implementation of the initial FC model.

Conference paper

Introduction

The traditional language classroom image is filled with a single teacher directing an orchestra of students for their pronunciation, vocabulary and grammar in practice and drills. Without any direct contact with English speakers, learning English in traditional classrooms requires a high level of patience and persistence investing the current fun for the future dream, which students are often told that English is an instrument to realize their dreams. However, the dream protocols cannot entertain all the students in the class. Only a few students are able to excel to reach their language proficiency to the functional level set by the curriculum, and the rest struggles to reach the bare minimum and remain in the accumulative stage of underachievement as their school year advances (Jeong & Kim, 2013). To fill the gap between the curriculum and the underachievement, the students need individual attention to address the weak components of English since it is likely that underachieving parts of language are all different depending on an individual student. To secure individual time between the teacher and a student requires a different approach to the traditional language class.

The structural limitations of the traditional classes cause underachieving students to catch up the gaps between the target skills and the current level of students' skills. The recent development of information and communications technology (ICT) has opened the gate to address the limitations of teacher-students interactions of the classes. The advancement of ICT enabled students to get access to the learning contents or teacher lessons from anywhere and anytime. This prevents students from passively listening to the lessons lectured by the teacher. Instead, the ICT creates learning environments wherein students engage themselves in structured classes on-line and interact with teachers and other students to use the learning or ask questions of the contents during the class time. The traditional in-class learning is flipped over to off-class and online while on-class time can be dedicated to teacher assisting students for the lacking components and skills for the underachievers and assigning self-directed activities for other students.

A flipped learning is a form of hybrid learning using ICT for delivering lectures online off-class and doing traditional homework on-class offline (Cho & Lee, 2016; Seo & Seong, 2015). The now-clichéd shift from 'sage on the stage' to 'guide on the side' characterizes the changing roles of teachers and students in flipped classes (Baker, 2011; Lage, Platt & Treglia, 2000). Active participation of knowledge construction and skills acquisition is critical on the part of students during the learning process (Lim, 2011). In construction of knowledge the collaborative environments are the foundation for voluntary learning and skills getting. The underachieving students are often left out of the trail of collaborative learning, and this leads to the gap between regular students and underachieving students. Korean classrooms are often lack of consideration for the needs of these students due to the heated competition among students on the normative evaluation for lining students in their grading order (Kim, 2003).

Method

An elementary 6th grade school class of 45 students and a middle school 2nd year class of 35 students were selected for the flipped class of English. The elementary school class includes 9 underachieving students, and the middle school class includes 8 underachieving students. The schools are located in medium size city in the central part of South Korea. The flipped classes are given three times a week for a period of 12 weeks in the fall semester of 2016. Students are required to online lectures on English lessons before they come to the class, and they engage in activities to use the knowledge and skills. Teachers go around and interact with students who need helps during the class for the self-directed learning activities based on the peer-to-peer interactions and/or students-to-materials interactions. The online off-class lectures are given in different levels: one level for language components such as pronunciation, words and grammar and one level for language skills such as listening, speaking, reading and speaking. The offline on-class interaction consists of self-directed activities using the components knowledge and skills. The activities are usually constructed to be done in a group, and students invite teachers to assist when they need help. It allows students to have more individual (group) time to interact with teachers than the traditional classes. Students are also more engaging and accounted for their progress in their study. After offline on-class activities, students are required to take a consolidation quizzes online and checked for their understanding and fluency of their learning of the class and lesson. The result of quizzes are tabulated into numbers and made available online to teachers for diagnosis of the students' formative state of the lesson objectives.

Online off-class lectures include:

New words and pronunciation
grammar
Listening and speaking
Reading and writing
Formative quizzes

Offline on-class interaction includes:

Games
Language activities
Role-play
Handout work
Preview/review

The pre/post tests are given to measure the effects of the FL on the language learning of overall elementary and middle school students. The data will also include qualitative data on the underachieving students and the gap-filling effects on the components and skills of the students. The test items include language components and skills: words, grammar, listening, speaking, reading and writing.

Result

The result shows that FL classes can provide improving and learning opportunities for different school levels of students. They also benefit both regular students and underachievers, but underachieving students are notably improving in their learning compared to the regular students in relative terms. The different emphasis given in the classes is well reflected on the result of FL classes for elementary school students on the one hand and middle school students on the other hand. The details of the overall improvement are shown in Table 1.

Table 1. Pre/Post result of different levels of schools

school	Test	N	M	SD	<i>t</i>	<i>p</i>	<i>Cohen's d</i>
elementary school	pre	45	40.53	25.34	5.48	.01	0.17
	post	45	51.33	17.81			
Middle school	pre	35	39.47	26.32	6.97	.01	0.29
	post	35	52.12	19.37			

The pre/post comparison of FL shows that the overall improvements of English are made significantly in both elementary and middle school students. This improvement is observed most saliently among the underachieving students population. The *t*-value and effect size, *cohen's d*, shows that the FL classes helped the underachieving students catch up with the curriculum requirements as in Table 2.

Table 2. Pre/post result of underachieving students

school	Test	N	M	SD	<i>t</i>	<i>p</i>	<i>Cohen's d</i>
elementary school	pre	9	25.12	15.32	14.97	.01	1.42
	post	9	48.57	17.54			
Middle school	pre	8	26.32	15.12	16.32	.01	1.33
	post	8	47.69	16.97			

The difference between elementary and middle school students is in the skills and components. Elementary school students benefit in their skills, particularly listening and speaking, most from FL classes while middle school students benefit in their components and reading, particularly words and grammar. The visual result can be shown in figure 1.

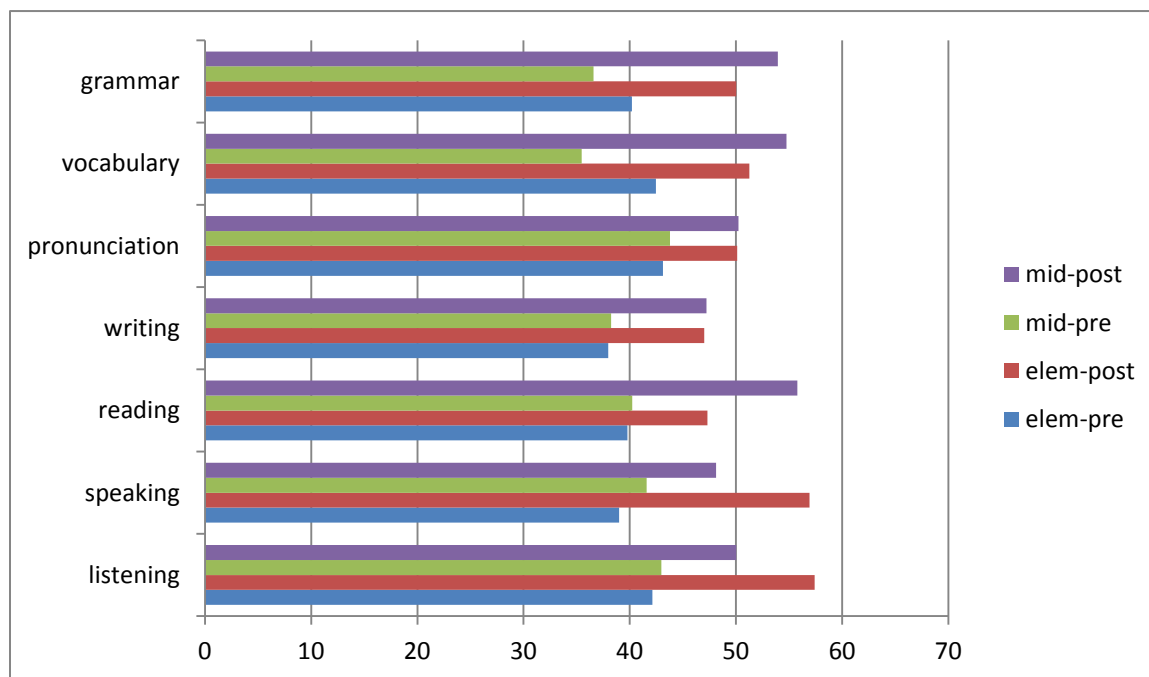


Figure 1. Improvements of components and skills

Direct comparison between elementary and middle school classes may pose problems of different teachers and methodological elements. Despite the national curriculum being communicative, the classes in elementary schools focus more on oral language communication and middle school classes more on reading and necessary components for the skill such as vocabulary and grammar. The result shows that FL classes are effective in both skills and components. If classes focus on skills, FL classes show the improvement in oral language skills as shown in elementary school FL class pre/post mean comparison. If classes focus on components, FL classes are shown effective in vocabulary and grammar as in middle school FL class pre/post comparison. The major difference is made particularly among underachieving students in both elementary and middle schools. The underachieving students also show the similar pattern to the whole group in the improvement pattern.

Conclusion

FL can provide an opportunity to students of foreign language to interact with teachers and other students and allow that they get the necessary individualized feedback and assistance, which is often impossible to teachers and students who must pace up with the curriculum schedule in a regular classroom. The online off-class learning empowers both regular students and underachieving students to access to their level of studies of language components and skills. The interactional opportunity in offline on-class setting allows that regular students advance their skills through self-directed learning activities and underachieving students ask questions on the online studies and confirm/use their skills to make it more fluent through classroom activities.

The Korean national curriculum directs the foreign language classes to be communicative, and authorized textbooks are also sequentially communicative from elementary to middle schools.

Vocabulary and grammar are also gradually difficult as grades ascend from elementary to middle school levels. Within this communicative framework of reference in the same curriculum, the oral skills improvement is noted in elementary school while the componential and reading skill is improved relatively bigger in middle school. Probably this difference is caused by the different emphasis of middle school teachers who consider testing result more serious than elementary school teachers. Once test result dictates teachers as to what and how things of foreign language must be emphasized, then the wash-back effects come into play where language components and reading is placed in more important position. Even with differences between school level, FL classes show that either types of teacher emphasis on language teaching are reflected in the developments of student language ability (Cho & Lee, 2016). It also shows no matter which level of your language fluency is placed, FL classes can create learning environments that you benefit from the classes and prevent students from riding free and hiding their underachieving fronts of language components and skills.

CALL in Context

The proposed and tested FC model will make a significant impact on the foreign language classrooms similar to Korea wherein the computers are well networked and fast, but the language learning environments are far less than optimal. The foreign language classes are big in which underachieving students can ride free on the other students in a group, and teachers' language proficiency is relatively limited. The current FC model will use both on-line and off-line classes where on-line classes are individualized components practices of language and off-line classes will be interactive group works developing skills based on the components learned from on-line. The model will further suggest follow-up on-line activities to review what's learned in rather significant and meaningful ways so that the underachieving students can maintain their interests and motivation in continuing the language study.

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Comparative Effects of Input vs. Output Enhanced English FnF (Focus on Form) Teaching in Blended Classes

Abstract

This study compares an input-enhanced instruction (processing instruction) with an output-enhanced instruction (dictogloss) to examine their effects on the acquisition of 10 English grammatical items including present perfect tense and passive voice by Korean university level EFL learners wherein the instruction is blended of off- and on-line classes. A total of 85 university students were assigned to three different classes for one meaning-based instruction, another input-enhanced group and yet another output-enhanced group. A pretest was given in Week 1, and the instructional treatments lasted for 6 weeks from Week 2 through Week 7. The meaning-focused group used the reading text for comprehension without any input or output treatment of the text in both on- and off-line. The input-enhanced group used textual enhancement techniques such as circling and underlining, while the output-enhanced group hired dictogloss tasks in both on- and off-line. An immediate posttest was administered in Week 8 and the delayed posttest in Week 15 to assess the learners' progress and retention. The results of the immediate posttest showed that both input and output-enhanced groups performed significantly better in their grammatical test results. The output group also performed better than the input group in low-intermediate groups without the whole intergroup difference of statistical significance.

Conference paper

Introduction

Language is for communication, and this functional thinking of language has led the foreign language education to be communicative and meaning-based rather than form-based. Korea is one of the countries that has followed the trends. However, after 20 years of meaning-based communicative language teaching created students who lack the basic component knowledge of language and have chronically underachieved during their primary and secondary education. Mid and bottom tiers of colleges take serious challenges to encourage given-up-on-English students to catch up with the gap hampering their progress in their major field because many science, engineering and business majors use English textbooks. Their English skills cannot cope with the fluency required for the reading of textbooks.

It is high time that communicative language teaching needs a scrutiny if it lets students advance their grades without the necessary knowledge and skills required by the curriculum. The meaning-based group activities hinge on the assumption that students are responsible and willing to participate in the communicative activities. The accountability of students in their study is embedded in the program without the necessary procedure to check and balance the situation when they are not engaging or riding free without their concerted efforts.

The current study will explore classroom activities that students engage in communicative activities, but at the same time they supplement their weakness in componential knowledge in English that will assist in their understanding and fluency of the skills they are supposed to perform at their level of English. It will compare different awareness activities designed for input enhancement and output enhancement to investigate their effectiveness in focus on form (FnF) learning of English: The possibility of using the activities in communicative classes, input enhancement activity such as font differentiation for noticing against the communicative classes, and output enhancement activity such as dictogloss against the communicative classes.

Theoretical Background

Communicative language teaching in classroom setting is usually realized in simulated activities to real life which take a long preparation time and result in students' lack of necessary componential knowledge and fluency in the language they are learning. Input enhancement activities have been reported to be effective in vocabulary and grammar development (Doughty & Williams, 1998; Ellis, 1999; Harley, 1994; Robinson, 1997; Leeman, Arteagoitia, Fridman & Doughty, 1995), but there was a research reporting the negative effect (Alanen, 1995). Taking Leeman et al. (1995) as an example, it conducted FnF classes against the meaning-based classes and showed that the accurate frequency of use was far greater in the FnF class than the meaning-based class. However, Alanen (1995) conducted comparative experimental classes consisting of input enhanced class, explicit-instruction-of-grammar class, input enhancement plus explicit-instruction-of-grammar class and meaning-based class. The explicit-instruction-of-grammar class was most effective among different methodological classes. However, the current English curriculum consists of topic-based classes which means the back-bone of the class is still meaning-based and cannot be altered.

Output enhancement classes were demonstrated to the students of bilingual English and French immersion students to compensate for their lack of native like French grammatical ability (Swain, 1995). She argued for three main points of output enhancement activities: One, learners of language hypothesize the form and functions of grammatical components and test them during their utterances; two, during the utterances students construct their sentences grammatically without using explicit use of grammatical terminologies; three, output enhancement activities make students aware of what they know and what they don't know, and have students concentrate on what they don't know during the activities. In the process, students learn grammar and vocabulary effectively more in deeper level of cognitive processes (Izumi & Bigelow, 2000).

While maintaining the meaning-based English education at college level, instructional techniques attracting FnF of they are lack of include the aforementioned input enhancement and output enhancement techniques. In addition to the suggestions that the meaning processing experiences alone will facilitate the language acquisition in Krashen (1982) and Krashen and Terrell (1983), Long (1983a, 1983b) elaborated Fnfs including conscious raising tasks (Fotos, 1993) and input enhancement (Ellis, 2001). On the other hand, Jin (2013) and Murray (1994) showed that dictogloss tasks are effective for the output enhancement technique.

If we look at previous studies on the topic, the dominant results confirm the effectiveness of input enhancement technique (Doughty & Williams, 1998; Ellis, 1999; Harley, 1994; Long & Robinson, 1998; Leeman, Arteagoitia, Fridman & Doughty, 1995), but Alanen (1995) reported that explicit teaching of language forms is more effective than the input enhancement technique or the combination of the input enhancement and explicit grammar teaching. However the later method of teaching grammar is beyond the scope of an

instructor's power even if it is proved to be true, because it relates to the change of the whole curriculum.

Comparative studies can be found between input enhancement and dictogloss tasks in Yeo (2002) wherein the intergroup comparison of English participle learning did not show any significant differences despite the significant discrepancies in the pre/post intra group comparison of both groups. In contrast, Jang and Kim (2009) showed that the dictogloss task was more effective than the input enhancement task in three grammatical items of relative pronoun construction, participle construction and gerundive construction.

Research Questions

The overall comparison among different FnF tasks has not settled in favor of one over another. In addition, the target population in the previous studies does not cover the spectrum of students learning second language by investigating heavily on the secondary school population. This draws the problems of this study which can be stated as follows:

1. Are FnF instructions effective compared to the meaning-focused instruction in enhancing the awareness of English grammar and vocabulary at college level?
2. Which type of FnF instruction shows a comparative superiority in grammar learning between the input enhancement and the output enhancement when using the meaning-focused group as the baseline data?
3. Which type of FnF instruction shows a comparative superiority in vocabulary learning between the input enhancement and the output enhancement when using the meaning-focused group as the baseline data?

Design of Study

This paper aims to explore a comparative instructional effects among meaning-based communicative language teaching, input-enhanced FnF instruction and output-enhanced FnF instruction in order to optimize the teaching methods of target grammar and vocabulary. The study selected three homogeneous groups of 30 students in each group: One meaning-focused teaching (baseline), one input-enhanced FnF group (FnF-A) and another output-enhanced FnF group (FnF-B). The vocabulary items included a list of unknown words to at least 80% of students in the pre-test. The grammatical items include participle construction, hypothetical conditionals, negative polarity construction and relative clauses.

The meaning-focused group watched a soap opera in pieces to be confirmed of their understanding along with the English script and talk about the story line and the characters in a group. FnF-A watched the same soap opera along with English script, but for FnF-A the new words and target grammars are marked in different fonts to raise the students' awareness. FnF-B watched the same soap opera without English subscript to be confirmed of their understanding, and they jotted down key words of the story to reconstruct the story in English as a group. They were asked to construct story using target words and grammar. They had Korean subscript to assist their understanding of the story whenever needed. Students received three hours of 13 week instruction using English soap opera in three different groups: two compared groups of input enhancement versus output enhancement and one baseline group of meaning-focused language teaching.

The instruments include the pre-test and post-test of 30 target grammar items and 40 target vocabulary items. After the class, 20 words for understanding and 20 words for expression were given on a test, and the scores are compared against each other among three groups. For grammar, 20 items for understanding and 10 items for expression are given on the test for comparison.

Result

The result as shown in table 1 indicates that the input-enhanced group (FnF-A) outperformed the comparative group in the grammar test with statistical significance, and the output-enhanced group (FnF-B) overweighed the comparative group in the vocabulary test. However, no significant statistical difference was found between the input-enhanced group and the output-enhanced group. The conclusion from the result could bear the following pedagogical implication: The general English education must use the eclectic method of adopting communicative language teaching with FnF of input-enhanced target grammar and output-enhanced target vocabulary to supplement the students with the basic vocabulary and grammar.

Table 1. Significant Result Summary of comparison

items	classes	students	post-test		average difference	t-value
			average	SD		
grammar	Baseline	30	71.1	10.454	-7.36	-2.742**
	FnF-A	30	78.5	10.358		
vocabulary	Baseline	30	78.1	9.95	-6.63	-2.753**
	FnF-B	30	84.7	8.66		

(**=P<.01)

The objectives of FnF tasks are to draw students' attention to the target form of language and raise the awareness to the language components which interrupts their understanding of the language. The effect studies left questions either unanswered or still arguable, in particular grammatical awareness. Tag questions, for example, are embedded with input enhancement device in the construction, and enhancing the input with font manipulation resulted in questionable effect. (Han, Park & Combs, 2008; Izumi & Bigelow, 2000). This study indicates the FnF instructions may be subject to the grammatical items in the resulting effects.

It should be noted of the cognitive load difference between input enhancement tasks and output enhancement tasks wherein the latter requires the reconstruction load of the story they processed through the input either listening or reading. Thus, the output task include the decoding process plus the encoding process which involves the language forms. During the process, the cognitive load of output divides into input processing load and output formulation mode, which means that the failure of output tasks do not necessarily mean that the students did not learn for the input processing. In other words, students can easily understand words and constructions without being able to utter or write the words and constructions.

The pedagogic implications drawn from the discussion are that the grammatical components need to be reconsidered of embedding in the output enhancement tasks, and they are better suited to the input enhancement tasks to the group of students who lack of the component knowledges of participle construction, hypothetical conditionals, negative polarity construction and relative clause construction. On the other hand, the vocabulary processing is more meaning-centered than grammatical construction, and it is relatively simple in cognitive processing. This property of vocabulary learning indicates that they are more suited to the output enhancement tasks to raise the learning impact.

Conclusion

The result of the study provides pedagogic procedure to elevate the effects of FnF tasks by appropriating language components which challenge students to learn wherein the soap opera is viewed by the students along with vocabulary output enhancement tasks and grammar input enhancement tasks either while-viewing or after-viewing. The current general English education posits a serious challenges to the instructors because of students who are not sufficiently ready to cope with authentic English materials due to their lack of vocabulary and grammar despite the fact that English is the most important instrument for their successful college life. The current suggestion provided a pedagogic solution which can be proceduralized to tackle the dilemma which the local universities face in its general English education today in Korea.

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Online language use into language learning

Bio data

I am a first year PhD student of English Language Education at the Ludwig Maximilian University (LMU) in Munich. I am also working as a FLIP English teacher at the LMU Language Center and as a research assistant in the team of Prof. Dr. Angela Hahn who is the main supervisor of my thesis.

Abstract

There is a widespread belief with strong empirical evidence that one of the necessary conditions for language learning is *language use*. This belief is well-reflected in the prevalent language learning and teaching paradigm which posits that learners learn a language through using it to communicate. The common educational strategy to achieve this has been to create opportunities for language use by means of simulating real-world situations, e.g. role-plays, communicative tasks, reading activities, etc.

However, it has hardly been attempted to utilize the actual learner's language use emerging beyond the classroom—not necessarily from an intention to learn but to use the language—as a result of the increasing digital interconnectedness of the world, referred to as *digital literacies* (Meyers, Erickson & Small, 2013) or *online informal language learning* (Sockett, 2014). These new contexts of language learning—viewed as situated, purposeful participation rather than learning—not only represent a powerful resource for language learning but also reflect new needs of language learners. Yet they remain largely unexplored and neglected by research, let alone educational practice, which could be owed to their private, heterogeneous and still obscure nature. Despite the obvious challenges, there is a pressing need to adopt a more flexible educational strategy which would unlock and maximize the potential of this emerging phenomenon. Not only could it match learners' individual intrinsic needs but also contribute to lifelong learning.

This ongoing dissertation research project attempts to propose a particular way of how the learner's context of online language use could be turned into an effective learning environment. The intervention in mind would take the form of intelligent online language learning software and the role of scaffolding embedded in the real-life context of the learner. Subsequently, it is to be evaluated as a whole in light of *complexity theory* (Larsen-Freeman, 1997). The methodology adopted to tackle this inquiry is a combination of *design-based research* (Rodriguez & Pardo-Ballester, 2013), *RBRO design model* (Colpaert, 2004), and *learner-centered design* (Quintana, Krajcik, & Soloway, 2000).

Conference paper

Introduction

We have recently been part of a rapid change—a change different from any other before in its reach and pace. This change has been brought about by a set of factors, of which the most influential is the Internet and its accompanying phenomena of globalization and multilingualism. One of the greatest contemporary thinkers John Seely Brown (2000) put forth that the internet is as fundamental a transformative technology as electricity used to be once. It is different from the previous media, such as television and radio, because it is a reciprocal medium—you can be as much a receiver as a producer—and it integrates multiple intelligences, e.g. textual, visual, musical, social. The rapid expansion of the Internet has blurred the boundaries between home and school, communities and countries and affected substantial aspects of our lives.

It has also shifted the patterns of language use and language learning (Broeder & Martyniuk, 2008; Kern & Schultz, 2005; White, 2007). The availability coupled with the ease and speed of access to a vast amount of online resources and tools provide great opportunities for meaningful and authentic language use, even of languages other than the mother tongue, especially of English as a *lingua franca*. As a result, more and more language learners are now participating in informal online spaces and immersing in online practices while using their non-native languages for different purposes—be it for work, school, infotainment or leisure—and thus becoming active language users.

This paradigm shift has also become evident in the second language acquisition (SLA) literature and research. First, the traditional dichotomy between *second* and *foreign* language learning seems to have taken on a fresh interpretation: the *second* language as being learned in (in)formal environments in which that language is either the dominant language or an international language, such as English in Korea and Hungary or German in Poland or Russia whereas a *foreign* language is learned in an instructional environment (Kramsch, 2008, p. 4). And second—even though in comparison to institutionalized CALL, it still gets far less attention—there has been an increased interest in learners' online language practices (Guikema & Williams, 2014), which seems promising for the future. In the CALL literature, it mostly comes under the terms *digital literacies* (Meyers, Erickson, & Small, 2013) or *online informal language learning* (Sokkett, 2014).

However, educational practices seem to be slow to respond to the realities of learners' informal digital practices (C. A. Hafner, Chik, & Jones, 2015; Meyers et al., 2013). The majority of language learners seems to use their non-native languages online (Gallup Organization, 2011; Stevens & Shield, 2010), which represents a powerful resource for language learning, and yet it still remains divorced from their formal language learning experience. If the main purpose of education is to prepare learners for the real world, then the need for a swift shift from theoretical discussions to practice should become apparent.

The problem of not acknowledging and acting on those new realities of learners by language teaching practice might not lie so much in not understanding the benefits of doing so as in other obstacles: the private and heterogeneous nature of such practices which goes hand in hand with the scarcity of research in this domain; the reluctance of some teachers often underpinned by the lack of their own digital experience; the problem of the assessment of learners' participation in these new online spaces; the ossification of national language and literacy standards; or even the tendency of CALL research to focus on technological affordances rather than on the learners' use and meaning of technologies in their lives (C. A. Hafner et al., 2015). As Reeves and McKenney (2013) put it: "In the inevitable excitement

that CALL researchers have in exploring what is possible tomorrow, insufficient research and development work appears to be focused on what is practical and needed today” (p. 12).

It should be acknowledged, however, that there have been some efforts to bridge the missing link between learners’ digital literacies and their language learning (Hafner, 2014; Thorne & Reinhardt, 2008). This doctoral thesis ‘Online language use into language learning’ attempts to follow in this tradition, even though taking a slightly different strategy: instead of bringing the learner and his practices to the classroom, it aims to bring the learning to the learner and situate it in the context of his/her practices, and so to support life-wide and lifelong learning. This on-going research project undertakes to answer the question of how could learner’s online language use be turned into a learning situation to enhance language learning? Being still in the beginning phase, this paper will briefly present the case of online language use and the choice of methodology to tackle the challenge of designing in the local context of learner’s online practices. The empirical results of the first phase will then be presented at the conference.

The case of online language use

The widespread nature of online language use has been underlined by several studies and surveys. According to the Flash Eurobarometer ‘User language preferences online’ (Gallup Organization, 2011), a slim majority (55%) of Internet users in the EU (aged 15 and older) use at least one non-native language to read or watch online content and around a third (35%) use it when writing emails, messages or comments online. Not surprisingly, English was the most frequently used non-native language online. In another extensive study commissioned by the Education and Culture Executive Agency and conducted across eight European countries (Stevens & Shield, 2010), it was found out that nearly all of the respondents had used their non-native language online and the majority used more than one non-native language online. Likewise, Toffoli and Sockett (2010) researching informal practices of university students in France showed that nearly all of them regularly used English online.

The term ‘online language use’ is used throughout this paper to refer to this phenomenon: *online* as opposed to *offline* in terms of the means of the activity, *use* as opposed to *learning* in terms of the purpose of the activity, and *language* with the language learner in mind referring to a non-native language. As Kern (2000) explains: “Language use is always embedded in sociocultural contexts, draws on cultural as well as linguistic knowledge, involves apprenticeship, and requires both declarative and procedural knowledge” (p. 39). Thus, online language use has a communicative intention and is viewed as a meaning-making process encompassing linguistic, cognitive, situational and sociocultural dimensions and their mutual interaction.

Online language use overlaps with the notion of *digital literacies*. Meyers et al. (2013) identify three perspectives on digital literacies, one of which views it as participation and engagement in practices through digital means in a particular context. This interpretation clearly resembles the notion of online language use in this paper where of central importance is the learner’s role, language use and its different contexts. Meyers et al. (2013) explain that, “these practices are emergent, socially constructed and situated, rather than predetermined” (p. 360). Jones and Hafner (2012) further point out that digital literacies are not so much about digital media but the meaning they create in our lives. It represents new ways of doing, thinking, relating, meaning-making, engaging, experiencing and being.

As such informal online language use seems to be different from language use in a language learning classroom where the focus is on the native speaker norm, standard language, homogeneity and order (C. A. Hafner et al., 2015). Thus, the challenge seems to be in

finding the right lenses to look through which go beyond the traditional notion of language learning as the acquisition of language skills and competences and which go well in line with the peculiarities of digital practices, such as agency, experience, context, privacy, authenticity, diversity, complexity, fluidity and interconnectedness. Partly drawing on Sockett (2014), *complexity theory* (Larsen-Freeman, 1997) seems to fit this picture.

Complexity theory implies a holistic understanding of learning where context lies at the heart of the matter. Learning is a process of emergence rather than acquisition: it emerges from all the interactions of a learner and context which act as a complex, dynamic, non-linear, open, adaptive, chaotic and self-organizing system which is sensitive to initial conditions and feedback (Cameron & Larsen-Freeman, 2007). In a similar manner, online language use emerges as the interaction of the availability of and access to online resources and the interests and needs of the learner/user, which multiplies the complexity in terms of the amount of factors and interactions involved resulting in organic online practices.

The choice of methodology

The main question which arises is: how can we design in those spaces so that we preserve the privacy and genuineness of those practices, account for the diversity and complexity and at the same time ensure the maximum learning effectiveness and efficiency. In other words, how can we achieve to satisfy the learners' needs while not violating the users' needs in their online environments. Given these challenges and the aforementioned obstacles, the methodological approach guiding this study stems from multiple rather than a single orientation—for methodology should guide the design process and not be in control of it—and that is *design-based research* (Reeves & McKenney, 2013), *RBRO model* (Colpaert, 2004) and *learner-centered design* (Soloway, Guzdial, & Hay, 1994). These three methodologies are distinct and yet compatible and complementary—each lends a specific pillar to the whole process of reorganizing the learner's online context while not harming the other pillars—and all of which seem to be in line with the theoretical principles of complexity theory.

Design-based research (DBR) is an applied research methodology which entails both the iterative development of real-world solutions in education and the empirical investigation that contribute to theoretical understanding in a form of design principles (Reeves & McKenney, 2013). It is contextualized, theory-based, process-oriented, responsively grounded, iterative, interventionist and collaborative, which embodies the principles of complexity theory (CT). Larsen-Freeman (2013) herself makes a strong case arguing that the characteristics of DBR, CALL and CT make a promising combination. There are several versions of the DBR process, the general consisting of analysis and exploration, design and construction, evaluation and reflection and implementation and spread.

The next source informing the methodological approach is the RBRO (research-based and research-oriented) model (Colpaert, 2004) which is probably the most comprehensive design model specifically oriented towards online interactive language courseware to date, thus complements the design-based research model with more specificities relevant to this study. It is based on the classic instructional ADDIE (analysis, design, development, implementation, evaluation) model which resembles the stages of the design-based research process. The instructional model is complemented by an ontological approach for—as its name suggests—it is not only research-based but also research-oriented which makes it compatible with the two-fold goals of design-based research: to enhance learning conditions and theoretical understanding. Similarly, the process is iterative, real-world based, large-scale and honors interdisciplinary collaboration.

Another approach coming from general learning sciences, however, not anchored in CALL yet is learner-centered design (LCD) (Soloway et al., 1994). As its name suggest, it is a design approach which places learners and their needs at the center of the design process where understanding is the goal, motivation is the basis, diversity is the norm and growth is the challenge. The notion of learner-centeredness is very well captured by constructivist approaches to learning and it is also very well reflected in the emic approach of complexity theory. LCD focuses on designing software with a scaffolding function in contexts where heterogeneous groups of learners engage in constructivist activities. It is a contextualized approach where the learning is embedded in more complex tasks and where performance precedes competence. Similarly, as the previous two methodologies, "LCD can not only result in tools that support learning but also in forms of design experiments to explore how learners learn and how technology may (or may not) support such learning" (Quintana, Shin, Norris, & Soloway, 2006, p. 125). It complements the previous two approaches with giving a metaphor to the intervention, context and the process.

Conclusion

This paper motivated by an on-going doctoral project—still in its beginnings, yet already facing some challenges—should serve as a brief introduction to this intriguing undertaking by presenting the rationale and the main theoretical and methodological issues so far. The theoretical and empirical results of the first analysis stage will be presented directly at the conference. The analysis phase considers all relevant factors and actors which need to be translated into a framework of system requirements, which in turn should inform the design of the intervention (Colpaert, 2004, p. 136), thus playing an important part in the design process.

CALL in Context

This paper draws attention to the **emerging online contexts of language learners** which provide opportunities for **meaningful and authentic language use**, especially of English as a lingua franca. As a result, more and more language learners are now participating in informal online spaces and engaging in **digital practices** while using their non-native languages for different purposes—be it for **work, school, infotainment or leisure**—and thus becoming active language users. These new contexts yield, indeed, a great potential for language learning but also result in **new needs of language learners** which need to be sensitively addressed in educational practice. This study attempts to take on this challenge by proposing an intervention directly in the learner's online context while preserving **the privacy and genuineness of those practices**, accounting for the **diversity and complexity** and at the same time ensuring the **maximum learning effectiveness and efficiency**. The local context of the learner plays a crucial role in this research since it is taken as a starting point around which the learning experience is being (re-)organized and researched; more specifically, the context of **university students** who engage in using **English as their non-native language** in online spaces for different real-life purposes. Given the apparent challenges and obstacles, the methodological approach guiding this study stems from **multiple rather than a single orientation**, that is **design-based research** (Reeves & McKenney, 2013), **RBRO (research-based and research-oriented) model** (Colpaert, 2004) and **learner-centered design** (Soloway, Guzdial, & Hay, 1994). These three methodologies are distinct and yet compatible and complementary—each lends a specific pillar to the whole process of reorganizing the learner's online context while not harming the other pillars—and all of which seem to be in line with the theoretical principles of **complexity theory** which provides theoretical lenses to the study. Complexity theory adopts a holistic understanding of learning where context lies at the heart of the matter. Learning is a process of **emergence rather than**

acquisition: it emerges from all the interactions of a learner and context which act as a complex, dynamic, non-linear, open, adaptive, chaotic and self-organizing system which is sensitive to initial conditions and feedback (Cameron & Larsen-Freeman, 2007). In a similar manner, digital practices seem to emerge as the **interaction of the availability of and access to online resources and the interests and needs of the learner/user, which multiplies the complexity in terms of the number of factors and interactions**, and thus will be researched and evaluated as such.

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Language learners' autonomous learning with mobile devices beyond the classroom
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Chun Lai is an Associate Professor at the Faculty of Education, the University of Hong Kong. Dr. Lai's research interest is in self-directed language learning beyond the classroom. She has published quite a few journal papers on this topic. She recently published a book, "Autonomous Language Learning with Technology beyond the Classroom", with Bloomsbury Publishing.

Abstract

Mobile technologies have been theorized as enabling personalized, situated and social learning anytime and anywhere (Kukulska-Humle, 2012; Spikol et al., 2009). However, current research has shown that learners have reservations in using mobile devices for learning purposes despite their research-supported efficacies (Alm, 2013; Chen, 2013; Liu, 2013; Stockwell, 2010; Stockwell & Hubbard, 2014). Furthermore, researchers have found that language learners show differential willingness to use mobile devices in response to different mobile activities (Kim et al., 2014; Stockwell & Hubbard, 2014). Thus, to enhance students' engagement with mobile learning, we need to obtain in-depth understanding of how students perceive and use mobile devices for mobile learning (Bassett & Kelly, 2013; Byrne & Diem, 2013; De los Arcos, 2011; Kukulska-Hulme et al., 2011). Although there have been a few studies on language learners' perceptions and attitudes towards MALL, most of them focus specifically on learners' reactions to teacher-structured mobile-assisted interventions (Ch'ng & Samsudin, 2013; Pollara & Broussard, 2011). As we define mobile learning as learners taking the enhanced mobility afforded by mobile technologies and other technologies to create personalized learning ecologies that span across different settings, times and locations (Luckin et al, 2010; Pachler, Bachmair & Cook, 2010; Sharples, Taylor & Vavoula, 2005; Underwood, Luckin & Winters, 2010), it is equally important, if not more, to understand language learners' perceptions and self-directed use of mobile devices for mobile learning outside their language class. This study examined how language learners perceive the affordances of mobile devices for language learning and what out-of-class language learning activities they opt to engage with mobile devices. This study was based on a survey study with 256 university undergraduate foreign language learners and a follow-up interview study with 18 learners. The participants reported most positively on the use of mobile devices to expand the time and space for autonomous language learning and to support personalized learning, but less positively on the use of mobile devices to engage in authentic language learning experience and to enhance connection in learning. The participants were also found to use mobile devices and laptop for different activities and the selective use was shaped by learners' perception of the different affordances of these different digital devices and the social functions that they are fit for.

This study was conducted in the foreign language learning contexts in Hong Kong and the participants primarily consisted of beginning-level language learners. The specific cultural context of the participants might have shaped some of the research findings as cultural value orientations and pedagogical cultures are found to influence self-directed language learning with technology beyond the classroom (Lai et al., 2016; Viberg & Gronlund, 2013). The language proficiency profile of the participants might also have shaped some of the research findings as learners of different language proficiency are found to engage differently in out-of-class technology-enhanced language learning activities (Ala-Kynny, 2012; Jones, 2015).

Conference paper

Introduction

Mobile learning has been widely acclaimed for its revolutionary and liberating redefinition of learning places and time, where, with the assistance of mobile technologies, learners are given increased mobility to appropriate technologies to create “impromptu sites of learning” and personalized learning ecologies that span across different settings, times and locations (Luckin et al, 2010; Pachler, Bachmair & Cook, 2010; Sharples, Taylor & Vavoula, 2005; Underwood, Luckin & Winters, 2010). The affordances of mobile technologies in enabling personalized, situated and social learning anytime and anywhere have stimulated researchers to advocate for a “participatory collaborative design” in which learners play an increasingly active role in utilizing technologies to create seamless learning experiences that bridge in-class and out-of-class learning (Kukulska-Humle, 2012; Spikol et al., 2009). Thus, learners’ abilities to engage in self-directed learning with mobile devices are essential to realizing the educational potentials of mobile learning. However, researchers have point out that the majority of learners need support in developing the abilities (Kukulska-Humle, 2012; Stockwell & Hubbard, 2014). To support learners develop such abilities, the first and foremost task is to understand learners’ perspectives on mobile learning (Byrne & Diem, 2011; Ch’ng & Samsudin, 2013; Kukulska-Humle, 2012). In the field of mobile-assisted language learning, research has examined students’ perceptions of and attitudes towards mobile activities, but the majority of the studies were conducted in the context of teacher-structured mobile learning in the instructional contexts (Ch’ng & Samsudin, 2013; Pollara & Broussard, 2011). Thus, to better support learners to exert agency in utilizing mobile devices to create mobile learning across time and place, there is a great need to understand learners’ perceptions of and self-directed use of mobile devices for mobile learning outside the language class (Kukulska-Humle, 2012; Kukulska-Humle et al., 2011).

Literature Review

Mobile technologies, with its affordances of enabling personalized, situated and social learning anytime and anywhere, have been quickly embraced by language educators to maximize second language learners’ opportunities for language learning (Burston, 2014a; Stockwell & Hubbard, 2014). Burston (2014a) reviewed 345 implementation studies that have been published so far on mobile assisted language learning (MALL), and concluded that current literature has provided research evidences suggesting the efficacy of mobile learning for language and culture development among second language learners. However, he pointed out that the current literature is characterized by a narrow pedagogical focus on teacher-centered stand-alone MALL. Burston (2014b) argued for a more “seamless approach” that utilizes the affordances of mobile devices and other technologies to integrate in-class and out-of-class learning. This view is concurred by other researchers who argue that the increased mobility and personal choice of tools and learning spaces brought along by mobile devices enables a mobile learning culture where learners are attuned to and utilize personal and social technologies to draw on the learning opportunities in their

contexts to meet their personalized and situated needs (Kukulka-Hulme, 2011; 2012; Pachler, Bachmair & Cook, 2010; Sharples, Taylor & Vavoula, 2005; Underwood, Luckin & Winters, 2010). Are language learners living up to the expectations of active embracing of mobile learning?

Current research has shown that learners fail to utilize the affordances of mobile devices for learning despite their research-supported efficacies (Stockwell & Hubbard, 2014). There have been quite a few studies showing that learners have reservations in using mobile devices for learning purposes (Alm, 2013; Chen, 2013; Liu, 2013; Stockwell, 2010). Language learners are found failing to take advantage of the affordances of mobile devices in accessing learning materials anytime and anywhere (Abdous et al., 2009; Wang & Higgins, 2006). White and Mills (2014) found that only 7% of their participants viewed smartphone as a tool for educational use. Language learners have also been found to show a decreasing trend in using mobile devices to facilitate informal learning once the novelty effects fade away (Kondo et al., 2013; Stockwell, 2012). Furthermore, researchers have found that language learners show differential willingness to use mobile devices in response to different mobile activities, and the more consistent a mobile activity or app is with their existing practices, the more likely they will accept it (Kim et al., 2014; Stockwell & Hubbard, 2014). Thus, students need to be supported in developing their sensitivity and abilities to utilize mobile learning (Kukulka-Hulme, 2012; Stockwell & Hubbard, 2014). And such an effort in enhancing students' engagement with mobile learning needs to be based on an in-depth understand of how students perceive and use mobile devices for mobile learning (Bassett & Kelly, 2013; Byrne & Diem, 2013; De los Arcos, 2011; Kukulka-Hulme et al., 2011; Pettit & Kukulka-Hulme, 2007).

Although there have been a few studies on language learners' perceptions and attitudes towards MALL, most of them focus specifically on learners' reactions to teacher-structured mobile-assisted interventions (Ch'ng & Samsudin, 2013; Pollara & Broussard, 2011). As we define mobile learning as learners taking the enhanced mobility afforded by mobile technologies and other technologies to create personalized learning ecologies that span across different settings, times and locations (Luckin et al, 2010; Pachler, Bachmair & Cook, 2010; Sharples, Taylor & Vavoula, 2005; Underwood, Luckin & Winters, 2010), it is equally important, if not more, to understand language learners' perceptions and self-directed use of mobile devices for mobile learning outside their language class.

To fill in the gap in the current research, the proposed study examines how language learners perceive the affordances of mobile devices for language learning, what language learning activities do they engage with mobile devices, how they utilize mobile devices and other technological tools available to them to create mobile learning across different learning spaces and time (Burston, 2014; Kukulka-Hulme, 2012; Luckin et al, 2010). The research question this study addresses is:

How do language learners perceive and self-direct their use of mobile devices outside the language class for mobile learning?

Research Method

Participants

276 Foreign language students that were currently taking foreign language courses at a university in Hong Kong will be recruited to participate in this study and a data set of 256 valid survey responses formed the main data for this study. The survey participants averaged 20 years old and the majority of them were female and were in the first two years of study. They were of Chinese ethnic background. Around half of the participants had

studied the foreign language less than one year and more than 60% of the participants self-rated themselves as of beginning proficiency level.

Construction of the Survey

A survey was constructed to measure language learners' perceptions of and current use of mobile devices for language learning. The construction of the questionnaire items that measure students' perception of the affordances of and the nature of their self-directed use of mobile devices for language learning referred to current MALL pedagogical frameworks (Kearney et al., 2012; Kim et al., 2014; Stockwell & Hubbard, 2014) and Wong and Looi's (2011) framework on mobile-assisted seamless learning. In addition, students' frequency of use of mobile devices for different pedagogical functions will also be measured. 6-point Likert-type scale questionnaire items were used in the survey.

Data Analysis

The survey responses were analyzed via an exploratory factor analysis, using Principal axis factor analysis as the extraction technique and promax as the rotation method.

Findings

The survey responses showed that the participants used mobile devices to support vocabulary learning the most, spending in between 1-3 hours and 3-7 hours per week ($M=3.24$; $SD=1.16$). The participants reported using mobile devices more frequently to develop receptive skills such as reading and listening than productive skills, and reported using mobile devices to develop speaking skills the least frequently ($M=2.15$; $SD=1.11$).

The exploratory factor analysis yielded three factors that could explain 62.2% of the variance in learners' self-directed use of mobile devices for language learning beyond the classroom. The three factors included: 1) personalization where learners use mobile devices to engage in and assist learning anytime and anywhere and to engage in autonomous, customized learning; 2) authenticity where learners use mobile devices to interact with authentic materials; and 3) connection where learners use mobile devices to interact and connect with native speakers of the target language and peer learners. The participants reported most positively on the use of mobile devices to expand the time and space for autonomous language learning and to support personalized learning ($M=4.89$; $SD=0.71$). However, the participants reported less positively on their use of mobile devices to engage in authentic language learning experience ($M=4.04$; $SD=0.90$) and to enhance connection with others in the target language ($M=4.07$; $SD=0.96$). Among the 175 survey participants who gave detailed accounts of their use of mobile devices for language learning in their responses to the open-ended question of examples of mobile language learning, 131 (75%) of them mentioned using mobile devices to either provide instant help on language study and language use or to study and use the language at any time and any place. Only 66 (38%) of the participants mentioned using mobile devices to engage in authentic language use, such as to listening to songs, watching videos or drama, browsing news or blogs, and viewing Facebook or Twitter updates. Even fewer, 21 (12%), participants mentioned using mobile devices to communicate and connect with others. The participants' questionnaire response on their frequency of engagement in the three types of learning experiences also confirmed learners' preferences of using mobile devices for personalized learning. The participants reported higher frequency of using mobile devices to support personalized learning than to facilitate authentic learning experience and communication in the target language, with the former leaning more towards 1-3 hours per week and the latter two towards less than 1 hour per week.

Their differential engagement in different language learning experiences with mobile devices could partly be explained by their perception of the usefulness of mobile devices in

facilitating different learning experiences (see Table 5). The participants perceived mobile devices as most useful in supporting personalized learning ($M=4.97$; $SD=0.63$), but less usefulness in enhancing the authenticity in language learning ($M=4.38$; $SD=0.85$) and in strengthening connection with target language communities ($M=4.34$; $SD=1.01$).

Discussion and Conclusions

This study examined a group of university foreign language learners' self-directed use of mobile devices for language learning beyond the classroom. It identified three dimension of mobile language learning in informal contexts – personalization, authenticity and connection, and found that this group of learners perceived and voluntarily used mobile devices more to support personalized learning experience than to enhance the authenticity and social connection in language learning beyond the classroom. This finding suggests that facilitating anytime-anywhere learning is a key learner-utilized affordance of mobile devices for out-of-class language learning.

Moreover, the specific manifestations of the three dimensions reflected some unique features of language learning in the informal contexts. The personalization dimension in this context entails the use of mobile devices to not only enable customized learning and enhance autonomous learning through the flexibility of learning anytime and anywhere, but also provide immediate assistance to the anytime-and-anywhere learning and language use anytime. The heightened assistive aspect of mobile use is unique to informal language learning because learners usually do not have immediate teacher and peer support to rely on when learning and using language in such contexts. The authenticity dimension in out-of-class mobile language learning is both perceived less positively and used less frequently by learners, and is manifested mostly in the use of mobile devices to access entertainment materials such as songs, video clips, news updates, etc. Similarly, the connection dimension in out-of-class mobile language learning received less positive perception and is limited in its manifestation: learners used mobile devices more to connect with peer learners, and were reluctant to engage in social networking in the target language. The unique specification of this dimension is related to the social and entertainment functions that mobile devices are usually associated with in daily life (White & Mills, 2014), and the inadequacy of second language(s) in fulfilling the expected social functions of sharing and communication. The limited use of mobile devices for social connection suggests that although mobile devices are inherently fitted for facilitating social communication in informal contexts, the realization of this technological affordance in the language learning context might be constrained by linguistic and socio-contextual factors. Thus, to capitalize on learners' habitual use of mobile devices for social connection in the context of foreign language learning, educational mediations and interventions are needed

CALL in Context

This study was conducted in the foreign language learning contexts and the participants primarily consisted of beginning-level language learners. The language proficiency profile of the participants might have shaped some of the research findings as learners of different language proficiency are found to engage differently in out-of-class technology-enhanced language learning activities (Ala-Kynny, 2012; Jones, 2015).

The study was conducted in the context of Hong Kong with its unique mobile infrastructure and sociocultural conventions on learning and technology use. It is possible that students from different cultural backgrounds might show different profiles of mobile learning as cultural values were found to influence learners' perception and use of mobile learning (Hsu, 2012; Viberg & Grönlund, 2013) and social rules and conventions define acceptable and preferred

selection and use of technological tools and mobile practices (Kukulka-Humle et al., 2011; Sharples, et al., 2006).

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CALL to meet a need for communicative competence for Vietnamese graduates

Bio data



I am a lecturer in English Language Department at University of Information Technology (UIT), Vietnam National University (VNU). I hold a PhD in TEFL/TESL from the University of Portsmouth, U.K. I am particularly interested in CALL, using technology in English teaching and how English language training can be improved with IT support, classroom research, teacher education and English language communicative competence required of graduates at the workplace.

Abstract

In the context of globalization, a need for communicative competence for business purposes has arisen in Vietnam. This requires communicative competence in English use from learners entering the companies. In these companies, employees typically interact in English with their colleagues, mainly through texting online or email. Competencies needed include the use of written and oral communication such as making requests and answering requests and writing an effective email. However, it has been reported that graduates had limited English proficiency to fulfil these requirements of communicative competence at the workplace. In order to meet the needs of both learners and their employers, the Vietnamese authorities have prioritized teaching methodology at university level. My study therefore has been carried out to investigate the issue discussed above. The investigation is based on: (1) went to the companies to learn about the reality of the English in the workplace and (2) observed at the university to see how needs were being met.

My study is conducted in University of Information Technology, Vietnam National University. In this context, many students are often scared to speak and listen in English though they can manage some grammar and reading exercises. Speaking and writing are the most difficult skills for students to deal with. Furthermore, a needs analysis based on data collected from the companies show the mismatch between English learning at the university and the requirements of the graduates at the workplace. These have the impact on my research which I have done with my perception of the problem and of how communicative competence is developed. Based on the research information, a number of ways that English learning with computer and Internet support that can be designed and applied in the research context to meet the need for English learning tailored to the workplace needs of IT graduates are discussed. The study contends that computer-assisted teaching and learning English can help to improve communicative skills such as instant messaging, emailing and teamwork for learners.

Conference paper

1. Introduction

In the context of globalization, there is a need for communicative competence for business purposes has arisen in Vietnam. In these companies, employees typically interact in English with their colleagues, mainly through texting online or email. Competencies needed (Gatehouse, 2001, Vo, 2015) include the use of written and oral communication such as making requests and answering requests and writing an effective email. My study is conducted in University of Information Technology, Vietnam National University. In this context, many students are often scared to speak and listen in English though they can manage some grammar and reading exercises. Speaking and writing are the most difficult skills for students to deal with. It has been reported that graduates from the university had limited English proficiency to fulfill these requirements of communicative competence at the workplace. Furthermore, a needs analysis based on data collected from the companies show the mismatch between English learning at the university and the requirements of the graduates at the workplace. These have the impact on my research which I have done with my perception of the problem and of how communicative competence is developed. Based on the research information, a number of ways that English learning with computer and Internet support that can be designed and applied in the research context to meet the need for English learning tailored to the workplace needs of IT graduates are discussed.

2. Communicative competences required at the workplace

As stated above, learners entering the companies to work need communicative competence in English use (e.g. communicative strategies such as how to make requests, directives or write a business email). The term 'communicative competence', therefore is defined as follows to clarify its use in the current study: *Communicative competence* is what a language learner needs to achieve to be able to communicate effectively in the target language (Hymes, 1972). Researchers (e.g. Canale and Swain, 1980; Bachman & Palmer, 1996; Richards & Rogers, 2001) review that communicative competence is composed of grammatical competence (e.g. the levels of grammatical accuracy required in oral and written communication), sociolinguistic competence (e.g. needs relating to setting, topic, communicative functions) and strategic competence (e.g. the compensatory communication strategies to be used when there is a breakdown in one of the other competencies). A communicative approach to help learners to achieve communicative competences must be based on and respond to learners' communication needs which are specified with respect to these three competencies.

The study contends that computer-assisted teaching and learning English can help to improve communicative skills such as instant messaging, emailing and teamwork for learners.

3. Findings

The research findings imply that there are far more requirements for successful English use in the workplace than the kind of English that a graduate learns from university (Vo, 2015; Vo, Wyatt & McCullagh, 2016). This confirms the ideas of companies who have had regular contacts with the university for their recruitment (UIT Employment Conference, 2015). In the companies observed, English language was used to communicate between Vietnamese colleagues and foreign colleagues and in some companies, among Vietnamese colleagues. The employee participants often worked in large groups of 7-10 or small groups of 2-4. The groups shared an office of 40-50 people. They interacted in English with their colleagues mainly through texting online or email, and sometimes presenting and discussing in the meetings with English speaking managers. The requirements of English use include:

- Communication skills and teamwork skills (how to exchange ideas among teammates and to the team leaders)
- How to make requests and answer requests from colleagues and managers
- How to write a business report
- How to write an effective business email

In contrast to the requirements as discussed above, the data collected from the companies indicates that materials used at the university do not meet their needs. There is clearly a gap between the communication in English required in the Vietnamese IT workplace and materials and methods deployed for English language teaching at the university (Vo, Wyatt & McCullagh, 2016). The mismatch is summarized in the table below

<i>The communicative needs of IT workers in the Vietnamese workplace</i>	<i>The actual materials and methods employed in English language teaching at the Vietnamese university</i>
Communication strategies with requests, explanations, directives and negotiations	Lack of communicative purpose in most classroom talk, with communication strategies unrepresented
Relational talk in business settings	Group work under-exploited, with tasks often not developing interactive speaking
Use of written and oral communication through texts, emails and meetings	Writing limited to course book exercises
Awareness of cultural differences in politeness strategies when interacting with foreigners	No direct cultural training

Table 1: The nature of the gap (adapted from Vo, Wyatt & McCullagh, 2016)

As Table 1 suggests, there may be various ways of addressing the evident gap. Students need explicit support for communication strategies (Van Lier, 1996; Wyatt, 2009), with socio-culturally-appropriate politeness strategies clearly contextualized (Chan, 2009) to develop communication skills required at the workplace.

There remains the question of how to support learners to achieve such communication competences. In an attempt to answer this question, I and a group of teachers in UIT designed a set of tasks with the assistance of computers and the Internet to apply to these contexts, which will be detailed in the next part.

4. Suggestions

4.1 Computer use for preparing first skills at the workplace

Task 1. Reading job advertisements and responding to the job advertisements

This task aims to prepare learners the first skills that employees need for applying a job. It includes reading advertisements to know about the requirements of different positions in IT companies. There are a number of advertisements published by companies that can be accessed in the Internet, which would help learners to have an effective preparation in applying for the job.

Reading these advertisements, students learn to read some job advertisements of IT major, think about common positions in IT company and especially think critically about what communication skills each position requires. An example of this task is *Read the job advertisements and list the specific communication skills the positions require*. This task also plays the role of providing students information about requirements from IT companies and what they need to prepare to come to work at the companies.

Responding to a job advertisement

This task aim to prepare learners some important skills for being successful in the interviews. Learners after reading a job advertisement of a position they would like to apply for are asked to think about answering the most common interview question *'Tell something about yourself'*.

Then, the learners will be instructed to answer the question of the three elements 'Education, Employment and Skills' which should be relevant to the positions they are applying for. This task then could be developed to *'Think about and make a list of questions you think the company would ask you after the first question 'Tell me something about yourself'*.

After the learners showing their lists and getting some comments, questions that were really used from companies can be provided to learners. Students make comparison and some necessary revisions for their own lists. Finally, students watch a video of a good example of an interview to check what they have learnt. Again, computers play its roles in this task.

4.2 Computer use for supporting communication skills and teamwork skills

Task 2. Poster design

This task aims to convey the purposes and raise the awareness of learning English which required at the workplace to IT learners. This includes practising to write slogans in English, presenting the ideas together with designing posters to display these slogans. This is some parts of IT employees' job in reality. Therefore, the task is also to provide an environment that stimulates learners to work as real IT developers or designers.

Computer and Internet use:

Learners work with their computers thinking about some slogans and posters that would be appropriate for the purpose of the task before working in groups of 4 or 5 to discuss and present the slogans. A number of good slogans such as "Learn English passionately today, work for top IT companies tomorrow" or "Practise your English, water your money tree" are selected.

Learners design posters for the slogans selected.

It would take learners for a week to finish the task. While carrying out the task, learners can communicate with each other through email or online chatting to discuss fonts or colors to make the posters attractive and effectively. Some examples of completed posters as in Figure 1.



Figure 1: Task of poster design

Task 3 Game application design

The purpose is as it is in task 2 plus providing more an environment that stimulates learners to work as developers or software engineers.

Computer and Internet use:

First, learners are asked to work in teams of 4 or 5 for the applications such as:

- + Profile: A computer application that allows users to fill in their information which is useful for a review to write a C.V to apply for a job.
- + Email exchange: allows users to exchange email; once a learner write an email and send to the other learner, a signal will appear on the screen to invite the reply.
- + Timetable: making personal plans for daily and weekly work; there includes funny cartoon icons to make the timetable interesting to the users (Figure 2).

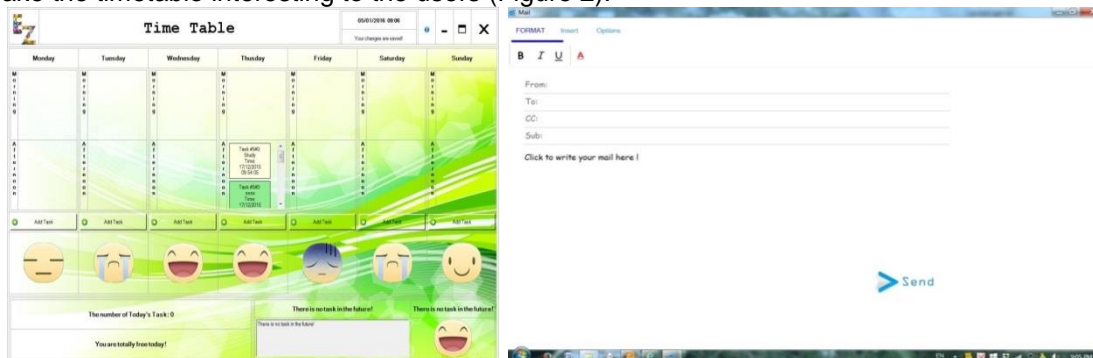


Figure 2: Applications for idea exchanges and reports through profiles and email exchange

There are three groups working for the three applications above. While carrying out the tasks, learners are expected to communicate in English with their team-mates via Facebook, email or face-to-face meetings to finish the tasks. They are also encouraged to ask their teachers for advice in resolving any problems which crop up.

Comments: Activities as task 2, 3 encourage learners to learn English due to a clear purpose for IT learners to learn English with the assistance of computer and the Internet and a setting that stimulates real-life working environment is given. In this environment, learners practice communication skills and teamwork skills.

4.3 Computer use for exchanging ideas and writing reports

Task 4. Writing reports

This task aims to prepare learners to be able to do common tasks in English in working-related contexts such as writing profiles and timetables and making daily or weekly reports. This task is important to support learners writing skills which are always difficult but very necessary to English learners.

Computer use

First, learners are asked to write on computers their own profiles individually. The three elements 'Education, Employment and Skills' as in task 3 could be reminded by the teacher to be included in learners' profiles.

Then learners are asked to exchange their profiles to have peer feedback before teacher's feedback. Computer applications in task 3 can be used for this task.

The same procedure can be applied for the task *Timetables* where learners can be supported to make their own plan for their weekly work and for reporting.

Comments

This kind of task is very much like what employees have to do working in the companies. Students are supported to write, revise and update their own profiles and timetables, and then exchange the profiles and timetables to learn more from their peers. In this way, learners are preparing important English writing skills to enter the workplace.

4.4 Computer use for email exchange**Task 5. Writing email and responding to an email**

This task aims to support learners in making and responding to requests among a group through email to make requests and answering requests. The task which is similar with what employees often do at the workplace will stimulate learners a real-life working environment.

Example: An example of the email will be provided: Read an email from a manager to EZ team to ask for 'As requirements from our clients of the user interface of the prototype, we have to work for the new version by 4 p.m tomorrow'.

Respond to the email as if you are EZ team. In your email, ask one question and one request.

Computer and Internet Use

Game application for email exchange in task 3 can be used here. Students doing this task are asked to play roles of team leaders (managers) and teammates (employees) in groups of four or five.

First, the team leader sends requests through emails. Then team members will answer the email, copying the email to every member in the groups to let the managers and other team members know the progress. The requests to have the work done will be included (e.g. communicate via facebook, have someone else to cover part of the work). The team leader emails to deal with requests and helps to make negotiation among team members.

This task helps learners deal with situation which happens very often in the workplace, helping employees to use the language which is very much needed in the workplace such as 'Could or Can', modals (should, need to, have to) in proper situations.

5. Conclusion

Having computer and the Internet assisted as reported above could contribute to meet English requirements at the workplace. This helps deal with the challenges of creating work-related environments for learners to develop communicative skills such as answering interview questions, asking and answering requests and working in teams.

It can be said that the CALL plays a role to give students chance to practice the target language. From that, students will be equipped with learning strategies to develop communicative competences required at the workplace. In details, computer-assisted

English training provides learners opportunities to practice using communication strategies through meaningful task-based interaction for learners. Such communicative practice can be done through role-plays in pairs and groups on appropriate business-related topics and in different modes. These could be used for the implications for materials design and teaching methods at university, based on the Vietnamese IT workers' needs.

CALL in Context

In the context of globalization, there is a need for communicative competence for business purposes has arisen in Vietnam. In these companies, employees typically interact in English with their colleagues, mainly through texting online or email. Competencies needed include the use of written and oral communication such as making requests and answering requests, working effectively in teams and writing an effective email (Vo, 2015). My study is conducted in University of Information Technology, Vietnam National University. In this context, many students are often scared to speak and listen in English though they can manage some grammar and reading exercises. Speaking and writing are the most difficult skills for students to deal with. It has been reported that graduates from the university had limited English proficiency to fulfil these requirements of communicative competence at the workplace.

The study contends that task design with the assistance of the computer could help to deal with the challenges of creating work-related environments for learners to develop communicative skills. These tasks support learners to practice answering interview questions, asking and answering requests and working in teams. From this, students will be equipped with learning strategies to develop communicative competences required at the workplace. In details, computer-assisted English training provides learners opportunities to practice using communication strategies through meaningful task-based interaction for learners. Furthermore, communicative practice can be done through role-plays in pairs and groups on appropriate business-related topics and in different modes. These could be used for the implications for materials design and teaching methods at university, based on the Vietnamese IT workers' needs. These can also be applied to the contexts which are similar to the current research context.

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Investigating How Digital Story Is Used to Give EFL Students a Voice and to Enhance their English Writing

Bio data



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Abstract

While the implementation of digital storytelling has been receiving increasing attention in English education, and while storytelling serves as a bridge to writing, there is little research conducted to see how the use of digital story affects EFL student writing and empower them to voice their stories. This study involved ninety Taiwanese junior college students as they created their digital stories after three phases of composing. Various sources of data were collected and analyzed. The findings revealed that the students improved significantly in their writing performance and their attitude toward English learning was positive as well.

Conference paper

Introduction

Literacy is socially situated (Barton & Hamilton, 2000; Gee, 2001). As Halliday (1973) first proposed, language happens through the important process of being socialized into our world. Therefore, when using a language, we are actually expressing meanings that are created within a social system (Kress, 1976). In that sense, when language instructions are conducted in a literacy classroom, the context of meaningful social situations and interactions has become essential. On the other hand, studies of literacy practices in context have shown that in different social contexts, people produce, use and interact with texts in different ways. For them, the literacy practices are purposeful and part of their broader social goals (Barton & Hamilton, 2000). As a result, it is of value to investigate in depth how the social context formatted when certain literacy instructions are carried out affects language learners' use of language.

Technology has long been promoted to enhance ESL (English as a Second Language) and EFL (English as a Foreign Language) student writing and motivate them to learn. Numerous empirical studies conducted by writing instructors have examined the support of technology

in student writing of traditional essay texts as well as electronic texts such as emails, blogs, podcasts, wikis, and instant messages (Herrington and Moran, 2009). Positive outcomes have been reported.

In his article evaluating emergent technologies, Godwin-Jones (2013) indicated that the use of mobile phones and digital cameras facilitates extensive language projects, such as oral history or digital storytelling (p. 6). Digital storytelling refers to the use of digital media to create short audio-video stories, usually about an individual's own life (Hartly and McWilliam, 2009). However, compared to the other technology tools used in writing classrooms (i.e. blogs and wikis, as discussed above), the use of digital storytelling to enhance writing did not seem to be fully investigated, particularly not in the EFL contexts; nor was the social context created as such approach was adopted investigated. Therefore, the present case study intends to build on the existing literature and to expand it by investigating how the implementation of digital storytelling tasks helps enhance EFL student English writing, with a particular focus on the Taiwanese context.

Digital storytelling and writing

Research results have suggested positive potentials of using digital storytelling with student writing, such as enhancing student engagement, providing access to global audiences, amplifying student voices, and leveraging multiple literacies (Anderson and Chua, 2010; Bull and Kajder, 2004; Hafner and Miller, 2011; Huffaker, 2004; Hills, da Silva, and Raguseo, 2008; Sadik, 2008; Smeda, Dakich, and Sharda, 2014). Moreover, scholars such as Kajder and Swenson (2004) proposed that expression through digital images can be used as a bridge to writing.

Empirical studies have examined the use of digital storytelling with low-proficient writers. For example, in their work with three fourth-grade struggling writers, Sylvester and Greenidge (2009) saw that the alternative digital storytelling approach helped students gain understanding of traditional literacies. Likewise, Nelson (2006) saw digital storytelling benefitting L2 writers. In another study done by Vasudevan, Schultz, and Bateman (2010), fifth-graders from a multinational urban school used a range of digital modes to compose stories from their communities. The students were therefore allowed to document and include elements of themselves that could not be reflected in their written texts. One specific study done in the Taiwanese context by Huang (2012) reported that the use of the software, Photostory, empowered 45 Taiwanese EFL university students by engaging them in multimodal writing tasks. Huang's study focused on student perceptions and strategies used when creating the digital stories; yet no further investigation on how students improved in their writing skills was conducted.

Research questions

The students at Taiwanese technological higher institutions are commonly considered less motivated and less proficient English writers, compared to those enrolled in general higher institutions (Liu, 2011). Therefore, it is particularly essential to investigate how students' writing performances would be affected with the adoption of digital storytelling approach. The aim of carrying out the study was to find answers to the following questions: (1) Was there a change in the students' motivation and interest in English learning after they created their digital stories? (2) Were there significant differences between the students' pre-project and post-project writing performances? (3) What were the students' perceived benefits in creating their digital stories? (4) What were the students' perceived difficulties?

Methodology

Participants

A total of 90 fourth-year junior college students (72 males and 18 females between ages 15 to 17) participated in the study. Most of them were novice English writers and a majority of them had no experience in writing an English essay. Many of them were considered low-achieving in English learning as they did not pass certain national English competence test.

Procedures

Enrolled in the general education English course, the participating students met weekly in the language lab for two hours throughout the academic year; 18 weeks in both fall and spring semesters. Out of the 36 weeks of class meetings, the digital storytelling project took up five and half months. During the weeks when the project was not in operation, the teacher-researcher used an anthology designed for EFL learners as the textbook to fulfill the course requirement of enhancing student reading skills in English. The conventional grammar translation method and Question-Answer Relationship (QAR) strategy were adopted to help student expand grammar knowledge and build reading comprehension.

The five-and-half month digital storytelling project was divided into three phases and described below in Figure 1.

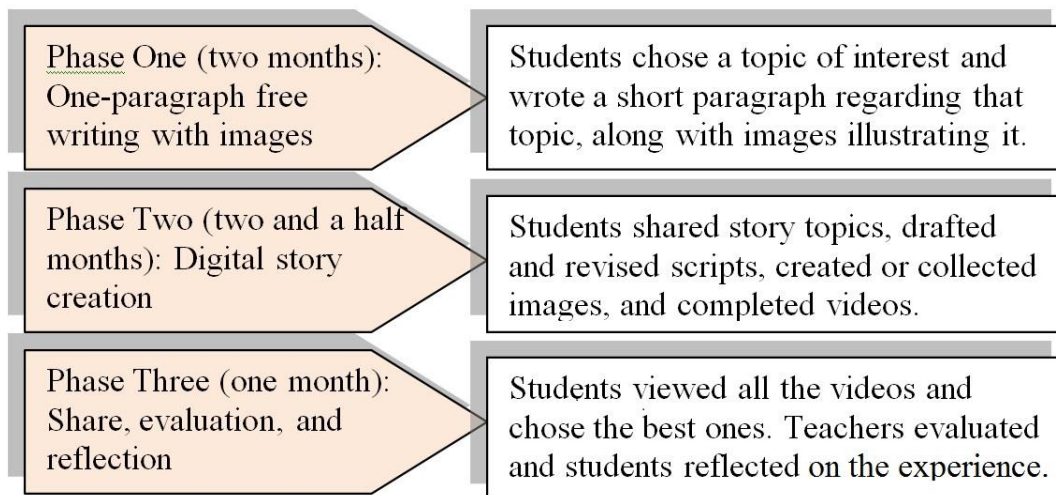


Figure 1. Three phases of the digital storytelling project

Instruments

To eliminate students' possible fatigue with the long survey that may result in inaccurate data, this study employed a shorter version of the AMTB (the mini-AMTB, the Attitude Motivation Test and Battery) adapted by Tennant and Gardner (2004). The mini-AMTB was administered before and after implementation of the digital storytelling project. Because there was almost half a year in between administering the pre- and post-tests, the possibility of students remembering their answers was quite low, and therefore test threat was not deemed as a major concern.

Students were also required to write an English essay assignment prior to and after implementation of the digital storytelling project respectively. The two topics in the pre-and post-project writings were equivalent in difficulty and were of the same genre. Two experienced EFL instructors, trained in advance, were asked to consider the content, organization, syntax, word usage, spelling, and format when grading the written essays.

Each essay received a holistic score from both graders, with a total possible score of 20 points.

At the end of the project, students were also asked to complete a self-reflection sheet in which they were asked to: (a) write about the difficulties they encountered when producing their digital stories, (b) whether they had learned anything by producing the stories, (c) whether their attitudes toward English learning had changed since working on the project, and (d) whether working on the project helped them learn and improve their English.

Data analysis

The mini AMTB pre- and post-test scores were used to answer the research question: Was there a change in students' motivation and interest in English learning after they created their digital stories? Due to a small sample size, the Wilcoxon signed rank test with a statistical significance level of .05 was used to assess this change.

The mean scores by the two graders on students' pre- and post-writing essays were calculated to determine changes in their English writing skills. The lengths of student pre- and post-writings were also counted. A paired samples *t*-test was used to test for a significant difference in student writing scores and also in the length of their writing to answer the research question: "Were there significant differences between the students' pre-project and post-project writing performances?"

The constant comparative method and an inductive research strategy (Merriam, 1998) were used to code students' self-reflections. Data were closely examined for relevant patterns and themes (Hatch, 2002). Generated themes which consisted of students' perceptions and learning experiences from their involvement in the digital storytelling project helped supplement findings gained from the analysis of the mini-AMTB and writing scores; they also helped answer the research questions: "What were students' perceived benefits in creating their digital stories?" and "What were students' perceived difficulties?"

Positive attitude toward English learning

Table 1 shows the mini-AMTB pre-and post-test scores. A Wilcoxon signed rank test revealed a significant increase in student's perceived attitude toward the learning context ($Z=-3.25$, $p=.001$), indicating improved perceptions of the course as well as the instructor. Table 1 also reveals that although there were positive changes in areas such as integrativeness, motivation, and instrumental orientation, they were not statistically significant.

Table 1
Student mini-AMTB test scores before and after the digital storytelling project

Mini-AMTB	Pre-project scores Mean (SD)	Post-project scores Mean (SD)	<i>p</i>
Subscale Scores			
Integrativeness	14.9 (3.0)	15.0 (3.3)	.381
Attitudes toward the learning situation	10.2 (2.0)	10.9 (1.9)	.001
Motivation	14.7 (3.0)	14.8 (2.9)	.983
Instrumental orientation	5.4 (1.4)	5.7 (1.2)	.201
Language anxiety	8.3 (2.4)	8.4 (2.6)	.501
Overall Score	53.6 (8.2)	54.8 (7.5)	.103

Answers in students' self-reflections provided more information. More than half of the students (60%) agreed that there was a positive change in their attitude towards learning English. Seventeen percent of the students stated that there was no change because they

had always remained positive about learning English. Sixteen percent of the students agreed there was a change without further identifying if the change was positive or negative. Only three students (3%) wrote that they switched to a more negative point-of-view about learning English.

Improvement in English writing

Paired-samples *t*-test revealed significant increases in student essay writing scores and essay length ($t(89)=8.0$, $p=.001$ and $t(89)=8.5$, $p<.001$ respectively) from before the project ($M=1.9$, $SD=1.7$; $M=63.5$, $SD= 36.7$ respectively) to after the project ($M=3.5$, $SD=2.3$; $M=103.4$, $SD=35.1$ respectively). Although writing a longer essay does not necessarily indicate better quality, the significant increase in the number of words at least suggests that the students were more used to and perhaps more willing to compose in English.

Presented below is an example of a student's pre- and post-project essay writings to illustrate the improvements the student made.

<p>Pre-project: The school have a variety of people. I think the fresh student efforts have to learn English Class must be carefully. Happy in the school learn. Why is English important? Because that is the international language.</p>	<p>Post-project: The first life is studying English. It's so important. The English can help me talking about something for Americanse. The 2nd life 孝順 my mother and father to help there to do something. I always helping my father to work after come home, and help my mother cook the dinner for evernight. 3rd life is eat a lot of candle and chocolate. I'm very like it. It eat so sweet. It help me be happy. Do you want to eat? I can give you some.</p>
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Figure 2. Example of student pre- and post-project writings

Student reflections show that 28% of the students feeling that their knowledge of syntax improved. Following that were writing skills (23%), narrating techniques (17%), pronunciations (16%), and vocabulary knowledge (13%). Some students generally commented that the project helped motivate them in learning English (7%), allowed them to make their own videos (6%), and facilitated their learning (6%). Only two students (2%) stated that the project did not help them much.

Self-perceived benefits from completing the digital storytelling project

One benefit identified was that their digital literacy capabilities increased through the video production. This finding is in parallel with the previous study stating that digital storytelling tasks help students develop new literacy skills and therefore are beneficial for their future careers (Kearney and Schuck, 2006). In addition, the students also thought they benefited in terms of improving their English skills. Moreover, the students appreciated the opportunity to write about their personal experiences and memories of life events. Some other gains which they mentioned includes the following: The activity allowed them to make a connection with the class as they shared and viewed each other's stories; the task pushed them to work hard; they received a better grade than in the previous school years; and their work was chosen as the best video. The student's perceived benefits support previous studies indicating that digital storytelling empowers student writers, allowing them an alternate way to compose and to share their voices.

Self-reported difficulties when producing the digital stories

Around one-fifth of the students (21%) found mastering the software to be the most challenging task. For some students it takes time for them to become skilled in and comfortable with using digital literacies, even with adequate instruction. These results support previous studies indicating that the technology can be frustrating. Therefore, more prior-project technical training and on-site help are necessary when students experience repeated errors. Setting a limitation on the length of the videos may also help (Brenner, 2014). Moreover, a modified digital storytelling project, such as using written text, static images, and recorded voiceover without the required use of Movie Maker, should help address some of the challenges as well.

Recording the voice-overs was another challenge to the students. The same number of students (21%) noticed that they had inaccurate pronunciation, inappropriate pacing, and wrong intonation. As a result, awareness of these challenges may have led to the insecurities that the students felt toward speaking English in real life situations. This might explain why among the five sub-categories of the AMTB, the instrumental orientation (that is, the practical use of English) had the lowest mean score (5.4), compared to the other categories.

Conclusion and implications

The use of various technology tools in language writing instruction has been examined by plenty of researchers. This study, focusing on a particular approach, digital storytelling, should contribute to add more understandings to the vast body of literature as not many similar studies have been conducted in an EFL context, nor such scientific evidences have been obtained in the context. The findings indicate that there were positive changes in students' motivation and interest in English learning and their English writing skills. Such findings have helped fill the gap in the current literature and provide scientific evidence that the use of digital storytelling has a positive impact on L2 student writing skills and attitudes toward learning English. Moreover, through their self-reflections, students generally expressed appreciation of the digital storytelling project, stating that it helped enhance their abilities in digital literacies and English proficiency.

This study also revealed that students would need additional guidance and support to develop the capability of using video creating/editing software applications. More importantly, although there were significant improvements in students' written English, and although the multimodal way of composing encouraged the student writers, they were still very novice writers who required continuous learning and practice. To assist learners in becoming proficient writers, more student-centered courses should be designed and offered. Innovative instructional strategies such as the digital storytelling approach can undoubtedly be used in today's English classrooms to help students, especially ESL and EFL learners, articulate their identities, enhance academic self-efficacy, and increase literacy skills as shown in this study.

CALL in Context

Language is socially situated. Teachers of language should help create a social context where students use the language for social purposes. The social context in which the students learn to employ the language to achieve social goals will affect how and why they use it. This study examines the digital storytelling approach and its effect on the writing of 90 Taiwanese students as they added images and voiceovers to their writing scripts. The discussion of the use of such approach and its effect on student writing helps add more understandings to the implementation of digital storytelling in English writing classrooms.

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The Use of Automated Feedback and Impact on L2 Writing: How do Teenage Chinese Learners of English Write in Context?

Bio data

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Abstract

This paper presents the preliminary findings of a study on the use of an automated content feedback system to help teenage Chinese learners of English write argumentative essays in Hong Kong classrooms. While many young English learners in Hong Kong have used computer technology for entertainment and learning since childhood, the project investigates the ways in which a specially-designed system assists argumentative writing – a genre which is demanding for young local English learners who are in lack of arguments while writing and have difficulty in finishing writing within a designated period of time as required in Hong Kong public examinations. Pedagogical implications to enhance writing in Hong Kong English classrooms and elsewhere are made.

Conference paper
Introduction

English writing is a demanding academic communication skill for second language (L2) learners because they have to manage both content and language. With the advancement of learning technologies, a variety of computer resources have been developed to facilitate L2 writing inside and outside the classroom. This paper reports an on-going research project on automated feedback and L2 writing. First, it describes the design of an improvised Web-based writing system and its workshops for a group of Chinese learners of English in two Hong Kong secondary schools. Second, it presents some preliminary findings, and finally, it discusses the pedagogical implications²³.

Background – English Learning Context and Use of IT in Hong Kong schools

In Hong Kong, the English Language Curriculum and Assessment Guide has highlighted the functions of information technologies (IT) in L2 writing. According to the official document,

²³ This paper is an outcome of a research project numbered EDB(LE)/P&R/EL/164/14, funded by the Standing Committee on Language Education and Research (SCOLAR) in 2106-2017. The research team includes Dr. W. K. W. Cheung and Dr. K. C. K. Wong from the Department of Computer Science, Hong Kong Baptist University.

IT can empower students' competence in presenting 'information, ideas, views, attitudes and feeling clearly, coherently appropriately' (Curriculum Development Council, 2007, p.35). IT can contribute to in both classroom and self-access language learning by enhancing students' language skills, providing opportunities for students to learn how to evaluate online information, and develop critical thinking and knowledge management skills (Curriculum Development Council, 2002).

English is a compulsory subject in Hong Kong primary and secondary school curricula. It focuses on the teaching of reading, listening, speaking and writing skills which will enable students to achieve the target learning outcomes in knowledge, interpersonal and experience strands (The Curriculum Development Council, 2002; 2004; 2007). In English writing, local students expose to and learn how to write different text types during their six years of secondary education (from Secondary 1 to Secondary 3). Persuasive texts, which is a text type that requires students to give reasons to support their views and stance for an issue or a topic, are usually introduced when students reach the third year of secondary education. However, many students may experience anxiety because they are not familiar with the writing topic and do not have sufficient ideas, particularly when they have to submit their writings within a short period time (Lee et al., 2009). To assist students, some English teachers will brainstorm relevant arguments with students before they write their texts. However, teachers are not able to provide immediate content feedback for all students during their writing process.

In view of all this, a Web-based writing system titled *Essay Critiquing System* (ECS) that provided immediate content feedback on persuasive texts was developed, and was found to be able to facilitate writing (Cheung et al., 2007; Lee, Cheung & Wong, 2013). Recently, the research team has improvised the design of ECS, and has developed a new version that not only provides immediate feedback on content but also organization for students and learning analytics for teachers and schools. The design of ECS2.0 also reflects the interactions of various social elements of the Activity Theory (Engeström, 1999), ECS2.0 is an artifact (i.e., a mediating tool) that enables the subject (i.e., Hong Kong secondary students in this study) to achieve the object (i.e., writing an essay). In addition to the mediating tool, students' writings will also be affected by the elements of rules such as essay length, writing time and accessibility of sources; the community such as the learning environment, and the division of labour between students, ECS2.0 and teachers.

Design and Key Features of ECS2.0

When the research team improvises ECS, it has taken into account the difficulty in searching for arguments and the needs and writing problems of local secondary school students in the classroom (e.g., search for ideas online, unable to finish on time). The new version of the system – ECS2.0 is trained with the machine learning technique to automatically classify arguments in students' writings. It can classify arguments by parsing the writing, identifying arguments and fitting the data into the trained models. The system consists of five writing topics. Each writing topic pool consists of a number of identified arguments. Students will receive some suggested arguments that are shown on one side of the screen whenever they click the 'feedback' button. One to two uncovered arguments will be suggested each time until the arguments in the topic pool are exhausted. If some arguments mentioned in the text match with those in the pool, the system will highlight them in different colours (see Diagram 1) for students to consider the (re-)organization of arguments so as to achieve better coherence within and between paragraphs. The gradual, stepwise guidance encourages students to be critical of their writings in terms of content and organization, and avoid being over-reliant on the system. The system also shows the number of words students have written and remaining time so that they can learn how to manage time, content and organization of ideas. Considering the lack of ideas while writing, the system

timer will automatically pause when a student is searching for online information. It will start counting again when the student continues to write the essay.

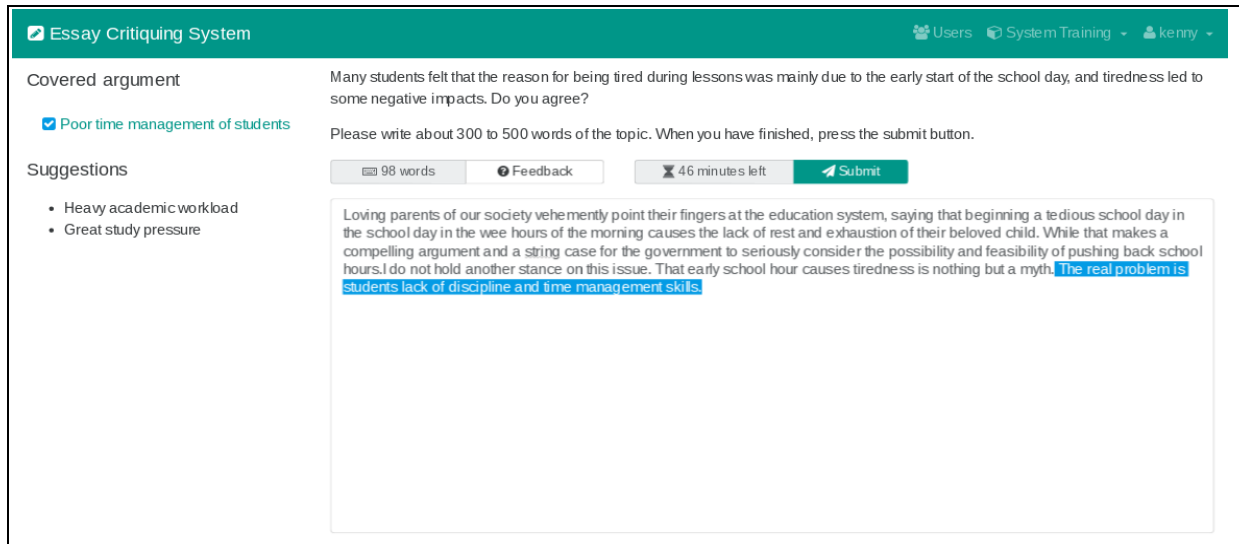


Diagram 1: System design and features of ECS2.0

In addition, the system also compile some learning analytics for teachers' reference. The learning analytics reflect the performance and progress of students, either by individual, group or English proficiency level. Learning analytics include information such as the total number of words per essay and per minute, total number of words pasted from the Internet sources to essays, frequency of accessing the Internet sources and pasting sources to the text, frequency of seeking system feedback and the first system feedback, frequency of previewing the text before submission to the system, and writing score.

The Study

Five workshops that used the ECS2.0 as the mediating tool were conducted in two Hong Kong secondary schools from October 2016 to January 2017 as an after-school language activity. The workshops were conducted in the schools' computer laboratories. A total of 89 aged 14 to 16 year-old male and female Secondary 3 and 4 students joined the workshops on a voluntary basis with parent consent. These two levels of students were chosen because they had started to learn how to write the persuasive text type and additional practices would be beneficial to them. The participating students were given a writing topic and were asked to write 300 to 500 words in 50 minutes. They were allowed to access the online dictionary or search for information from the Internet. Completed texts were submitted to the system for marking by an instructor. Marked essays together with the instructor's written feedback were returned in the next workshop.

Preliminary Findings

Learning Analytics

The following table provides a snapshot of the learning analytics of 12 S3 and S4 students.

Total number of:	
Words per essay	367.76 words
Words per minute	8.35 words
Words pasted from the Internet sources to essays	110.32 words
Frequency of:	
Cutting words from the Internet sources and pasting them to the text	6.16 times
Seeking system feedback	14.58 times
Other	
Seeking the first/initial feedback from the system (minutes)	6.9 mins

Table 1: Learning analytics

End-of-workshop Evaluation

At the end of the fifth workshop, all students were invited to fill in a questionnaire to evaluate the writing system and how it mediated their writing. The questionnaire consisted of two parts. In the first part, the students indicated their agreement to ten statements revolving around the accessibility of the system, and usefulness of the suggested and covered suggestions in content and paragraph development on a five-point scale, from strongly disagree (=1) to strongly agree (=5). They also put down how many suggested arguments had been adopted. In the second part, they were invited to write down some open-ended comments. Fifty-nine questionnaires were returned.

The results showed that the students rated the system as user-friendly (4.11/5) and useful (4.05 over 5). They also felt that the suggestions were easy to understand (3.97/5), the covered suggestions indicated by the system in different colors were useful (3.83/5) and the system facilitated the development of an argument (3.89/5). A great majority of them (approximately 96%) used the suggested arguments, and around 77% used at least three suggested arguments. However, they did not strongly feel that the system could motivate them to write (3.5/5) or enhance coherence between paragraphs. Regarding the open-ended comments, four students said they had learnt to think about different arguments and examples before writing. Three felt that computer-assisted writing had changed their thinking and writing habits. They did not only write in the classroom but also through computers.

Discussion and Pedagogical Implications

ECS2.0 has addressed the writing needs of the S3 and S4 students, particularly the search for arguments, and has stimulated them to think about different arguments. Nevertheless, the survey results indicate that the system feedback on 'organization' is inadequate. The students do not seem to know how to make good use of the organization feedback. This aspect may be improved if the teachers of the participating schools can conduct small group tutorials to teach their students how to interpret the system feedback on organization (i.e., the colour-coded arguments), and how to improve the structure of the text. During discussion, the teachers can provide appropriate advice to some students, and monitor their writing progress and behaviors based on the learning analytics. The learning analytics are useful contextual data for the planning of pedagogical activities. For instance, the teachers can raise their students' awareness of the notion of plagiarism as the frequency of cutting and pasting words from the Internet sources is high. Or they can encourage their students to delay system feedback. The face-to-face discussion can enhance the power of the writing system.

Conclusion

In essence, the preliminary findings show that ECS2.0 has largely accomplished its mission, particularly in terms of content feedback. The questionnaire results indicate that it is a useful artifact for the S3 and S4 students (the subjects) to practise the persuasive text type (the object). Other school teachers can adjust the pedagogical recommendations and ascertain the best way to utilize ECS2.0 and the learning analytics according to their own teaching and learning culture and practice.

CALL in Context

The study addresses how the local context shapes the design of a computer-assisted writing system (ECS2.0), and discusses its success and pedagogical implications for the participating and other local schools. The writing system is improvised based on the needs of and writing problems encountered by secondary schools in Hong Kong secondary schools. The system is proved to be useful to the participating students who are teenage Chinese learners of English starting to learn the genre. The design also reflects the interactions of different key elements of the Activity Theory in application - ECS2.0 as the artifact, the participating students (i.e. the subject), the completed essay (the object), rules (time, length of essay, writing topic, use of computers and the Internet search), community (computer laboratories) and division of labor (students, teachers). The interactions of different elements are generally constructive to writing as the writing system mediates it through its feedback on content and organization, as well as the provision of Internet access for information and word search. According to the learning analytics and survey results, the students frequently consulted the system and adopted at least three suggested arguments. They also made use of the context to read and think about different arguments and examples available in the Internet which is a member of the community. However, they were also tempted to cut and paste words from the Internet sources. In short, the computer-assisted writing system provides a new context to learn and practice the genre of the persuasive text type, and an opportunity to think and write in a new learning mode. The learning analysis can be used as reference to plan for related pedagogical activities. Finally, the suggested pedagogical ideas can be adjusted by the teachers of the participating school according to their school culture and practice.

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Redesigning Open Educational Resources to meet different learner contexts: an experiment in co-authorship
Bio data



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Abstract

Research on classroom CALL integration has revealed two main scenarios in terms of teacher involvement with instructional materials, described here as (1) teacher as user, and (2) teacher as designer. In the teacher-as-user scenario, the instructional material is delivered ready-made for students and teacher, to be used “as is”. Its main advantages are production quality and a gain in teacher’s time, but some serious limitations are also evident: it cannot be edited, modified or adapted in any way by either teacher or students. In the teacher-as-designer scenario, on the other hand, teachers are free to produce their own instructional material, with the advantage of having more chances for meeting their students’ specific needs and interests, but facing the disadvantage of the extra workload needed for customizing these materials. Considering these two contrasting scenarios, this paper proposes a methodology aiming at merging the advantages of both teacher’s time reduction, through co-authorship, and contextualization, through adaptation of existing materials. The underlying theory is borrowed from the basal concepts of Open Educational Resources, with a focus on the five Rs (retain, reuse, revise, remix, and redistribute), and in accordance with the copyright licenses as proposed by Creative Commons. The paper first describes the limitations of existing software available for materials development (e.g., Memrise) and proposes an open authoring system, developed for teachers to create, store and share their activities to be freely used and adapted by other teachers. Secondly, materials produced by teachers, using the new open system, were analyzed, considering both positive aspects and issues that needed attention when training teachers to create their own activities. On the positive side, the highlight was teacher’s satisfaction, not only with the materials they produced in the training courses, but mainly with the results they attained with their students, who felt honored for having their teachers prepare activities customized for their context, thus creating a good rapport in the classroom. The main issue, with many teachers, was the course focus on technological aspects, when their problem was more of a pedagogical nature. In general, materials produced by teachers do not have the overall quality of materials produced by professional publishers and technological experts, but these materials were more meaningful to the students, apparently for being more closely related to the learning context they are familiar with. System available at <http://www.elo.pro.br/cloud/>.

Keywords: Co-authorship, Materials adaptation, Teacher-produced materials, Open Educational Resources

Conference paper

More and more institutions and countries will decide that the only way to develop locally appropriate materials is to do it themselves (Tomlinson, 2012, p. 171).

Introduction

Language teachers have traditionally counted on educational resources such as textbooks, tape-recorders, computers and the web to assist them in their teaching. This is the case not only in face-to-face settings, but mainly when students are away from their teachers, doing their homework, studying on their own or taking a distance course, which leads to what can be described as a division of labor between teacher and resources. This division of labor, however, is not always productive, because of a possible mismatch between teacher's conceptions of language learning and the theoretical constructs underlying materials production (Tzagari & Sifakis, 2014). Consequently, what is envisioned as a solution, to help and support teaching, may become a problem, for which two different explanations, based on two opposite perspectives, are traditionally offered. From the perspective of the materials producer, the problem lies with teachers, for their difficulty in understanding what is being proposed, or resistance in accepting change and innovation. From teachers' perspectives, the problem lies in imposing on them a solution that may not work with their students in the context where they teach (Bax, 2003; Kumaravadivelu, 2006).

The introduction of Web 2.0 technologies, student immersion in social networking communities and the proliferation of online language-teaching applications, on both desktop and mobile platforms, have renewed hopes for persuading teachers that they could add value by integrating CALL in their classrooms, and take a protagonist's role before their students. Web 2.0, at the root, and social networking, as an offshoot, are both content-free technologies, and, as such, provide the possibility, and create the need, for people to use them as tools for both consuming and producing information, along the line of what is known as produsage (Bruns, 2014). Instructional material became so cheap that never before have teachers had so many chances not only to use ready-made courses to complement their classes, but also to produce their own instructional materials.

There is an important distinction to be made between teacher as user and teacher as designer, which involves expected roles and has not been contemplated in the literature. The long tradition is that teachers use off-the-shelf material, which is often imposed on them, as is typically the case in many language schools worldwide. If the materials are produced by professional designers, they are usually represented on a favorable light, irrespective of their content. Duolingo (<https://www.duolingo.com/>) is a good example: the worldwide language system, which, in fact, was originally designed to create a corpus to translate the web (Von Ahn, 2011), has been used as an app to teach languages and is being introduced in some public and private schools around the world as such (Dyer, 2016). The app has been reviewed as four times as efficient when compared to an equivalent university course (Vesselinov & Grego, 2012) and has been described as an important addition to formal classroom studies, offering students a variety of activities, instant feedback, and other desirable characteristics (Munday, 2016). Duolingo probably does a good job in collecting data for the web translation purpose it was built, but in terms of language teaching may disappoint the teacher: uses an old-fashioned grammar-translation method, works as a tutor for practicing drills, faintly resembles acceptable language

teaching pedagogy, and is monolithically constructed, to be used as is all over the world, without passing any control to the teacher. There is nothing that he or she can do to adapt either the content or the methodology to a specific context. Duolingo treats the teacher as user.

There are also examples of systems that empowers teachers to be producers, offering them more control over what to teach. One of these systems is Memrise (<https://www.memrise.com/>), a learning app that has received academic acclaim (Bezemer & Kress, 2015), and assumes that we learn a language by memorizing words and small formulaic phrases (I'm sorry, Have a seat, What's your name?). Unlike Duolingo, it allows teachers to introduce these language items in a prearranged frame to be practiced and drilled by the students. The choice of which items to use provides the teacher with a chance to contextualize learning to some extent, meeting more of students' needs and interests. Like Duolingo, however, it does not allow the teacher to change its predefined methodological structure, based on memorization, translation, repetition, and stimulus/response – using flashcards, mnemonics, systematic reminders, and crowdsourcing. Mnemonics is probably its most characteristic feature. In one of the Italian courses offered, for example, the teacher used an image of a dirty face to teach the word "arrivederci" (goodbye): "If you arrivederci (arrive dirty) then it's automatically GOODBYE". Crowdsourcing is probably its most productive. As reported by the site, thousands of courses are created every day, covering more than 200 languages (<http://feedback.memrise.com/knowledgebase/articles/596250-how-many-courses-are-on-memrise>).

Teachers as producers have more control than teachers as users, which is to their advantage, but there are also some drawbacks, as teachers must take over some of the tasks that are automatically performed by the system. There is a lot of work involved in producing qualified material, with attention to design, usability and pedagogical issues, demanding more from the teacher, mainly if customization to specific students is to be attended to. Some systems try to make it easy on the teacher. In Memrise, for example, all the teacher must do is enter the items to be taught; the system will take care of the rest. The issue is how to strike a balance between control and workload.

The proposal

My point is that teachers must unite if they want to produce their own materials. One way to do that is by using mass collaboration (Cress, Moskaliuk, & Jeong, 2016), which I see as an improvement over crowdsourcing, as used in Memrise. Crowdsourcing is cooperative: authors contribute with their activities to expand the repository, but do not seem to improve on each other's productions. Collaboration, unlike cooperation, works on a historical perspective (Tomasello, 1999; 2009): people contribute by interacting with other people and improving on what has already been done. Cooperation is synchronic and leads to quantity; collaboration is diachronic and leads to both quantity and quality. For teachers to emancipate, and better customize their teaching to the needs of their students, they must produce their own teaching materials collaboratively.

Materials production is an extremely time-consuming task, and can only be accomplished through collaboration, having the materials available as open resources, so that they can be dynamically adapted by reusing, revising, redistributing, remixing (Zourou, 2016), and retained by the author (Wiley, 2015). The Open Educational Resources movement (Hashey & Stahl, 2014), is a step in that direction but, to my knowledge, hampered by lack of an adequate tool for their production. This is the challenge addressed in this paper: to propose an open and collaborative authoring system that language teachers can use to produce their own OERs for their classes.

The system we have developed and tested with hundreds of language teachers (<http://www.elo.pro.br/cloud/>) is still offered as a prototype, but already fully operational, allowing teachers to create, store and share their activities to be then freely used and adapted by other teachers. We dubbed it ELO, which stands for Electronic Learning Organizer in English (Ensino de Línguas Online in Portuguese). ELO has some important features, out of which the following should be singled out: authorship retention, gamification, varied types of item associations, elastic modularity, textual reconstruction, variable tolerance, progressive feedback, regular expressions, and free writing. What follows is a brief description of each of these features.

- Authorship retention: although ELO allows for multiple adaptations, the original and subsequent versions are retained in the repository, along with original authors and adapters, whose names can be accessed and viewed any time with just a click on the author icon.
- Gamification: activities can be automatically transformed into challenges, with Points, Badges, and Leaderboards (PBLs).
- Varied types of item associations: relations can be created in different ways, both horizontally (verbal/verbal, verbal/image, verbal/audio, etc.), hierarchically (whole to parts, hypernym to hyponyms, category building, etc.) and sequentially (paragraphs in text organization, timeline events, semantic orderings, etc.).
- Elastic modularity: ELO has both a monolithic and a modular structure. To the student, it instantiates as a solid activity, or challenge (when gamified). To the teacher, it collapses into its modules, which can be moved around, removed, added or modified.
- Textual reconstruction: Students recover a text hidden in a song, a picture, a foreign language excerpt, a list of do's and don'ts, etc.
- Variable tolerance: Teachers can choose accuracy level when students write their answers in an activity, from totally correct (only the exact answer is accepted) to totally open (any answer is accepted), including partially correct (accepted if a given segment is found in the student's answer).
- Progressive feedback: A list of different cues is gradually displayed to the student after each wrong answer.
- Regular expressions: They save teacher's time when writing an answer key to a question such as "Write the names of three countries where English is used as an official language."
- Free writing: Students create hypertext as part of an assignment.

ELO is not meant to be a full-fledged authoring system, but a testing ground for experimenting with OERs, including collaborative materials production done by teachers, empowering them to get more control over what they do in their classrooms. The features we chose to implement were taken from teachers' encounters, after working with them in many training courses, and represent a short selection of a much larger list of suggestions that were offered in these courses. The idea was to implement only those features that would contribute more to a modular approach, with elements that could be arranged and rearranged into different combinations, providing for multiple variations in the activities, hopefully more responsive to different teaching contexts.

The results

I had no control of all the training courses that were taught to pre- and in-service teachers using ELO. I know, as of this writing, that there are 1,597 teachers enrolled in the system and I suspect the number of courses taught should be around 40, some of them taught by myself, most by people in the project, and some by people I don't know. The results displayed here are summarized from my courses and based on comments made by the

teachers on discussion forums (focused on the how) and by examining the materials the teachers produced (focused on the what).

The process used to produce the material can be perceived from what was discussed on the forums. The main topics involved problems found by teachers in producing their activities, with requests for help and assistance offered by their peers, comments on each other's activities, with favorable evaluations or constructive criticism most of the time, including expressions of approval about ELO. In general, there was more cooperation than collaboration, characterized by groups divided into those who help and those who are helped, the latter typically incapable or shy to contribute in return. This is probably a feature of heterogeneous groups, in this case, involving experienced and pre-service teachers. Among the experienced teachers, the ones working in distance learning, showed to be the most cooperative.

In terms of product, there was a great disparity between what looked like a professional presentation and an amateur one, considering both technological and pedagogical aspects. Technologically, while some teachers stretched the system to the limit, introducing activities I had not even planned (Webquests, critical teaching, surveys), others kept it to a minimum, using only the default values offered by the system. The greatest disparity, however, was pedagogical. In contrast with inspiring activities, designed with careful attention to every detail, there were also trivial drills and clueless tasks for which no possible answer could be found, presenting no pedagogical value. These differences were more propitious to cooperation than collaboration.

In conclusion, teachers were satisfied with what they produced. Unrequested expressions of approval about their own activities were common: "I didn't know I could do all that with my computer," "I'm loving it," "I got addicted to ELO." Those already working with students stated that they were pleased to watch them doing the activities they produced (author's pride) and reported that students were also pleased and felt honored for having their teachers prepare activities customized for them. It should be obvious that materials produced by teachers do not have the overall quality of materials produced by professional publishers and technological experts, but these materials were more meaningful to the students, apparently for being more closely related to the learning context they were familiar with.

On the other hand, the production of Open Educational Resources for local consumption involves a heavy workload. This can be alleviated if teachers unite to produce their own materials, working in co-authorship, based on collaboration. There is an important difference between cooperation and collaboration. The claim made here is that cooperation occurs when those who know more help those who know less. For co-authorship to flourish, collaboration is needed, and this happens when somebody improves on what somebody else has already done. In OERs terms, this means not only retaining authorship but also reusing, revising, remixing, and redistributing instructional materials.

CALL in Context

My presentation starts with a point made by Brian Tomlinson (2012) when he states that "more and more institutions and countries will decide that the only way to develop **locally appropriate materials** is to do it themselves" (p. 171). In my understanding "locally appropriate materials" has all to do with the Conference theme on context, proposing topics such as **context-dependency**, the development and use of **Open Educational Resources (OERs)**, and **Open Data**. Language teaching is dependent on the affordance of adequate

materials, including technologies that assist students' performance, functioning as scaffolds for students trying to learn a language, seen on a Vygotskyan perspective. I like **OERs** because they are open (free to be used by everybody), they are Educational (having a learning component) and they are, well, resources (tools to be used to scaffold language students). All this fits with the idea of **Open Data** (leading to open source code, open access, public domain, Creative Commons licenses) and **context-dependency** (including assistive technologies).

Teachers have an important role to play here, moving from a submissive condition, in which they are imposed to use materials and methodologies that sometimes don't make much sense to them, to an emancipatory position, where they have a say and take their own decisions, becoming more **responsive** to the context in which they teach. Materials production is too complex and time-consuming to be undertaken individually, demanding a division of labor between mediational means and human agents. The road to qualified teaching materials starts with **cooperation**, where those who know more help those who know less, and should end in **collaboration**, where teachers share what they do, along the five R's: Retaining, Reusing, Revising, Remixing, and Redistributing.

My thesis is that "to develop locally appropriate materials", as proposed by Tomlinson, gives teachers a chance to "do it themselves." They are the ones who are in touch with the students and know, better than anybody else, what are their needs and interests. In my experience with training teachers to integrate CALL in their classes, what I felt missing was an open authoring system dedicated to language teaching materials, which I tried to develop with my research group. I don't see the system proposed as a panacea, but as a complement to academically needy students who need extra help. The main findings to be mentioned after using this system in many teacher training courses are: (1) teaching skills develop from cooperation to collaboration; (2) CALL integration is more a pedagogical issue than a technological one; (3) producing materials for one's students can provide satisfaction for both teachers (author's pride) and students (sense of prestige); (4) unexpected practices can emerge (Webquests, surveys, **Flipped Classroom** alternatives, etc.).

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**A synthesis study: Evaluating the applicability and generalisability of
technology-supported vocabulary programs and apps for adolescent ELLs**

Bio data



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Abstract

This article reports on a synthesis study that systematically assesses technology-supported programs and mobile apps for enhancing vocabulary learning of adolescent English language learners (ELLs) in the contexts of English as a foreign, second or additional language. The goal of this thorough review of existing programs supporting vocabulary learning is to address the principal questions:

1. To what extent can technology contribute to the contextualization of the learning process?
2. How we can strike a balance between applicability and generalizability for the development of technology-supported English vocabulary programs?

This review 1) catalogues and reviews English vocabulary programs presently available; 2) addresses significant issues, such as the misalignment among the design principles of the programs, scientifically-based teaching and learning practice, and student needs; and 3) provides a rationale and evidence for the development of future programs focusing on adolescent ELLs' academic vocabulary acquisition.

The research team covers the areas of applied linguistics, psycholinguistics (Geva, & Farnia, 2011), language and literacy education (Snow, Lawrence, & White, 2009), second language education (Li, 2010), vocabulary studies (Biemiller, 2009, 2012) and computer science (Demmans Epp, 2015). The range of backgrounds of the research team provides a cross-disciplinary approach to discussing the applicability and generalisability of the designs of current programs for supporting academic vocabulary by adolescent ELLs.

Conference paper

Introduction and literature review

It is well established by research on first language (L1) learners in the primary grades that vocabulary knowledge is a pivotal predictor of reading comprehension (e.g., Bialystok, 2002; Stahl & Nagy, 2006; Snow et al., 1998). This is equally true and even more critical for ELLs (e.g., Farnia & Geva, 2013). If they are to catch up to grade norms within 6 years, then they must make a 15-month gain in every 10-month school year (Cummins, 2015). Based on an overview of research findings, Genesee et al. pointed out: "achievement in English reading, including comprehension, is significantly related to diversity and depth of ELLs' vocabulary knowledge in English" (2005, p.370). Poor reading comprehension impedes students' further learning of vocabulary and general knowledge (Stanovich, 1986), and leads to learning difficulties across content areas and, ultimately, frustration with schooling, failure to achieve academic success and a higher likelihood of dropout (Snow, 2010). There is consensus that even though learners can infer word meanings from context, this is not sufficient, and word

meanings should be taught explicitly to students. The major challenges for educators are to determine what words to teach and in what order, to develop interventions that engage students' active processing in vocabulary learning, and to rigorously evaluate whether the interventions lead to vocabulary growth.

Methods for accelerating academic vocabulary learning for adolescent ELLs are needed because they face the increasing comprehension demands of vocabulary-dense academic texts in their middle and high school studies (Snow 2010; Lin, Ramirez, Shade Wilson, & Geva, 2012). Technologies have demonstrated a great capacity to engage adolescents, who highly value optimal access to information and connection. A growing body of research has examined technology use for improving vocabulary teaching and learning (e.g., Cavus & Ibrahim, 2009; Cheung & Slavin, 2012; Li & Cummins, submitted). However, research reviews report mixed learning outcomes and point to several theoretical and methodological gaps (Burston, 2015).

To address these issues and assess the applicability and generalizability of technology-based programs, a systematic review was conducted. Its objective was to evaluate the feasibility and relevance of such programs in helping adolescent ELLs learn academic vocabulary. The major questions guiding the review of the technology-assisted programs include but are not limited to:

1. What are available technology-assisted language programs that teach English vocabulary²⁴, and in particular teach adolescent students English vocabulary?
2. What available technology-assisted vocabulary programs are suitable for adolescent English language learners?
3. Whether and how the underlying design principles and modules of these vocabulary programs are defined and developed and whether they are in line with theories of vocabulary and L2 learning, and research-driven vocabulary strategies?
4. Whether and how the features of these vocabulary programs are designed to meet the characteristics of adolescent students (e.g., age, language proficiency levels)?
5. Whether and how the content of these vocabulary programs are designed to meet the needs of adolescent students (e.g., content interest and background knowledge)?
6. Whether and how the content of these vocabulary programs are well aligned with the curriculum requirements of their studies at school?
7. What are the compatible technology platforms required for technology-assisted vocabulary programs?

²⁴ Henceforward the phrase, "technology-assisted language programs that teach English vocabulary" will be referred as "technology-assisted vocabulary programs".

Methods

For the review study, we have conducted continued Internet scans of available technology-assisted language learning programs with a component of teaching English vocabulary in the contexts of English as a first, second or additional language. Additionally, we have consulted our colleagues, and collected information regarding the programs that ESL instructors and ELLs often use to teach and learn vocabulary. Our present search located 15 programs, including Duolingo, SAT vocab, EF English First High Flyers 2, Flashcardlet, PhraseMazeApp, DIVII-English video dictionary, busuu, Voxy, SpeakingPal English Tutor, Wordwit, Youdao, MindSnacks-Kids' Vocab, Futaba-Word Games for Kids, Futaba Classroom Games for Kids, and Kids' Vocab.

Our team has developed a template to systematically review and evaluate the programs. Two graduate student research assistants have been working with us on this template to review the identified programs. This review first documented the available information about each program, including its developer, required user platforms, user ratings, reviewer ratings and target learner population and age. Then, we used each of these programs for a trial period and conducted an independent review. We also collected other reviews and feedback on these programs from credible sources. Our review includes the following nine major aspects:

1. *Module Review, Design Schemes, Vocabulary Strategies* that evaluate a program in the six sub-components

- Data-driven vocabulary strategies and L2 theories
- Module(s), including gamification, which affirms scientific design principles
- Visual effect
- Social component
- Other aspects of language instruction

2. *Target Learners, Target Vocabulary Levels, Selection of Target Words, and Curriculum Alignment* that assess a program in the three sub-components

- Rationale for the selection of target words and relevant theories
- Target learners and target vocabulary levels
- Curriculum alignment

3. *Affordability and Availability*

4. *Application Content*

5. *Languages*

6. *Major Technological Support Features*

7. *Usability*

8. *Reviews by Others*

9. *Pros and Cons Summary*

Results and conclusions

Preliminary results of the review reveal that many programs do not address middle and high school students' learning of academic words because they (1) have unreliable content that was developed using crowd-sourcing (e.g., youdao); (2) only target young children with rudimentary English vocabulary knowledge (e.g., kids' Vocab-MindSnacks); (3) use gamification design schemes that are developmentally inappropriate and unable to sustain adolescent ELLs' interest (e.g., SAT Vocab); (4) most are not adaptive to students' language skills and existing vocabulary knowledge; (5) are not aligned with students' studies in subject content areas at school. These findings are consistent with previous reviews of the literature on mobile-assisted language learning (MALL), showing that few MALL tools are grounded in theory or solid research (Duman, Orhon, & Gedik, 2015).

CALL in Context

Having limited academic vocabulary is a serious problem because academic vocabulary is correlated strongly with reading comprehension skills and academic performance (RAND Reading Study Group, 2005). Effective vocabulary instruction is key to providing students with the necessary knowledge and facilitating their learning strategies, given the optimal consideration of the context of their reading and learning of domain specific knowledge. A full spectrum of contextual factors shall be taken into account, including demographic characteristics of different students groups, their learning needs, language skills, curriculum requirements of their subject content areas, and learning environment. One-size-fits-all language instruction implemented through technology-assisted language learning programs, without careful tailored features and content for specific learners in mind, has been proven unproductive. In contrast, our recent interventions with more contextualized designs using MALL indicate a higher level of learning engagement and more learning gain when learning with technology support. These include a study using text messages to provide university ELLs with contextual meanings of difficult words that they need to learn for their assigned course readings (Li & Cummins, revised and resubmitted), and using an adaptive mobile application to teach high school students vocabulary (Demmans Epp, 2015).

By developing a systematic evaluation system with clear standards, the goal of this synthesis project has been to find out whether a vocabulary program has been developed to meet the needs of adolescent (English language) learners. This review has enabled us to explore two overarching questions: (1) the extent to which technologies afford context-dependent enrichment and personalization of the learning process; and (2) whether it is possible to strike a balance between applicability and generalizability, when developing technology-supported English vocabulary programs.

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What contextual factors influence the effect of texting-based instruction on vocabulary acquisition? An observation of learners' behavior and perception

Bio data


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Abstract

Existing literature indicates that students' perspectives and their learning behavior during interventions are influenced by learning contexts, characteristics and needs specific to learner demographics (e.g., Kim, Rueckert, Kim, & Seo, 2013) and furthermore reflect their learning experience and engagement levels, which are vital to their vocabulary learning (e.g., Li, Cummins, & Deng, submitted). However, scant studies examined the effect of learner behaviors and their perceptions of the features and contents of text messages on their vocabulary learning outcomes.

This article investigates university English language learners' (ELLs) learning behavior and perception specifically in the context of content-based English instruction. It focuses on the role of learning behavior interacting with their perception of texting-based instruction for their academic vocabulary acquisition. The overarching question for the study is: How does the local context shape the design of our learning environment?

A total of 108 undergraduate ELLs registered in six English for academic purpose (EAP) classes from a large Canada university participated in a 2-month intervention study that aimed to teach academic and low frequency words embedded within their assigned course readings. Correlation and regression analyses were applied to students' learning behaviors and perceptions, and their learning gain of target vocabulary (direct effect) and its subsequent impact on academic vocabulary learning (transfer effect).

The results indicated that these ELLs' learning behavior and perception reflects their particular use of text messaging and the specific learning context, and furthermore directly influence the effect on their vocabulary learning. For example, the frequency of their reading of text messages with word instruction is positively correlated with and a predictor of their target

vocabulary learning outcome. The findings are discussed along with pedagogical implications and suggestions for future research.

Conference paper

Introduction and literature review

Text messaging has become enormously popular as the primary means of written communication among adolescents and young adults from different first language (L1) backgrounds (Anderson & Rainie, 2012, Smith & Page, 2015). Research has shown that many ELLs have comparable access to mobile technologies and are more interested in using technology to learn language skills than their monolingual, native English-speaking peers (e.g., Li, Snow, Jiang & Edwards, 2014; Li, Snow & White, 2014). A growing body of research has reported on the positive effects of texting-based instruction on ELLs' vocabulary learning (e.g., Lu, 2008; Hayati et al., 2013; Thornton & Houser, 2005).

A couple of studies, based on observation, reported preliminary results on the positive relationship between vocabulary gains and students' learning behaviors (i.e. frequency in reading of text and email messages) (e.g., Hayati et al., 2013; Thornton & Houser, 2005; Zhang et al., 2011). A few studies have investigated students' perception of texting-based interventions, mainly related to the metacognitive or affective aspects of texting supported instructional design (e.g., Lu, 2008; Thornton & Houser, 2005; Cavus & İbrahim, 2009). Few studies addressed the cognitive aspects of the interventions—the content design (Levy & Kennedy, 2005; Lu, 2008), such as students' perception of the difficulty levels and number of target words, frequencies in receiving messages, as well as the alignment of the interventions with their needs. Furthermore, we were unable to locate relevant studies that directly examined the relationship between students' vocabulary learning outcomes and their learning behaviors during the interventions and their perceptions of the interventions.

Thus the present study investigates whether students' vocabulary learning outcomes are related to their reported learning behaviors (e.g., frequency of reading text messages) and their perceptions of the intervention features (e.g., texting frequency, number of target words and example sentences) and content (e.g., difficulty level of target words, definitions and example sentences).

We answer two research questions as below.

1. Are there any relationships between learner behaviors, their perceptions of the intervention and their vocabulary learning outcomes?
2. Do learner behaviors and perceptions of the intervention predict their vocabulary learning outcomes?

Methods

Participants

The 108 participants were undergraduate ELLs from a large Canadian university from six content-based EAP courses. They were from 11 countries, with nine different first languages, including Mandarin, Cantonese, Russian, Arabic, Farsi, Turkish, Korean, Spanish, and Lithuanian. The participants' length of residence in Canada varied from two months to 13 years. The years of English instruction students received ranged from two to 15 years.

The Intervention and research design

The 2-month intervention study involved sending students three words each day through text messages. Each text message included a target word, its part of speech, the page reference of

the target word in the assigned reading, the word's definition and an example sentence. The present study collected data from participants in the group who received the intervention treatment using the following instruments.

- (1) Pre-intervention and post-intervention tests on students' performance of target vocabulary and academic vocabulary
- (2) A pre-intervention survey of students' background information and their technology use
- (3) A post-intervention survey of students' reported learning behaviors during the intervention and their perceptions of the intervention.

Results & discussion

The results have indicated that students' performance on vocabulary tests was correlated to the frequency of their reading of text messages, and their perceived difficulty level of word meanings with the aid of definitions and example sentences. Furthermore, the frequency of their reading of text messages, and their perceived difficulty levels of word meanings with the aid of definitions and example sentences, are found to be the two significant predictors of students' performance on vocabulary tests. The former explained 14%, and the latter explained 10% of the variance in their acquired knowledge in the target words.

The results confirm previous observations in most studies; that is, students who received messages via mobile phone were prompted to study more often than students who studied using web- and paper-based materials; as a result, the former achieved significantly more gains in target vocabulary than the latter (e.g., Thornton & Houser, 2005; Saran et al., 2012). Most importantly, the easier that students can understand word meanings through word definitions and example sentences sent by text messages, the higher scores they obtained on vocabulary tests. It is clear that the helpfulness of definitions and example sentences played a critical role in making word meanings comprehensible for students, and consequently their acquisition of vocabulary. These results supported that most previous intervention studies that reported significant learning outcomes while integrating word definitions (e.g., Cavus & Ibrahim, 2009) and example sentences (e.g., Hayati et al., 2013) into text messages and employing the push mode of instruction (e.g., Saran et al., 2012).

CALL in Context

The unique contribution of the present study, first, lies in its rigorous experimental design that gave carefully consideration of the features of the intervention design that matter to students' vocabulary learning outcomes. The design features catered to students' learning needs and tailored to their characteristics, including but not limited to their proficiency levels. This highlights the significance of contextual factors in the learning environment. The present results have substantiated the positive results reported in most studies in vocabulary intervention studies using texting, and provided useful measures for tangible pedagogical practice and future research. Our study presented preliminary evidence that student contextual-embedded learning behaviors and their perceptions of learning vocabulary via text messages can impact their learning and performance on target vocabulary.

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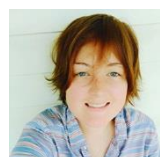
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Foreign Language Learning at an Arboretum Using Telepresence Robots

Bio data



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Abstract

Authentic conversational contexts are essential for foreign language learners to improve their communicative competence. However, only few foreign language learners have opportunities to travel to the target-language countries to practice the language due to expensive travelling costs. To address this issue, we propose a solution to use telepresence robots to help remote foreign language learners virtually immerse into the environment of the target country. We also conducted a case study, in which 12 adult foreign language learners in China were selected to communicate with 4 native-speaker instructors in an American University by using and controlling a telepresence robot moving around at an Arboretum on the campus. In this paper, we will describe how the local context at the arboretum influenced the learning process and summarize the concerns to design the learning environment based on telepresence robots.

Conference paper

Background

Authentic conversational contexts are essential for foreign language learners to improve their communicative competence especially when the context involves native speakers, physical environment, as well as social activities. Volosinov (1973) claims that "Language acquires life

and historically evolves precisely here, in concrete verbal communication, and not in the abstract linguistic system of language forms, nor in the individual psyche of speakers” (p. 95). Brody (2005) also pointed out that “the individual must have the direct experience of being in nature... to promote the fullest thinking and feeling. The physical setting is critical” (p. 611). More specifically, the learning experience including the senses to the real-life environment, emotional reaction during the natural conversation, and social interaction with other speakers is unique, memorable, and motivating for foreign language learners and is difficult to replicate in the classroom setting (McClain, 2016).

However, globally only few foreign language learners have opportunities to travel to the target-language countries to learn the language due to expensive travelling costs. According to statistics from the International Association of Language Centres (IALS) (IALS Study Travel Research Report, 2016), only 0.25% of foreign language learners can travel to target-language countries for educational purposes due to the expensive travelling costs.

To address this issue, we designed a solution to use telepresence robots, which can be controlled by remote learners online and support video chatting between remote learners and local speakers, to help the learners practice the target language in the community of the target country.

Research Focus

Our first pilot study (Liao, 2016) has briefly shown the perceived benefits and challenges using telepresence robots in foreign language learning. However, the number of participants in the first study was limited to 3 remote learners and one native speaker. The size of the robot used in the first study was too small for the local native speaker to have conversation with the remote learners. So we conducted another case-study with more participants, a bigger robot, and refined design based on the feedback for the participants of the first study. In this paper, we will describe how the local context at the arboretum, the site chosen for the second round of study, influenced the learning process and summarize the concerns to design the learning environment based on telepresence robots.

Study Design



Figure 1. Communication between remote learners and local native speakers.

In this study, 12 adult foreign language learners in China are selected to communicate with 4 native-speaker instructors in an American University by controlling Keebot, a telepresence robot, moving around at an Arboretum of the campus. The tour is based on four main locations in a garden at the arboretum and each location has associated talking points and vocabulary. Each site is allocated roughly 15 minutes for a native speaker and a remote learner who controlled the telepresence robot to have an organic conversation. Figure 1 shows how the remote learners communicate with the native speaker via the robot.

Findings

Compared to traditional telecollaboration via Skype or other video conference systems in indoor settings, we found the physical environment around the telepresence robot, such as the flowers, trees, and sculptures, buildings provide rich and authentic language context for learners to understand the meaning of the target language. As shown in figure 2, the native speaker can even touch the object in the environment and communicate with the learner about the name, color, and size of the object and other background information or stories in English.



Figure 2. Interaction among a learner, a native speak, and the environment

Our activity is also relevant to the culture in the target community. For example, since this study was conducted during Halloween, some culture-related objects such as pumpkins piled in the garden especially motivate the learners to explore relevant cultural knowledge (See: Figure 3).



Figure 3. Cultural elements in the activities

The social activities in the scenarios such as other garden visitors interacting with each other, playing sports, walking pets, or even talking to the remote learners also triggered more organic conversation and improve learners' social presence.

Discussion

The findings that telepresence robots can help remote learners learn the language in rich and authentic language context is consistent with the findings in our pilot study. We also found how the learning activities could be relevant to the target culture and more social activities naturally happening in the physical environment. So choosing a site in which conversational topics can naturally emerge from the environment and social activities is the foremost. On a campus, many spots could be possibly the chosen sites, such as library, student center, downtown near the campus, etc.

However, we argue it is crucial to use personalized instruction without fixed predefined learning goals too since the conversational topics and content were to some degree impromptu, dynamic, and pertinent to learners' prior knowledge, skills, and interests. Thus, Vygotsky's zone of proximal development theory (Vygotsky, 1980) and Krashen's 'i+1' theory (Krashen, 1985) could be important rationales to guide our future designs. For example, teacher should get familiar with the learners before the activities about their background, interests, and level of language skills. A guideline would be necessary to guide teacher communicate with the learners in an appropriate speed and to choose words, phrases, and sentences that fall into learners' proximal development zone or with 'i+1' difficulty, which means learners have some prior knowledge or basic language skills to connect to the conversational topics and language use but need to make some efforts to master them.

CALL in Context

The first contribution of this study is to demonstrate how telepresence robot technology can expand conversational scenarios along with the language context from traditional classroom to real-life environments in a target-language country. By seeing streaming video and listening audio captured by camera and microphone on the telepresence robot, remote learners can receive more background information and conversational context in the environment, which are crucial for understanding the target language in many cases.

Also, allowing remote learners to move a robot around the arboretum affords the learners to personalize the topics and content of conversation in the communicative practices based on learners' background, interests, communicative skill levels, and what they are seeing via the telepresence robot. For example, if a learner sees pumpkins in the garden while navigating, s/he can ask the local native speaker what the fruit is and why they are piled there. Therefore, the learner is actually choosing the learning content with the ability to control telepresence robot moving and observing around.

However, using telepresence robots in foreign language learning doesn't guarantee positive learning outcomes without considering appropriate learning or instructional design. This study highlights the design of the learning environment in terms of site selection, task design, and guideline for teacher/native speaker to improve learner satisfaction, motivation, and perceived learning benefits.

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Ubiquitous English idiom learning via mobile applications

Bio data



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Abstract

English idiom acquisition is essential to English learning and application, since idiomatic expressions are culture-specific. However, intercultural idiomatic competence is still not adequately reflected in current English as a foreign language (EFL) context and EFL learners occasionally underperform on idiomatic listening and speaking due to shortages of idiomatic understanding and practices in real-life authentic situations. With the global call for contextualization and pedagogical innovations in language education, it is vital for language instructors to not only understand specific learning contexts and cultures of the target language, but also become familiar with technological applications to optimize language

learning. Such understanding further facilitates the establishment of effective learning environments. While previous research has revealed the effectiveness of mobile-assisted language learning (MALL) on diverse disciplines, few studies have probed into the effects of idiom-based apps and instant messaging applications particularly on idiomatic listening and speaking among EFL learners. The current study, therefore, aimed to examine the affordances of My English Idiom Learning Assistant (MEILA, an idiom-based mobile app developed by the authors) and LINE (an instant messaging mobile app) on EFL learners' idiomatic competence (listening and speaking). MEILA, encompassing 70 English idiomatic expressions based on their frequency and familiarity, features associative animations demonstrating graphic associations of chosen idiomatic expressions, dialogue sentences showcasing relevant applications, live elaboration that further highlights context-specific cultural differences, and word bank providing extra vocabulary information. LINE was adopted as a platform where students were engaged in ubiquitous learning requiring online peer interaction. The participants were 60 English majors in central Taiwan, using MEILA as a self-learning tool and LINE as the platform for online peer review and grading over a month. Mixed methods research design adopting multiple sources of data was employed, including pre-/post-tests on idiomatic listening and speaking, questionnaire surveys, students' reflective entries, and in-depth interviews. The results indicated that MEILA and LINE were effective tools contributing to the improvement of students' idiomatic listening and speaking competences. Most of the students were positive about the use of such mobile technologies for learning English idioms, whose ubiquitous nature allowed for learning anywhere, anytime.

Keywords: Ubiquitous learning, Idiom learning, MALL, MEILA, LINE

Conference paper

Introduction

As English has become a lingua franca in the world due to globalization (Murata & Jenkins, 2009), people around the world study English for a better job and enhanced living quality. At the macroscopic level, English is the international language of communication to solve global problems (Walker, 2009). In Taiwan, English has been a mandatory subject to be mastered for students for over 65 years (Tsai, 2010). Unfortunately, even with years of training and studying, Taiwanese students hardly use it correctly and naturally in daily conversation since the education system in Taiwan is mostly teacher-centered and test-driven, where students focus more on correct answers rather than communication skills (Tsou, 2015). Possible reasons for unsatisfied performance of English include complex issues as context (Chang & Goswami, 2011), study attitude (Pendery, 2013), cultures (Choudhury, 2014) and the environment (Tsou, 2015). As learning a language is learning a culture (Choudhury, 2014), it is vital for students in Taiwan to understand the culture of the target language and get more opportunities for authentic practice and interaction (Rany, Abidin & Leong, 2013). Among strategies to facilitate culture learning in language teaching, idioms play an essential role since knowing idioms not only makes learners enrich and apply their English knowledge but also helps them to extend their global vision of language learning (Liu & He, 2014).

Instructors should establish a great quality of the educational environment and make English usage into a veritable tool of communication. With the advancement of mobile applications (app), Mobile Assisted Language Learning (MALL) nowadays plays an important role in teaching and learning because mobile devices increase the language learning opportunity for students (Kim, Rueckert, Kim, & Seo, 2013; Foti & Mendez, 2014). Apps available online for communication (such as LINE, WeChat, and WhatsApp) help conquer the learning restriction of time and space (Liu & He, 2014). With the mobile devices, learners

can download the English learning apps which have practical and fun characteristic willingly and beneficial to effective knowledge conveyance (Hsieh, Huang & Wu, 2017).

While previous studies have shown the importance of culture elements embedded in English idioms and the positive effects of mobile devices in diverse disciplines, few studies have focused on the effects of idiom-based apps and instant messaging apps in EFL settings, particularly on idiomatic understanding and listening comprehension among EFL learners in Taiwan. Therefore, the current study aimed to examine the attitude among Taiwanese EFL students about how mobile apps could be utilized to improve English idiomatic proficiency. Accordingly, the following research questions guided the current study:

Quantitative aspects about how does the local context shape the design of our learning environment.

1. Do MEILA and LINE enhance students' English listening ability and idiomatic understanding?

Qualitative aspects concerning how to determine the role and shape of the most appropriate technologies for our context

2. What are the student's attitudes towards using MEILA to learn English idioms?
3. What are the student's attitudes towards using LINE for idiom learning?

Methods

Participants

The participants were 60 sophomores who enrolled in elective Business Communication and Presentation Skills course in central Taiwan. The participants were between the ages of 20-21 and most of them had studied English for about seven years with their intermediate English proficiency. They could use language appropriately, but couldn't choose the word vividly or precisely, especially for the listening skills on idioms and idiomatic understanding.

Research design

The instructional goal of the current study was to improve the learners' idiomatic understanding and listening. My English Idiom Learning Assistant (MEILA, an idiom-based mobile app developed by the authors) and LINE (an instant messaging mobile app commonly used in Taiwan) (Xu, 2016) were applied in the current research.

MEILA is a free educational app featuring fun and vibrant animated film clips regarding 70 frequently-used idiomatic expressions. With the interesting associated concept of animations, students learn the idioms with dialogue in specific contexts. Example sentences are available to repeat and playback. It gives users the dynamics and encouragement on self-learning. MEILA is not only an English idiomatic learning app but also a community platform that can really stimulate learners to apply the idioms and skills of communication.

LINE is a multimedia message service (MMS) widely used in Taiwan. For that reason, there isn't extra training on the app functions. Students were also highly familiar with its desktop version because they can send texts, voice, videos, pictures, and file messages through both mobile and desktop versions by LINE. It provides a video chat platform for either individuals or groups.

University students from different departments in this case study run in an elective course: business communication and presentation skills. To examining the effects of MEILA on learners' idiom acquisition and listening effectiveness, the researchers conducted a pre-test and a post-test. In addition, focus-group interviews with protocols designed by the researchers were adapted to probe into the learners' perceptions of using MEILA for learning

idioms in a self-learning environment and the attitude of taking LINE as a language learning assistant tool for the class.

The experiment lasted for four weeks. The instructor first introduced MEILA to learners and started the LINE activities. The participants were required to learn 15 idioms per week through MEILA before each class meeting so that they could later take part in activities regarding the idioms with classmates in class. Learners can memorize the idiom and its Chinese definition on MEILA's catalogue page, and watch the animations with subtitles. MEILA also provides the example recording from native speaker therefore users can reinforce the idiomatic understanding by unlimited listening. Every activity took 20 - 30 minutes in class since business communication and presentation skills were the main subjects in this course. The teacher gave learners 5 listening questions as a quiz every class for warming up the idioms which the students have learned from MEILA in the earlier week. The listening tests' conspectus are similar to the pre-test and post-test. In the test, learners heard a question or statement and three responses, and then selected the most appropriate answers.

During the experiment, researchers collected data from learners' performance of the activity in class, including their participation of LINE assignment and discussion. For practices after class, the 60 participants were grouped in 12 groups. The instructor and teaching assistants were invited to join every LINE group. Exercising such as listening to the voice recording, group chatting with idioms and videos for listening comprehensions was pushed to the LINE groups every week. After receiving the messages from LINE, the advisers sent feedback to those LINE groups and reminded students to continue the next 15 idioms learning challenge. The researcher recorded learners' score of the quizzes and total points from every activity to figure out the efficiency of MEILA and LINE. Fig. 1 demonstrates the procedures of the experiment.

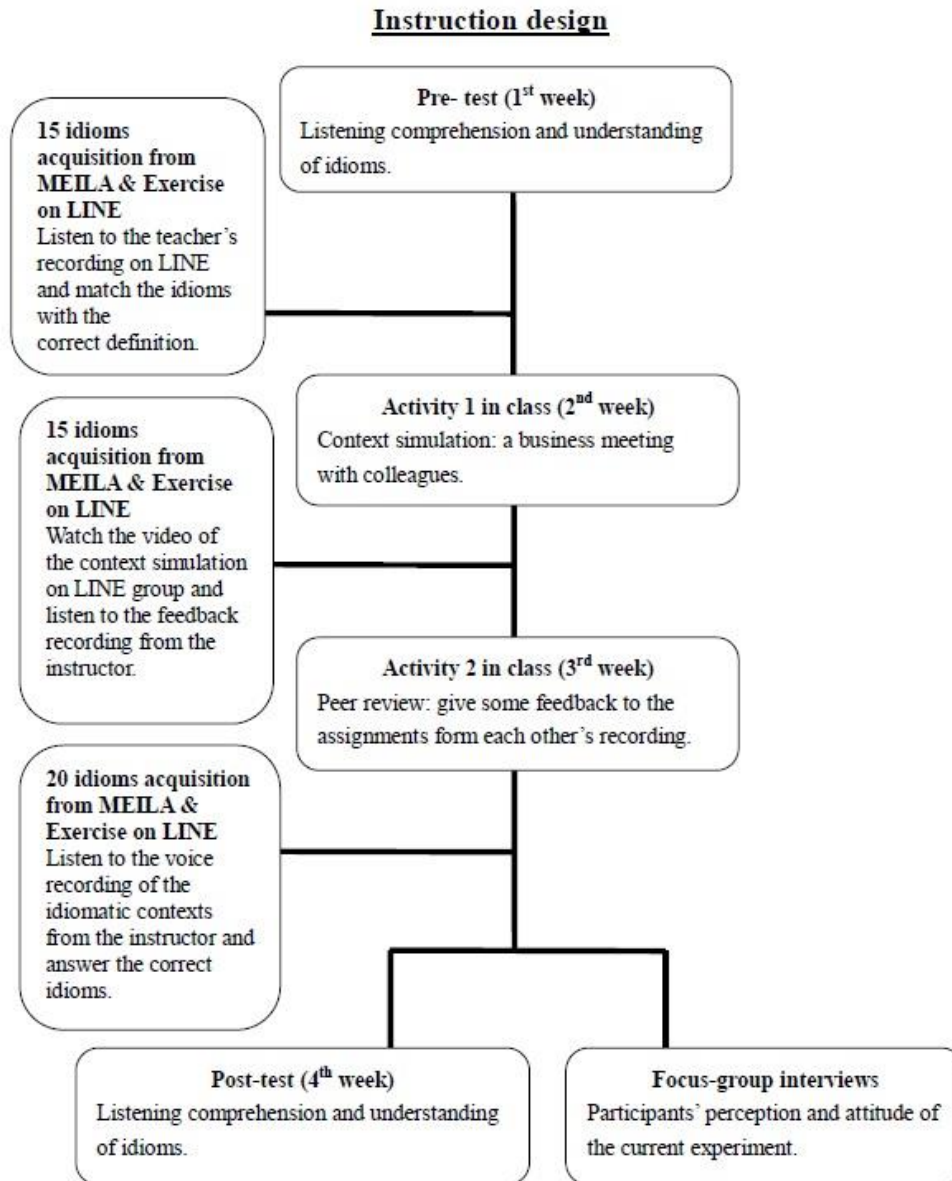


Fig. 1 details of data collection.

Data analysis

In order to answer research question one, the participants completed the pre-test and the post- test of idioms understanding included listening comprehension. With regard to listening comprehension, Test of English for International communication (TOEIC) listening test, part two, was adopted. Students were required to choose a proper response as an answer to the questions regarding idioms and recognize different contexts for a specific conversation. In answer to research question two and three investigating the participants' behavioral intention and attitude of using MEILA and LINE, 20 students were interviewed. The interview questions consisted of the following constructs, including the attitude toward the procedure of the activities in class, exercises and interaction on LINE, and effects of MEILA.

Results & Discussion

The pre-test, post-test, focus-group interviews and in-class observation by the instructors were used to examine the effects of MEILA and LINE to the perceptions of the participants about their experience. For quantitative data analysis:

1. Do MEILA and LINE enhance students' English idiomatic understanding and listening ability?

Descriptive statistics comparing the pre- and the post-test of the given instruction revealed that the mean score of the post-test ($M=80.22$, $SD=7.65$) was higher than that of the pre-test ($M=43.40$, $SD=15.21$). In addition, the Paired-Samples t-test shown in Table 1 indicated that the participants performed better on the post-test compared to the pre-test at a significant level ($p<.001$). These results indicated that the given instruction enhanced the participants' idiomatic understanding and listening ability. The findings of the current study are in line with those of previous studies, demonstrating the positive effects of mobile learning on increasing learning opportunities and enhancing students' learning outcomes (Bachore, 2015; Hashim, Yunus & Embi, 2016).

Table 1. Paired-samples t-test of the evaluation

			Paired Differences		<i>t</i>	df	Sig. (2-tailed)	
	Mean	SD	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower				Upper
Post - Pre	36.82	13.19	1.70	33.41	40.23	21.614***	59	.000

2. What are the student's attitudes towards using MEILA to learn English idioms?

Most of the students found MEILA to be a learning app beneficial to their learning. More specifically, the results showed that MEILA motivated them to learn English idioms, enhanced their idiomatic knowledge, and improve their listening ability. One student expressed his satisfaction toward MEILA concerning the positive effects of ubiquitous learning, saying that "The functions are easy to use. I can reinforce my idiomatic learning anytime and anywhere." Some students noted the diverse features of MEILA as providing cute and interesting animations, enabling them to "remember the idioms quickly through watching related animations for one or two times." Other students were content with the use of mobile technology for learning, appreciating the hands-on learning experience.

3. What are the student's attitudes towards using LINE for idiom learning?

The interview results showed that using LINE in the course was impressive and the learners thought that the pedagogy employed in the class was different from the conventional instruction:

In this course I learned more useful things to help me in the future than any class I've had in a long time. I felt more confident communicate with my classmates through LINE. The recording on LINE is useful. I can listen to the sentences recorded by the teacher again and again. It helps me to improve my listening ability so much.

Listening homework on LINE is really convenient because my teacher and classmates reminded me to do it in the group and I can ask them if I have any questions.

I have already incorporated this new learning style into my classes with my friends.

However, a few students kept opposite opinions:

Some of my group members thought that the homework was too complicated, so they didn't participate actively.

I like to use LINE to chat with my friends instead of doing the homework.

While some learners expressed their concerns about doing the assignments through LINE, after-class exercises, in general, can strengthen their collaboration, listening, and communication skills as well as their idiomatic proficiency since LINE provided a platform for student interaction. Positive comments also showed the possibility of creating a ubiquitous learning environment for students.

Conclusion

The participants had a positive attitude to the results. MEILA and LINE were the effective tools contributing to the improvement of students' idiomatic understand and listening competence. Apps provided by the instructors create an interesting learning content for students to learn English idioms. Most of the students were optimistic about the technologies for practicing English idiomatic usage through the instant messaging app, whose ubiquitous nature allowed for learning anywhere, anytime. It may also stimulate more researchers or app designers to make MALL more suitable for Taiwanese context.

CALL in Context

As the conference theme focuses on the role of the local context of the learner, this paper addresses such research focus accordingly by specifically examining innovative technologies effective for culture-bound idiom learning in an EFL context. To create an authentic learning context and to fit the nature of the research scope, MEILA (an idiom-based mobile app developed by the authors) and LINE (an instant messaging mobile app) are purposefully incorporated. The idiom-based MEILA features associative and straightforward animations, dialogue sentences showcasing relevant applications, live elaboration that further highlights context-specific cultural differences, and word bank providing extra vocabulary information. Instant messaging app LINE acts as a platform that helps shape an online, ubiquitous, active learning environment where students are engaged in learning activities requiring online peer interaction (sentence making, story compilation, online peer review and grading). With this close examination of the local context in the current study, the findings further helps shape the design of this particular EFL learning environment by taking into account the affordances of technological applications as innovative pedagogies for EFL learners.

This paper will address fundamental components of the local context of the learner in connection with the following topics:

- Mobile-assisted instructional design based on affordances
- Ubiquitous learning
- Cultural understanding
- Instructional innovation
- Authentic learning materials and experiences

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Peer scoring on EFL learners' oral production in CBT environments

Bio data



CALL.

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Abstract

In recent decade, in Chinese higher educational institutions, peer assessment on English as a foreign language (EFL) learners' language production has received increasing attention, for it was recommended as an indispensable part in multidimensional formative assessment in *Guideline to College English Curriculum* (National Foreign Languages Teaching Advisory Board, 2015). As a result, there is a growing number of literatures concerning peer

assessment on writing. However, to conduct peer assessment on EFL learners' oral production in computer-based testing (CBT) environments is more challenging and has greater practical significance in EFL teaching contexts. The authors of this study have made an attempt to integrate peer scoring into the process of EFL learners' oral production in an integrated listening-based speaking test through a self developed web-based language skills training system (Rofall system) in a digital lab. The results indicated that the process of peer scoring and giving comments helped learners enhance a conscious awareness of the scoring rubrics in terms of fluency and coherence, lexical resources, grammatical range and accuracy as well as pronunciation and intonation (embedded in the system and shown on the interface). What's more, in this research, with respect to the four dimensions in the scoring rubrics, the degree of self-reflections was varied from the female to the male, from learners of the more advanced-level to those of others. Through this study, the authors hope to share their findings with other EFL instructors and CBT designers in such innovative practice, and to shed light on the classroom implementation of integrating peer assessment into the process of developing learners' oral production in CBT environments in EFL contexts.

Key words: peer scoring; peer assessment; oral production; computer-based testing (CBT); English as a foreign language (EFL)

Conference paper

Introduction

In recent decade, in Chinese higher educational institutions, peer assessment on English as a foreign language (EFL) learners' language production has received increasing attention (Mo, J., 2007 ; Zhang, L., 2008 ; Deng, L. & Cen, Y., 2010 ; Bai, L., 2013 ; Wen, W. & Yang, Y.,2016), for it was recommended as an indispensable part in dynamic formative assessment in *College English curriculum requirements* (Department of Higher Education, 2007) and highly emphasized in *Guideline to College English Curriculum* (National Foreign Languages Teaching Advisory Board, 2015). Meanwhile, several studies have also addressed the important role of peer assessment in multidimensional course-based assessments (Brown, J. D. & Hudson, T., 1998; Bauer, C. C., & Baltes, B. B., 2002; Leung, C., & Mohan, B., 2004; Cheng, W. & Warren, M, 2005; Barkaoui, K., Brooks, L., Swain, M., & Lapkin, S., 2013), As a result, there is a growing number of literatures concerning peer assessment on writing (Mendonca, C. O., & Johnson, K. E., 1994; Rollinson, P., 2005; Jahin, J. H.,2 012; Zhao, H. H., 2014). However, to conduct peer assessment on EFL learners' oral production in computer-based testing (CBT) environments is more challenging and has greater practical significance in EFL teaching contexts. The authors of this study have made an attempt to integrate peer scoring into the process of EFL learners' oral production in an integrated listening-based speaking test through a self developed web-based language skills training system (Rofall system) in a digital lab.

Method

Research questions

The research is driven by the following questions:

- Does peer scoring have a positive effect on the students' awareness of the evaluation rubrics?
- Does peer assessment promote students' ability to have self-reflections on their oral production?
- With regard to self-reflections, are there any differences across genders?

Research design

The pedagogical practice lasted for twelve weeks from October 2016 till January 2017 in an English audio-video speaking course (EAVSC) at the authors' university. There were 121 non-English major sophomores taking the EAVSC in four parallel classes involved in the study. During the period, all the participants were required to accomplish five online homework assignments, the mid- and post tests, which were in the same testing format of integrating listening-based speaking tasks through the Rofall system. The procedures of conducting the mid- and post tests were as follows: first, students were required to conduct listening-based comprehensive items of the computerized tests, in which, the last item was a one-minute personal statement task on the prior-listened input; then, after finishing the tests, they were asked to complete a questionnaire concerning the operation effect of the system; next, when submitted all their recorded personal statements and completed responses to the first questionnaire, students were required to conduct peer scoring on the recorded oral performance; finally, they were requested to response to the second questionnaire with respect to their perceptions on the peer scoring, in addition, it was also followed up with two-minute recorded verbal reports on peer scoring in the mid-test.

Data collection

All the students' peer scoring data, their verbal reports on their perceptions on the peer scoring, and their responses to the two questionnaires were all recorded and collected automatically and immediately after each test through the Rofall system in the digital lab. The quantitative data included students' scores on oral production and the responses to the questionnaire while the qualitative data covered students' oral comments on peer scoring. All the quantitative data were processed by using the SPSS 22.0 software and the qualitative data were classified and analyzed by the authors.

Results and discussion

Analysis of correlated data

As shown in Table 1, the results of paired sample *t*-test revealed that there were significant differences in students' peer assessment scores on their personal statements between mid-test and post test ($t=-11.86$, $p<0.05$). What's more, the mean score of post test was 84.13, which was significantly higher than that in the mid-test score (79.60), suggesting that peer scoring may have made a difference to students' oral performance.

Table 1. Paired sample *t*-test for students' peer assessment scores in two tests

	N	Mid-test scores		Post test scores		MD	t	df	Sig.
		Mean	SD	Mean	SD				
Personal statement	121	79.60	6.94	84.13	5.20	-4.53	-11.86	120	0.000*

* $P<0.05$

As shown in Table 2, the results of paired sample *t*-test revealed that there was a significant difference in male students' peer assessment scores between their mid-test and post test ($t=-10.45$, $p<0.05$). Through the comparison of scores between the two tests, we found that male students' mean score on personal statements increased in the post test, with the mean difference of 4.99.

Table 2. Paired sample *t*-test for male students' peer assessment scores in two tests

	N	Mid-test scores		Post test scores		MD	t	df	Sig.
		Mean	SD	Mean	SD				
Personal statement	73	77.91	6.67	82.90	5.09	-4.99	-10.45	72	0.000*

*P<0.05

As shown in Table 3, the results of paired sample *t*-test revealed that there was also a significant difference in female students' peer assessment scores between their mid-test and post test ($t=-6.13$, $p<0.05$). Through the comparison of scores between the two tests, we found that the female students' mean score on personal statements also increased in the post test, with the mean difference of 3.83.

Table 3. Paired sample *t*-test for female students' peer assessment scores in two tests

	N	Mid-test scores		Post test scores		MD	t	df	Sig.
		Mean	SD	Mean	SD				
Personal statement	48	82.17	6.60	86.0	4.84	-3.83	-6.13	47	0.000*

*P<0.05

Through a comparison of mean difference in scores across genders in two tests in Table 4 (with the mean difference of -4.26 and -3.10), it is obvious to see that female students outperformed male students in their oral production though they all made great progress in the post test.

Table 4. Comparison of mean difference in scores across genders in two tests

		Male students	Female students	MD
Personal statement	Mean in mid-test	77.91	82.17	-4.26
	Mean in post test	82.90	86.0	-3.10

It also obvious to see that the mean value of male students increased by 4.99, while that of female students increased by 3.83, which indicated that all the students achieved higher scores in the post test. This suggests that male students may have made a greater progress in oral performance than female ones.

As shown in Table 5, the results of independent sample *t*-test revealed that there were no significant differences in students' peer assessment scores rated across genders either in the mid-test ($t=-0.42$, $p>0.05$) or in the post test ($t=-0.29$, $p>0.05$).

Table 5. Independent *t*-test for students' mid-test peer assessment scores rated by males and females

	scores rated by males			scores rated by females			MD	t	df	Sig.
	N	Mean	SD	N	Mean	SD				
Mid-test	73	78.80	7.34	48	79.39	7.84	-0.59	-0.42	119	0.672
Post test	73	83.94	6.17	48	84.27	5.91	-0.33	-0.29	119	0.770

Analysis of students' verbal reports

Students' comments from their verbal reports can be summed up as follows:

- General comments: peer scoring was good, interesting, and also convenient;
- Peer scoring was helpful concerning the improvement in oral production and language skills;
- Giving scores to others could offer them opportunities to learn from each other in respect of exchanging opinions, sharing concepts of values, making judgments, as well as vocabulary usage, sentence patterns and so on;
- The process of assessing other students' oral performance was to get to know the rubrics and to promote their awareness of the criteria;
- Making judgments on other students' oral performance was to stimulate their awareness of self-reflections on their own and to think about in what aspects they could make further improvement;
- It was a little tough and torn to give scores to those whose oral performance was unbalanced in pronunciation and grammar;
- Peer assessment was fair to everyone since it was anonymous;
- A few students worried about their scores since they considered the peer scoring a little subjective for the "rubrics" may vary from person to person due to each rater's interpretation.

The comments from the students' verbal reports, as a whole, were very positive. Most of the students declared themselves benefited from peer assessment, for it offered them good opportunities to learn from others, to improve their own oral production skill and organizational competence, to digest the assessment rubrics so as to have further reflections on their own. However, not every student came to a complete agreement on the above comments.

Analysis of students' perceptions on peer scoring

The peer scoring-related questionnaire was designed to evaluate how students perceive this embedded peer scoring in the process of the online speaking-based test in CBT environment. It was used both in the mid-test and the post test, which mainly included the following factors: 1) the acceptance of peer scoring (#1-#3); 2) acknowledgement of the scoring rubrics (#4 & #5); 3) promotion of motivation in oral production in peer scoring (#6 & #7); 4) the effect of promoting the awareness of developing language production (#8 & #9); 5) the effect of promoting the awareness of oral production in four aspects (#10-#18, in agreement with the four dimensions in scoring rubrics: fluency and coherence, lexical resource, grammatical range and accuracy, pronunciation); 6) attitude toward being assessed and assessing others (#19-#22); 7) the effect of self-reflections in peer scoring (#23 & #24). All the items were measured with a five-point Likert scale, from 1 "do not agree at all" to 5 "strongly agree".

Comparing the students' responses to the questionnaire items in the two tests, we found that all the mean scores increased to different extent, with the overall mean of 24 items to be 3.73 (in the mid-test) to 3.87 (in the post test) respectively. The degree of acceptance of peer scoring (#2. *"I agree to score others' personal statement after finishing mine"*) in the post test increased most greatly (by 0.33, with the mean of 3.56 to 3.89). More than 90% of the students considered the peer scoring beneficial to their knowledge of the scoring rubrics.

The mean score of Factor 3 (#6 & #7) in the post test increased above the average (by 0.15), and the mean score of #6 (*"The peer scoring is helpful to improve my oral production"*) increased by 0.19, which indicated a high level of approval concerning the

promotion of motivation in oral production in peer scoring. The overall mean of Factor 4 (#8 & #9) revealed a high degree of approval of the effect of peer scoring in promoting students' motivation in oral production. The overall mean of Factor 5 (#10-#18) increased by 0.08 (with 3.82 to 3.90 in the mid-test and post test respectively), among which, it is obvious to see that most students considered the process of peer scoring beneficial to their own oral production, especially in coherency in expressions, organizational competence, logic in ideas, and accuracy in pronunciation, highly agreeable with the four dimensions in the scoring rubrics. In a word, the results from the students' feedback indicated that the embedded peer scoring had a positive effect on promoting the students' awareness of the evaluation rubrics, enhanced their ability to develop critical thinking, motivated them to avoid making errors in their peers' oral production, which greatly confirmed with the general comments from their verbal reports.

The mean score of Factor 7 (the effect of self-reflections in peer scoring) in the post test increased by 0.15, and the mean score of #24 (*"I will have reflections on my own work from the scores given by my classmates"*) received highest degree of approval among all the items with the increased value of 0.21 (with the mean of 3.75 in the mid-test and 3.96 in the post test). What's more, with respect to self-reflections, the difference in the mean score across genders reached the greatest degree among all the items, with the mean difference of 0.29 in the post test (4.14 vs 3.85 respectively for the female over the male) and 0.30 in the mid-test (3.93 vs 3.63 respectively for the female over the male). It is interesting to find that there also existed an obvious difference across genders reflected from the mean score of #22 (*"I think I'm able to score others' oral performance objectively based on the scoring rubrics"*), with the mean difference of 0.26 in the post test (4.07 vs 3.81 respectively for the female over the male), however, there was no obvious difference in the mean score of the item across genders in the mid-test. The results indicated that the female students may have obtained a greater awareness of the scoring rubrics through peer scoring during the semester so that they may have gained more self-confidence in assessing others' oral tasks than the male students. However, as for their attitudes toward being assessed, they tended to be more worried about the scores given by others than the male students as reflected from the mean score of #20 (*"I care my score since I don't trust my classmates' ability to fully understand the scoring rubrics"*).

Conclusions

Through analyses of correlated data of students' scores on the speaking task in the mid- and post tests, their feedback from the questionnaire and comments from their verbal reports, it was found that the peer scoring on oral production played a positive role in promoting students' ability to have self-reflections and the students' perceptions on the peer scoring was positively high. The results indicated that the process of peer scoring and giving comments helped learners enhance a conscious awareness of the scoring rubrics in terms of fluency and coherence, lexical resources, grammatical range and accuracy as well as pronunciation and intonation (embedded in the testing system and shown on the students' interface). The washback effect of the assessment reconfirmed the previous findings that peer assessment has the potential to raise student raters' awareness of the primary components of evaluation rubrics, motivating them to avoid the mistakes committed by their peers (Toppping, 2009). In this research, students' perceptions on peer scoring with respect to the four dimensions in the scoring rubrics varied from the male to the female, and the female students had a higher degree of approval concerning the effect of peer scoring on promoting the awareness of language production, and their acknowledgment of the effect of peer scoring on self-reflections were much higher than the male students. What's more, from the analysis of students' scores on their oral production in the mid- and post tests showed that female students outperformed male students, however, their post test scores indicated that male students had made a greater progress in oral performance

than female students. Through this study, we hope to share our findings with other EFL instructors and CBT designers in such innovative practice, and to shed light on the classroom implementation of integrating peer assessment into the process of developing learners' oral production in CBT environments in EFL contexts.

CALL in Context

The Ministry of Education in China issued *College English Curriculum Requirements* (Department of Higher Education, 2007) in 2007, emphasizing developing EFL learners' communicative language ability (CLA) through listening and speaking competence. However, large class sizes (usually ranging from 30 to 90 per English class) and EFL teachers' academic and career preparation make it difficult to meet the requirements. Computer- and the classroom-based college English teaching models were highly recommended in this government document, and the implementation of the Internet-based College English Test (IB CET) Band 4 in December 2008 represent the continued emphasis on such teaching environments in the context of the listening and speaking competence (Jin, 2009).

In order to achieve the government requirements for promoting EFL learners' CLA effectively in CALL environments and to improve preparation of students aiming to take the national IB CET, a web-based English Language Skills Training System (Rofall system) was designed, developed and implemented by a technical team under the first author's direction beginning in 2008. The theoretical framework of the teaching design for the system is based on Bachman's CLA model (1990) with emphasis on training the EFL learners' CLA, particularly their listening and speaking skills within the teaching process. The system fits into a broad language teaching framework for the purpose of enhancing learners' overall language competence and bring the Internet into college English classrooms. In its current form the system does not only allows utilization of multi-media for audio and video speaking activities, model tests, and questionnaires in supervised classroom settings and outside settings but it also allows comprehensive data collection capable of monitoring student performance (Lu, 2012). The system in its present form serves as the first author's research tool and experimental teaching environment.

The English audio-video speaking course in this study, taught for two credit hours per week during one semester, has been one of the elective follow-up courses for all non-English undergraduate majors who passed CET-4 at the authors' university for nearly 20 years. Since 2009, the course pre-, mid-, and post tests along with each follow-up questionnaire, as well as five off-class listening-based integrated tasks assignments (since 2011) have been conducted through the Rofall system, and data about students' learning and responses to the various activities can be tracked and collected automatically.

In the current study, the authors have made an attempt to integrate peer scoring into the process of EFL learners' oral production in an integrated listening-based speaking test through the Rofall system in a digital lab. The lab enables to provide learners with environments for interactional learning and to integrate various language testing tasks in a communicative language community, especially for oral practical activities, which makes it possible for the instructor to embed the peer scoring in the process of EFL learners' oral production.

The procedures of conducting the mid- and post tests were as follows: first, students were required to conduct listening-based comprehensive items of the computerized tests, in which, the last item was a one-minute personal statement on the prior-listened input; then,

after finishing the tests, they were asked to complete a questionnaire concerning the operation effect of the system; next, when submitted all their recorded personal statements and completed responses to the first questionnaire, students were required to score on the other classmates' recorded oral performance; finally, they were requested to response to the second questionnaire with respect to their perceptions on the peer scoring, in addition, it was also followed up with two-minute recorded verbal reports on peer scoring in the mid-test. From the procedure, it is obvious to see that all the data should be collected automatically and timely after each step. Therefore the Rofall system and the digital lab served as the fundamental teaching and learning environment in the context of this study.

The mastery of strong English oral productive ability has become more and more important in this era of globalization. It is acknowledged in the field of language testing that the integrated test tasks can induce more benefits compared with the independent ones. The CBT is imperative under such circumstances, changing the pencil-and-paper tests in many different ways. What's more, it can provide test takers with diagnostic analysis and make it possible and convenient for instructors and researchers to achieve rich data for further study so as to suggest areas for better instruction, for review, or for improving future assessment and for evaluation of curriculum. As Hinkel (2006) noted, "all of which have the goal of developing students' language proficiency and skills" (p. 114), such integrated instruction provides learners with opportunities for purposeful oral production after knowing the rubrics, real-life language use, linguistics features and so on. What's more, gender has been proved to be an influential factor in judgments and social situations (Simpson, 2003). Therefore, in this current study, the major concerns focus on the effect of peer scoring on EFL learners' oral production with regard to self-reflections and also the differences across genders in their learning process.

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Personalisation and self-regulation of university students' vocabulary learning mediated by mobile technologies in a Chinese context
Bio data



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Abstract

A considerable proportion of mobile assisted-language learning (MALL) takes place outside the classroom and is beyond the control of teachers, effective learning hinges upon learners' capacity to self-regulate their own learning adequately (Ma, 2016). Self-regulation has proved to be one of the key predictors of academic success (Zimmerman & Kitsantas, 2014). However, few studies have investigated self-regulation in MALL, largely using intervention programmes and providing readers with some indication of how students engage in and self-regulate MALL. It is thus difficult to estimate the generalisability of these intervention studies as well as achieved conclusive consensus.

In addition, personalised learning is considered to be one of the essential features for mobile learning. Limited studies have investigated personalisation in MALL. What has been largely ignored is the active role that learners themselves play in choosing, making decisions, interacting with the learning resources or other contextual agents in a personalised, spontaneous, situated, self-regulated and unmonitored manner. This research, using a case-study approach, investigated how Chinese university EFL students self-regulate and personalise their vocabulary learning mediated by mobile technologies. It is guided by the following research questions:

RQ1: How do self-regulating strategies contribute to effective vocabulary learning in the context of MALL?

RQ2: What are strategies the students developed to personalise their learning of vocabulary the context of MALL?

Both qualitative and quantitative methods were utilised to collect diverse data to construct a comprehensive picture as well as portray sufficient details in order to capture the uniqueness and personalisation for learners in the Chinese EFL context. This case-study involved 26 university students from different academic backgrounds in a large city in southern China. Research instruments include vocabulary size tests, surveys, focus-group interviews, individual interviews, and self-reflection reports.

The results show that the contextual factors, both at the macro level, defined as the concurrent educational policies and technological practices, and at the micro level, defined as the student's idiosyncratic approach, have impacted how students self-regulate and personalise their vocabulary learning. Specifically, the nation-wide English language tests (CET 4 and 6), advances of mobile technologies in China, including vocabulary learning and dictionary apps, and popular social communication tools (e.g. WeChat, Microblog, QQ), have helped (or 'coerced') students to be more deliberately engaged in contemplative learning of vocabulary. Meanwhile individuals' learning beliefs, personal interests and strategies have shaped their personalised learning paths. The self-regulating strategies related to managing and organising vocabulary learning could influence students' vocabulary size beyond the threshold level, i.e., 5000 frequency level.

Conference paper

Introduction and literature

With handy mobile devices connected to Wi-Fi, language learners are plunged into a kaleidoscopic-like online world where they are easily get distracted and losing the focus on learning. Providing *learner training* or developing *learner autonomy* have been proposed in the CALL or MALL fields (e.g., Reinders & Hubbard, 2013; Smith & Craig, 2013). With reference to Zimmerman's (2000, 2011) work from educational psychology, Ma (In press) argued that another important term, self-regulation, should be given great attention in order to help language learners control their learning environment and select learning resources effectively. A considerable proportion of mobile assisted-language learning (MALL) takes place outside the classroom and is beyond the control of teachers, effective learning hinges upon learners' capacity to self-regulate their own learning adequately (Ma, 2016). Self-regulation has proved to be one of the key predictors of academic success (Zimmerman & Kitsantas, 2014). Only very limited studies have investigated self-regulation in MALL, largely using intervention programmes in classroom settings. In addition, there is little evidence to demonstrate tangible changes in learner behaviours when the intervention stops. It is thus difficult to estimate the generalisability of these intervention studies as well as achieved conclusive consensus. It would seem that investigating learners' self-regulation in a full context (inside and outside their classroom learning as reflected in their daily routines) would be more revealing.

In addition, personalised learning is considered to be one of the essential features for mobile learning (Wong & Looi, 2011; Kearney et al., 2012). A few studies (e.g., Chen & Hsu 2008; Chen & Li, 2010) have investigated personalisation in MALL, but the attention is on how to develop an intelligent system or context-aware system to help students learn more efficiently. The inherent intelligent mechanism in these applications would analyse learner behaviours, and recommend suitable exercises or provide context-sensitive items for learning. The other way of thinking, however, is that the more the learning system does for the learner, the less the learner would undertake in their learning. The more intelligent and personalised the

learning apps seem to be, the less strategic the learner becomes. What has been largely ignored is the active role that learners themselves play in choosing, making decisions, interacting with the learning resources or other contextual agents in a personalised, spontaneous, situated, self-regulated and unmonitored manner.

In order to address the issues identified above, the current research investigated how Chinese university EFL students self-regulate and personalise their vocabulary learning mediated by mobile technologies. It is guided by the following research questions:

RQ1: How do self-regulating strategies contribute to effective vocabulary learning in the context of MALL?

RQ2: What are strategies the students developed to personalise their learning of vocabulary the context of MALL?

Methodology

In order to capture the uniqueness and personalisation for learners in the Chinese EFL context, both qualitative and quantitative methods were utilised to collect diverse data to construct a comprehensive picture with sufficient details. This case-study involved 26 university students from different academic backgrounds in a large city in southern China. Research instruments include vocabulary size tests, surveys, focus-group interviews, individual interviews, and self-reflection reports.

Focus-group interviews

Three focus-group interviews were carried out in the university, involving 17 participants. The participants' vocabulary size was measured by Nation's (2001) Vocabulary Levels Test. Consent were sought from each participant beforehand; participants were volunteers and they had the right to quit the study anytime they wish. Such focus-group interviews collected and identified the key issues of general strategies for self-regulating learning of vocabulary. All interview recordings were transcribed and coded for both quantitative and qualitative analysis. Based on the results, an individual interview guideline was developed for collecting data in the next phase.

Individual interview

The individual interviews provided an in-depth understanding of the issues and features specific to the local context (Chinese university settings). The snowballing sampling strategy were employed to identify suitable interviewees for individual interview, i.e., the participants in the focus-group interviews were asked to recommend other students in the same university who make active use of mobile technologies for language learning. The total sample size for individual interviews was eight. The individual interview adapted the Self-Regulated Learning Interview Scale (SRLIS; Zimmerman & Martinez-Pons, 1986). The interviewees were presented with a number of specific learning contexts common to the EFL setting in Chinese universities. For example, some of the common learning contexts for EFL may include *classroom learning*, *group/individual project preparation*, *oral or written exam preparation*, preparing for high-stake language tests (e.g., Band 4 or 6 College English tests) and *learning at home*. Some sample question could be: "In an English language lesson, if you find you encounter many unknown vocabulary items. Do you have any particular method for learning these items with the help of mobile technologies?" or: "When you are facing a high-stake exam, do you have any plan to tackle the vocabulary that might be needed for this exam? What a role can mobile technologies play for your preparation for the exam?" Students' responses for each specific context were coded, analysed and classified into categories.

Task sheets collection

After the individual interviews, each participant was required to submit a self-reflection report and various learning artifacts (e.g. screen shots of learning websites, e-news, self-made e-vocabulary notes, e-vocabulary exercises records, etc.), to showcase their personalised learning. A detailed guideline was provided for students to guide students collecting and submitting this data. They also needed to summarise briefly their own strengths as well as areas that need improvement regarding their vocabulary learning. In this way, investigation of each individually interviewed student was treated as a case study.

Results & discussion

The results show that the contextual factors, both at the macro level, defined as the concurrent educational policies and technological practices, and at the micro level, defined as the student's idiosyncratic approach, have impacted how students self-regulate and personalise their vocabulary learning. Specifically, the nation-wide English language tests (CET 4 and 6), advances of mobile technologies in China, including vocabulary learning and dictionary apps, and popular social communication tools (e.g. WeChat, Microblog, QQ), have helped (or "coerced") students to be more deliberately engaged in contemplative learning of vocabulary. Meanwhile individuals' learning beliefs, personal interests and strategies have shaped their personalised learning paths. The self-regulating strategies related to managing and organising vocabulary learning could influence students' vocabulary size beyond the threshold level, i.e., 5000 frequency level.

CALL in Context

This research intends to address the following question regarding the role of context:

- To what extent do technologies afford context-dependent enrichment and personalization of the learning process? What are the routines and models for doing so?

Given the ubiquity of mobile learning and easy access to vast online resources, language learners are largely left on their own to explore the potential of mobile-assisted language learning. It is argued that both self-regulation and personalisation shall play an important role in helping students select the learning resources, planning, executing, monitoring and evaluating their mobile language learning. The two are inseparable and constitute the two sides of the same coin. Thus, investigating both dimensions can reveal a more realistic picture regarding students' beliefs, strategy use, and practices on mobile language learning.

The key issue, context, has been fully taken into consideration in this study. First, it employed a case study approach and investigated how a group of 26 Chinese university students maneuvered mobile technologies in an EFL context to tackle the learning of a key language component, vocabulary. Second, it draws on a context-specific data elicitation method, i.e., using concrete learning scenarios in an EFL context to elicit learner data. Third, the research results lend support to interesting findings that contextual factors, both at the micro and macro levels, have shaped students' self-regulation and personalisation of their vocabulary learning mediated by mobile technologies.

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The role of Technology in language learning in a culturally diverse class: A case study of a Pakistani University

Bio data

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Abstract

The study aimed to investigate the role of educational technology in learning a foreign language in a culturally diverse classroom in a Pakistani university. The study has been conducted in the context of culture in a diverse educational environment. The role of technology was examined to see its effect on learning English Language. The participants of the study were selected from undergraduate class in a major Pakistani university. The participants in the classroom came from a diverse cultural background. The researcher used different educational technologies such as Computer Supported Collaborative model comprised of internet, mobile technologies, multi-media, web-based educational software etc to enhance learning experiences of students involved in learning English. Finding indicated that technology played an important role in developing skills to learn English language. The context of the study was cultural. Researchers used the lens of cultural attributes of students to see the role of technology in English language learning. Students from different cultures experienced the use of technology in a different way. Another important finding was the impact of other cultures while using technology in the classroom. The analysis showed that the internet was noticed as a medium to transmit the other cultures in the native cultures inside the classroom. The internet brought the western culture through the use of technology and the students participating in this research experienced the impact of that culture in their learning of English language. The researcher also examined the role of technology in learning process of the students. The data indicated that the learning of students who participated in the research enhanced learning and technology becomes a tool to contextualize the learning experiences of the students. The analysis of data also revealed that cultural differences of the students also played an important role in determining their learning process. The students from mainstream education system, who are more familiar with the use of technology for educational purposes, responded better to the use the technology as compared to the students who are coming from the rural areas of the country. Due to the difference in their cultural and socioeconomic

backgrounds, the process of learning is different for different students. The paper concluded with the recommendations for an effective use of technology in culturally diverse group of students in their language learning development skills.

Conference paper

INTRODUCTION

The study aimed to investigate the role of educational technology in learning a foreign language in a culturally diverse classroom in a Pakistani university. The study has been conducted in the context of culture in a diverse educational environment. Language is first and foremost a socio-cultural resource constituted by "a range of possibilities, an open-ended set of options in behavior that are available to the individual in his existence as social man" (Halliday, 1973, p. 49). Language is the central means of learning culture in the language classroom. Many definitions have been suggested for culture. Culture is defined as the deposit of language, experience, beliefs, values, attitudes, meanings, hierarchies, religion, notions of time, roles, spatial relations, concepts of the universe, and material objects and possessions acquired by a group of people during generations through individual and group striving (Samovar, Porter, & Stefani, 2000, p. 36). For many years, both teachers and students believe that teaching culture and developing intercultural communication competence is a very important part of language teaching. Besides achieving language competence in English education, intercultural competence should also be highlighted. The role of technology has been increased in recent years in context of learning language in a multicultural environment. The study was conducted in one of the major universities of Pakistan where students come from different cultural capitals of the country. While dealing with the complexity of diverse cultures, the teachers at undergraduate level apply different technological tools to meet the requirement of learning English language. Computer Supported Collaborative model comprised of internet, mobile technologies, multi-media, web-based educational software etc to enhance learning experiences of students involved in learning English.

LITERATURE REVIEW

Beatty (2005), given the breadth of what may go on in computer-assisted language learning, a definition of computer assisted language learning that accommodates its changing nature is any key process in which a learner uses a computer and, thus, improves his or her language. Over the years, efforts have been made by experts to explore the capability of computer technology in supporting the developing intercultural communication by language teaching. Yeung and Hu (2015) found the importance of raising teachers' awareness of the various roles their students expect them to play and of equipping teachers with the knowledge and skills to advise and support students in making use of technological resources outside the classroom for language learning. Current students are "digital natives," a definition put forth by Prensky (2001), which means that students are "all 'native speakers' of the digital language of computers, video games and the Internet" (p.1). It is interesting to note that most contemporary students are more universally tech-savvy than their teachers when coming to the classrooms. A number of studies (Chang, 2002; Meskill & Anthony, 2005; Neri, Mich, Gerosa, & Giuliani, 2008; Kessler & Bikowski, 2010) have attempted to investigate the effectiveness of educational technology in the process of teaching and learning. However, there are very few studies investigating the role of technology in learning language in a cultural context.

METHODOLOGY

A mixed method approach was adopted to find the role of technology in learning language in a cultural context. The quantitative data was collected by using a 5 Likert scale

questionnaire whereas the qualitative data was collected through multiple interviews and focused group conversation with students. The population of the study is undergraduate students of the university where as sample of 240 students were taken classes where teachers use technology to teach the language. For interviews, 16 students were selected for the multiple interviews of 60 minutes each. More than 30 students participated in the focused group conversation to get the collective sense of the issue.

FRAMEWORK OF THE STUDY: The researcher used different educational technologies such as Computer Supported Collaborative model comprised of internet, mobile technologies, multi-media, web-based educational software etc to enhance learning experiences of students involved in learning English.

FINDINGS

Finding indicated that technology played an important role in developing skills to learn English language. The context of the study was cultural. Researchers used the lens of cultural attributes of students to see the role of technology in English language learning. Students from different cultures experienced the use of technology in a different way. Another important finding was the impact of other cultures while using technology in the classroom. The analysis showed that the internet was noticed as a medium to transmit the other cultures in the native cultures inside the classroom. The internet brought the western culture using technology and the students participating in this research experienced the impact of that culture in their learning of English language. The researcher also examined the role of technology in learning process of the students. The data indicated that the learning of students who participated in the research enhanced learning and technology becomes a tool to contextualize the learning experiences of the students. The analysis of data also revealed that cultural differences of the students also played an important role in determining their learning process. The students from mainstream education system, who are more familiar with the use of technology for educational purposes, responded better to the use the technology as compared to the students who are coming from the rural areas of the country. Due to the difference in their cultural and socioeconomic backgrounds, the process of learning is different for different students.

CONCLUSION:

It is concluded that teachers must use the technology to foster student's learning related to language. The cultural considerations must be considered by the teachers to make an effective use of technology.

CALL in Context

The study is very helpful in developing understanding about the use of technology by the teachers to teach language at undergraduate level in the university.

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Virtual walls and bans: E-learning/CALL hegemonies in the Iranian context

Bio data



S. Susan Marandi is an associate professor at Alzahra University. She is known as the “mother” of CALL in Iran. Some of her CALL-related activities include co-authoring an award-winning Iranian educational CD, *English at Home*, and establishing and teaching the first CALL classes in Iran. She has published in journals such as *ReCALL*, *Computer Assisted Language Learning*, *Computers and Education*, *Interactive Learning Environments*, *Australasian Journal of*

Educational Technology, *Educational Technology Research & Development*, and *Computers in Human Behavior*.

Abstract

In a world where new walls are being built and fortified among peoples and countries, and sweeping visa bans are approved against the backdrop of worldwide demonstrations, the importance of online communications becomes increasingly important. Accordingly, the potential of e-learning and CALL transcends that of mere knowledge construction and takes on new dimensions when employed to increase equality of educational opportunities, intercultural understanding and mutual respect. Nonetheless, this vision, however beautiful, will remain one unless we can tear down the virtual walls and bans and establish an online community which embraces equality and solidarity. This entails recognizing the existence of and thereafter eradicating hitherto largely unacknowledged e-learning/CALL hegemonies; namely, linguistic, technological, economic, educational, cultural, and sociopolitical (Marandi, Karimi, & Nami, 2015; see also Lamy & Pegrum, 2012). To further this end and as part of a larger study, the present study attempts to identify e-learning/CALL hegemonies operating in the Iranian ELT community, through interviewing various ELT stakeholders, including TEFL students, teachers, and administrators, and identifying the common themes which emerge. It is believed that the Iranian context is fairly unique with regard to certain aspects of these hegemonies, and that part of the solution lies in disseminating awareness of the hegemonies and discriminations Iranians often face online, at both national and international levels. Finally, an effort will be made to differentiate between context-dependent and more generalizable instances of e-learning/CALL hegemonies, as identified in the study. It is believed that this and similar studies are required to bring about a more critical stance toward CALL; and that, more importantly, they can help pave the way toward ensuring that equality of educational opportunities, intercultural understanding and mutual respect will ultimately become a reality, and not a mere *virtual* reality.

Conference paper

Knowledge and education have a sacred position in most cultures and religions. The Quran (also spelled Koran) has a *Surah* (i.e. Chapter) entitled al-Qalam (i.e. the Pen), in which God swears by pens and that which is scribed. And *ayahs* (i.e. verses) 17-18 of Surah az-Zumar encourage people to listen to various opinions before making their choice, saying, "... So give good tidings to my worshippers; those who listen to speech and follow the best of it. Those are the ones whom Allah hath guided, and those are people of understanding." There are also two widely-cited quotations from Prophet Mohammad, the prophet of Islam, saying "Seek knowledge from the cradle to the grave" and "Seek knowledge, even if you have to go [as far as] China to gain it." The Bible (i.e. New Testament) says "make every effort to supplement your faith with virtue, and virtue with knowledge ..." (2 Peter 1:5). Elsewhere (Luke 11:52) it says, "Woe to you lawyers! For you have taken away the key of knowledge." The Torah (i.e. Old Testament) says "An intelligent heart acquires knowledge, and the ear of the wise seeks knowledge" (Proverbs 18:15) and also "My people are destroyed for lack of knowledge" (Hosea 4:6). And in *The Gospel of Buddha*, Gautama Buddha is famously quoted as having said, "The darkest night is ignorance."

With such solid agreement on the necessity of knowledge, one would assume that the importance of equal educational opportunities would be self-evident and in theory, perhaps, it is. In practice, however, we constantly witness "gatekeeping" policies being implemented and upheld throughout the world, and nowhere is this more shocking and disappointing as on the so-called World Wide Web, which was created and intended by its founder, Tim Berners-Lee, as a "collaborative medium, a place where we can all meet and read and write" (as cited in Carvin, 2005) and which is claimed to give us "the opportunity to be present with each other without boundaries" (Lehman & Conceição, 2010, p. vii).

On the other hand, intercultural awareness as well as mutual understanding and respect are generally given the VIP treatment on paper, at least. Whole books, journals, and even academic models and disciplines have been devoted to such terms as "intercultural competence" and "intercultural communication." And in the language teaching profession, in particular, the importance of these terms has become almost cliché. Much has been written on how to achieve intercultural communicative competence, for example. We even have an *intercultural approach* to English language teaching (Corbett, 2003).

Putting these admirable aspirations together, it seems to be high time that we address the inequalities and discriminations which still exist in e-learning in general and in CALL, in particular. Therefore, and in line with the demands of the current conference, I have "begun at home," as the saying goes, and attempted to identify the e-learning/CALL hegemonies faced by the Iranian ELT community. The basis for the study was the e-learning/CALL hegemonies classification presented by Marandi, Karimi and Nami (2015), which builds upon Lamy and Pegrum (2012). First, this classification (Marandi et al., 2015) is briefly presented below:

E-learning/CALL hegemonies are when an element of e-learning or, more specifically, CALL restricts the options available to the stakeholders or influences them unduly (Marandi et al., 2015). The distinction among the six types of hegemonies is not always clear, but the following definitions may serve as a starting point:

1 – Linguistic hegemonies refer to the dominance or imposition of a language or writing system in online and e-learning/CALL environments, such as the dominance/imposition of the English language script in online teaching materials, instructions, or publications.

2 – Technological hegemonies can refer to the choices forced upon the stakeholders by the capabilities and limitations of the technology; for example, when the available or chosen

technologies can only address certain learner styles, strategies or intelligences; or when these technologies are (more) equipped to deal with certain skills/subskills and not others; or when they are more equipped to serve people without special educational needs. It can also refer to when the interest in technology wrongly relegates other educational elements to a secondary role, such as when money which should have gone to other educational purposes is spent on buying or upgrading technology, or when the technology is used out of proportion to the demands of the situation, to the detriment of the role of the teacher, for instance. It can further refer to the covert gathering of personal or private data and/or data mining through websites and applications, for marketing purposes, etc. (If such data is gathered with political intentions and through political means, it would be considered a sociopolitical hegemony, although the distinction is not always easily made.)

3 – Economic hegemonies refer to when financial difficulties and limitations prevent the timely acquisition or full use of the optimal technologies required for the educational situation at hand. It would also include those aspects of the “digital divide” which are due to the straightened financial circumstances of a person or people, and which prevent their being adequately represented online. If the suppression of voices online is purposefully achieved with a political agenda, however, it would be considered an instance of sociopolitical hegemony.

4 – Educational hegemonies refer to the pedagogical/institutional norms, policies and practices, such as institutional inattention to e-learning requirements or the institute’s dubious e-learning/CALL practices and norms. Another example is the current dominance of Web 2.0 (and, to a lesser extent, Web 3.0) educational tools and technologies, focusing on social constructivism and connectivism.

5 – Cultural hegemonies refer to the dominance or imposition of a particular culture in online and e-learning/CALL environments. An example is the online predominance of Western social norms and etiquette, as well as the subtle ingraining of certain beliefs and their assumed superiority through educational software or websites.

6 – Sociopolitical hegemonies refer to any hegemonies impacting e-learning/CALL that are imposed through political structures, bodies, or persons; and which are governed by political rather than educational agenda, such as online censorship, or even online *freedoms* motivated by political inclinations and persuasions. This would also include restrictions on trade or purchases related to e-learning or CALL, such as preventing the purchase of e-learning equipment (online or otherwise), or any form of bank sanctions which would prevent the necessary financial exchanges for e-learning/CALL professional development, such as registering for a CALL conference, buying a CALL book, etc. It would further include visa bans and entry denials affecting e-learning/CALL professional development, such as conference attendances, sabbaticals, student and professor exchanges, education in other countries, etc. In addition, it could refer to the gathering of personal and private information of persons or groups without their consent or knowledge, for political purposes.

It bears mentioning that due to word-count limitations, the focus of this article will be on sociopolitical hegemonies, since these are more unique to the Iranian context, as will be demonstrated.

Participants

In order to investigate the hegemonies more common to the Iranian context, 9 people were interviewed via semi-structured interviews. These participants consist of TEFL students, teachers and administrators, as briefly described below. (Despite their willingness to participate in the present study, pseudonyms are used in order to preserve the participants’ anonymity.) It should be noted that as the nature of the study required that the

participants have some amount of recent hands-on experience in learning about and implementing CALL, and since Alzahra University is currently the only Iranian university where CALL is taught regularly to MA and PhD students of TEFL, all the participants had some kind of affiliation with this university. Furthermore, Alzahra University is for women students; thus, the overwhelming majority of the participants were female. The native tongue for most Iranians is Persian (also called Farsi).

Administrators:

Dr. Amiri, 49, with a PhD in Natural Language Processing from Manchester University (UMIST) was Head of the ICT Center at Alzahra University. Dr. Pahlavani, 61, with a PhD in Language Education from the University of Ottawa was Dean of the Faculty of Literature and Languages at Alzahra University. Ms. Shojaee, 33, who is currently doing her master's degree in Educational Technology, has been Head of the Multimedia Labs of the Faculty of Literature and Languages of Alzahra University for the last 8 years.

Teachers and students:

Shahrzad (aged 27), Zohreh (aged 43), Fatemeh (aged 29), Golnaz (aged 30) and Atiyeh (aged 32) were all PhD students of TEFL with 9, 7, 6, 7 and 11 years English teaching experience, respectively. All had passed CALL courses at Alzahra University and had recent CALL learning/teaching experiences. They therefore functioned as both TEFL students and ELT teachers in the current study. Sahar (aged 45) had a master's degree in TEFL from Alzahra University, was highly computer proficient and had passed a CALL course. She had nearly 20 years' experience teaching English.

Semi-structured interviews

All the participants were familiar with English; nevertheless, they were allowed to respond in either Persian or English. Most chose to respond in English, with occasional code-switching. Where Persian was used, I have translated to English, preserving the sense of the original. (Due to space limitations, the interview questions are not included.) In general, the interviews took approximately from 45 minutes to an hour, each. These interviews were digitally recorded with the permission of the participants, then transcribed, translated where necessary, and then coded according to the themes which emerged. Related themes were organized into categories of e-learning/CALL hegemonies. Sample themes and excerpts are presented below. As mentioned above, although all six types of hegemonies were dealt with, in order to be able to do justice to those issues that are more unique to the Iranian context, I will be focusing on sociopolitical hegemonies in this paper, to the extent that my limited space allows; hopefully, further elaboration will be provided in future articles. Furthermore, I have occasionally been forced to shorten the participants' responses to comply with the word limitations; however, I have tried to preserve the original meaning as much as possible and the natural flow of language wherever possible.

Sociopolitical hegemonies in the Iranian context:

A feeling common to most of the participants was that as Iranians, they were subject to discrimination on the Internet. This often went beyond mere "second-class citizen" treatment, and amounted to being denied cyber-citizenship. A point mentioned by most participants was the fact that many popular websites which required registration did not even have Iran on their lengthy list of countries. In fact, until recently those intending to create Yahoo or Gmail emails were forced to choose other countries to do so! Such omission was unlikely to be mere oversight in light of the long list of even the most obscure countries in the drop-down menus.

Ms. Shojaee remarked, "It often happens that when we want to register in a website, they don't even have Iran among their list of countries. Even when I wanted to sign up for a Google account, I couldn't select Iran and I had to choose another country. They intentionally denied us the right to our nationality, which was very degrading.... We were

forced to pretend that we were not Iranians to be allowed to use the simplest of tools. And I think this is really demotivating for those who want to use such tools.”

Sahar claimed, “We virtually don’t even exist on the Internet. We’re a minority and we’re not seen.... Iranians might as well not be there, except when they’re mentioned in a negative light. We’re at the bottom of the barrel, so to speak.”

Sadly, Iranians are not merely unacknowledged; on the contrary, restrictions are often placed on their use of the website due to their nationality. As Fatemeh pointed out, “Iran is hardly ever available in the countries listed in the websites ... and unfortunately, this has led lots of Iranians to even pretend they’re not Iranian and to select a different country even when Iran *is* included, because they are afraid of discrimination and limitations.” Zohreh declared, “When I wanted to register on a website, I would look at the list of countries and Iran would not be included; or it’s there, but as soon as I click on Iran and choose it, certain options are no longer allowed. Or I might receive a notice saying something like, ‘we can’t support people from your region’.” Dr. Amiri similarly mentioned being unable to update his Chrome browser or use Google applications due to being located in Iran. Nor was he allowed to download Prolog, a free NLP programming language. Similar restrictions were cited by Golnaz, Fatemeh, Atiyeh, Sahar, and Shahrzad for App Store, Google Play (and in fact, all kinds of Google facilities, including Gmail), Yahoo! Mail, Edmodo, Audacity, Researchpublishing.net, Instagram, Amazon, eBay, and many other websites or free apps which most people take for granted.

As Shahrzad pointed out, “Lots of websites knowingly or unknowingly omit Iran from their list of countries.... Some of them don’t care; they say just choose another country. Like even RStudio doesn’t include Iran as its list of countries, but at least it lets you use the software if you choose another country, but some of them locate your IP and say your IP shows you are from Iran, so you aren’t allowed here. Like once I wanted to create a screencast using free online software, and I went to their website and there was this red sign (“no entry”) and ... it said, “We sincerely apologize but unfortunately we are unable to allow access from the nation you are currently located in as a result of restrictions under the United States’ Export Administration Act.”

Ms. Shojaee worried that Iranians could not download the free but all-important Java or Flash Player software. She said, “These are software which are basic to any kind of serious educational use of multimedia, but Iranians aren’t allowed to download them. Aspiring to e-learning without having access to such basic software is ridiculous. It’s like they’ve put us in a cage.” She further said, “Very often the limitations make it impossible for us to even fully understand or appreciate the potentials of certain technologies. Part of what makes technology suitable for education is its being ubiquitous, the fact that you can use it without even being very much aware of it. But we can never fully experience that due to such limitations.”

Shahrzad confided that she used to learn a lot through free online classes (e.g. cMOOCs), using websites such as Coursera. Sadly, that too came to an end. She explained thus, “They said something like, we’re sorry; you can’t join our courses anymore. If you want to know more, go to this website; and there were 5 countries listed which were banned, and one was Iran. ”

Zohreh said, “It’s not fair or democratic. When you talk of the whole world being a global village, that’s not the way a village is. It’s like the Boss is sitting there, and is saying like, okay, this *mahalle* (neighborhood) can’t use this stream of water; this *mahalle* can’t graze their sheep there. This is like that. There’s a lot of talk about democracy, but we do not really see democracy. Because if I’m not allowed to use this technology, then how can I develop my knowledge in this area? So this is a kind of deprivation. ... There are a lot of

doors which are closed to me and not to other people, so this means there's not a balance. It's not democratic."

As Shahrzad so aptly put it, "When they don't let you join courses, they don't let you become educated. It's the worst thing one can do to another country. And especially when it's free for other countries. I can't even come close to comprehending what they are doing. They stop people from gaining knowledge, and say that Iranians are supposedly terrorists because they're ignorant people, and then they don't let them gain knowledge! What are they doing?!"

An interesting point which emerged from the responses was that although the Iranian government also filters many websites, which many of the participants considered to be overly cautious, frustrating and sometimes even (in the case of Atiyeh and Shahrzad) infuriating, they seemed to be more indignant about the foreign censorship. There seemed to be a general idea that the Iranian government filtering followed some kind of logic, albeit a faulty one. Some participants even referred to the political unrest following the Iranian presidential elections of 2009, and how some Western governments, more particularly the US and Britain, attempted to manipulate the political situation through certain foreign social networks and news agencies. On the other hand, the foreign censoring was found to mainly address educational and occasionally entertainment purposes (as mentioned by Atiyeh, Fatemeh, Zohreh, Shahrzad, and Sahar) and was therefore perceived as illogical, biased and unfair. It was all the difference between a maddeningly strict mother and the big bully on the playground!

Furthermore, although the participants were unanimous in considering the national filtering to be overcautious to the extent of sometimes being ridiculous, all acknowledged that some amount of control was indispensable, especially due to cultural differences. What irritated them most about the national filtering was that it often led to the exclusion of websites which were perfectly faultless. Even there, however, all seemed united in believing that this was often due to the inadequacy and inaccuracy of the algorithms used for the censoring; such as fixating on certain key terms more likely to lead to sexually provocative or manipulative foreign websites (e.g. the key term "sex"). Dr. Pahlavani, for example, believed that "A lot of the screening is justified, but at other times it doesn't seem to make any sense. I think it's because the algorithms being used are sometimes too general, and that they're applied to some very general key terms." Zohreh mentioned that in her opinion "the filtering often protects us against harmful content." Shahrzad said, "The problem with the Iranian filtering system is that it filters things based on some key words or because of a bad history with that website; they stop the website because at a point of time it wasn't good for the country. But then [after the problem is resolved] they just don't stop filtering it. So I can [at least] understand what they're doing, but I don't understand what the United States is doing." Sahar said, "I think the websites which are censored don't necessarily have to do with a special political view; I think it has more to do with maybe the fact that those people who are doing it, they lack that kind of, you know, information, intelligence, or maybe English language proficiency to understand what things are really, truly negative stuff and what stuff are really useful." She also pointed out that many of the filtered websites projected such negative images of Iran that she would prefer not to use them, anyway.

Some of the participants also pointed out how ironic it was that the American government prevented Iranians from benefitting from so many websites, but also supported and actually disseminated so many anti-censorship software and VPNs among Iranians. Several noted that it made them feel unsafe using the Internet, convinced that they were being monitored by the American government and that their personal information was being collected, thus

violating their privacy. Golnaz and Shahrzad in particular voiced their conviction that these software were being used by the American government for data mining purposes.

Another issue mentioned by several of the participants was the bank sanctions imposed by western countries on Iran. This was seen as particularly relevant with regard to CALL professional development, since, as Atiyeh rightly pointed out, “[If] you want to go to a conference abroad, you have to pay online for a hotel, you have to pay for the conference registration fee.” In fact, Atiyeh found the bank sanctions to have such a negative impact that she claimed, “The bank sanctions have destroyed our education, our country.” She further believed that they were largely responsible for the book and software piracy in Iran. She underlined that she was completely against downloading books or music without paying royalties to the owner, but that the sanctions on Iranian banks had literally taken the choice out of the hands of the Iranians. Sahar, on the other hand, believed that these sanctions were largely responsible for the growth of plagiarism in Iranian writing. She claimed that “when our students can’t access those websites which provide articles, this not only makes them plagiarize more, but maybe even the information they are getting is not up-to-date or reliable.” She further added, “There was a time when I was really desperate to buy a good anti-plagiarism app, but because of the bank sanctions, there was no way I could pay for them, so I just had to use less effective ways of checking them. In other countries, the professors have access to such tools, but we’re being purposely denied them.”

As explained above, however, even without any bank restrictions and supposing that Iranians were to limit themselves wholly to free online tools, the limitations and restrictions imposed on them are enough to discourage any but the most determined. As Shahrzad puts it, “It stops people. I don’t stop easily, but many people would stop at the first try. And this will definitely have an effect on whether elearning and CALL are used in Iran or not, because we’re just getting used to all the technologies, and it’s [already] hard enough. We are not a nation born to it, so we have to get used to it. And then there are all these extra hardships to cope with.”

CALL in Context

The conditions faced by Iranian cybercitizens interested in e-learning and CALL offer a stark contrast to the usual “gift culture” (Mason & Renie, 2008) generally experienced on the Internet and among e-learning and CALL scholars. Perhaps it would not even be too much of an exaggeration to claim that the sociocultural hegemonies imposed on Iranian scholars have kept them years behind their rightful academic place. Under conditions where even the possibility of the author’s presenting her own work at the conference is still under question due to travel bans imposed on Iranians (and despite her status as an American-Iranian with dual citizenship), and when even as simple an act as paying registration fees or booking a hotel room online can seem surrounded by unsurmountable difficulties, attaining high standards of e-learning and CALL can often seem overly ambitious and unrealistic. Nevertheless, we have come a long way against all odds in the past decade, and I firmly believe that our merit in ultimately succeeding will be all the more for having done so despite such unmerited hardships.

In order to do so, however, it is imperative that we begin developing indigenous online and electronic materials, and cease to depend solely on already existing applications and websites. Although this may often seem like re-inventing the wheel, it is a necessary safeguard against the whims of politicians, as well as good pedagogy. Developing local communities of practice with shared interests can be beneficial in this regard, and can be equally helpful in avoiding cultural issues which often arise in using ready-made online materials. In the meantime, teachers should be taught to be tolerant of unexpected

difficulties in their way, and to be flexible in dealing with them, and should by wary of over-reliance on technologies which cannot be depended on.

Finally, despite the attempts of a relatively small minority to put up digital walls, establish bans, and spread discord among us, I am encouraged and upheld by my many heart-warming memories of the inspiring generosity and beautiful nature of the e-learning and CALL practitioners that I have known, not the least among them my CALL teachers, very few of whom I have ever met face-to-face; and yet they are an enduring testimony to the great things that can be achieved when there are no walls around your heart.

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Seeking a Standard Model for CALL

Bio data

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Abstract

This paper proposes the establishment of a "Standard Model of Computer Assisted Language Learning", i.e., a compilation of fundamental theories and practices that should always be considered when creating a local educational context in which language learning will succeed. This proposed model is inspired by the "Standard Model of Physics", which is the widely accepted understanding about how the fundamental particles and forces of the universe operate. The authors propose that the following concepts be considered to be the foundational components of the "Standard Model of CALL" which should shape the CALL/MALL context: (1) Reverse engineering of instructional requirements from outcome goals, (2) CALL instructional design based on affordances, (3) Constructivism embodied in student-centered active learning, (4) Communicative Language theory (CLT), (5) Authentic learning materials and experiences, (6) The $i + 1$ Input Hypothesis, (7) Task-Based Instructional Design, (8) Gamification, and (9) Long term use via curriculum integration. They collectively form a foundation and framework for common contextual elements that all CALL instructional design should incorporate.

Conference paper

Over the last several years, the authors have explored many aspects of Computer Assisted Language Learning (CALL) and Mobile Assisted Language Learning (MALL), beginning with straightforward experimental tests of various technologies, and subsequently exploring

instructional and curriculum design and educational engineering, including their 2014 CALL Journal publication characterizing language learning as a “complex dynamic system.”

This paper proposes the establishment of a “Standard Model of Computer Assisted Language Learning”, i.e., a compilation of fundamental theories and practices that should always be considered when creating a local educational context in which language learning will succeed. This proposed model is inspired by the “Standard Model of Physics”, which is the widely accepted understanding about how the fundamental particles and forces of the universe operate. Because it has been well-tested, it is the established model used by physicists to describe the context of the universe. A similar standard definition for well-tested CALL theory and practice could provide a valuable contextual framework for instructional and research design.

The authors propose that the following concepts be considered to be the foundational components of the “Standard Model of CALL” which should shape curriculum and instructional design for the CALL/MALL context:

1. Reverse engineering of instructional requirements from outcome goals
2. CALL instructional design based on affordances
3. Constructivism embodied in student-centered active learning
4. Communicative Language theory (CLT)
5. Authentic learning materials and experiences
6. The $i + 1$ Input Hypothesis
7. Task-Based Instructional Design
8. Gamification
9. Long term use via curriculum integration

Each of these nine foundational concepts is discussed below.

1. Reverse engineering of instructional requirements from outcome goals

Although many studies exist in the academic literature reporting innovative CALL/MALL instructional methodology, recent evidence indicates that many of these are one-off research projects and the technology-assisted learning tools are not used again in subsequent semesters and are not integrated into the long-term curriculum (Chwo, Marek & Wu, 2016). Kennedy and Levy (2009) criticized such CALL projects that are not integrated into the curriculum (p. 446).

On the other hand, Dörnyei (2014), advocated that curriculum design should begin with the agreed-upon learning outcomes resulting from marketplace research. Then, he said, curriculum designers should work backwards to reverse engineer learning activities that will allow students to achieve those outcomes. Finally, he said, technology should be selected that can facilitate those learning activities.

This orientation of educational engineering that will be sustained over multiple semesters or years contradicts the common research practice of short-term studies that jump from technology tool to tool in order to maximize the number of research publications (Chwo, Marek & Wu, 2016). The authors feel that it serves as a foundational concept in the proposed Standard Model of CALL.

2. CALL instructional design based on affordances

"Affordance" are "the qualities or properties of an object that define its possible uses or make clear how it can or should be used" (Merriam-Webster, N.D.). In CALL teaching, the affordances are the benefits or capabilities a given teaching tool or method offers.

Leaders in the CALL field have been advocating research to determine *affordances* that a given technology can provide toward achieving outcome goals, as opposed to experimental research into *differences*, comparing when a given technology is or is not used, and more (Colpaert, 2012). Affordance-based research is increasingly seen as superior to control-group experimental methodologies because reproduction of the findings of such experiments is often problematical (Marek & Wu, 2014).

CALL instructional design based on affordances means that teachers make instructional technology choices based on the benefits offered by the technology, which is the opposite of choosing a popular technology and trying to figure out how to use it in a given class. When partnered with educational engineering based on reverse engineering of required outcomes, discussed above, instructional design based on affordances is an important element of the proposed Standard Model of CALL.

3. Constructivism embodied in student-centered active learning

Constructivism is a philosophy about learning in which students evolve or "construct" knowledge through active learning, rather than simply memorizing it (Brandon & All, 2010; Bruning, Schraw & Norby, 2011). When the CALL instructional design based in constructivism uses student-centered active learning, it builds confidence, which in turn builds motivation, resulting in better language skills over the long term (Wu, Yen & Marek, 2011). The student-centered element provides students control over elements of their learning, within certain limitations, to allow them to follow their own interests, thus also increasing motivation.

Scaffolding is a vital tool used in student-centered active learning (Lee, 2003; Van de Pol, Volman, & Beishuizen, 2010). Teachers initially provide high levels of support as students perform early learning tasks, but progressively withdraw support to encourage students to be independent. As a result, student confidence and ability improve over time.

Constructivism both builds student motivation and creates deeper mental connections for the newly-learned knowledge and skills. As a result, is central to good instruction in the 21st century, and is an appropriate part of the proposed Standard Model of CALL.

4. Communicative Language theory (CLT)

Students rarely study a foreign language simply for self-improvement. Rather, they generally have utilitarian motivations, such as proficiency as a professional qualification. Communicative Language Teaching (CLT) dovetails well with this practical perspective because it emphasizes actual communication, such as between two people, even if that communication does not use perfect grammar or elevated vocabulary (Savignon & Wang, 2003). This focus on conveying meaning leads to considerably different instructional strategies, compared to teaching that emphasizes technical accuracy. Because it is more

relevant to the motivations of students, it is a fitting component of the proposed Standard Model of CALL.

5. Authentic learning materials and experiences

When learning a second or foreign language, even modest amounts of authentic interaction in the target language causes students to be more motivated, to have more confidence in what they have learned, and to be motivated for cross-cultural interaction (Kim, Rueckert, Kim, & Seo, 2013; Wu & Marek, 2010). Historically, suitable cross-cultural materials have been difficult for teachers to locate. By a decade ago, however, it became clear that use of the Internet and technology could provide these authentic materials and experiences to enrichment of EFL instruction (Liu & Chen, 2007).

Using authentic texts dovetails well with Constructivism and Communicative Language Theory, making it an appropriate component of the proposed Standard Model of CALL. Instructional designers must take great care in selecting authentic materials, however, because it is easy to select materials that are too difficult for students with limited language proficiency O'Donnell (2009). This concern leads to the next component of the proposed standard model.

6. The $i + 1$ Input Hypothesis

Krashen (1988, 2003) proposed the often-cited Input Hypothesis, in which language and literacy develop when learners understand the messages they receive, known as Comprehensible Input, and they learn subconsciously by filling in the gaps of occasional new vocabulary or correcting grammar to be better understood. Therefore, Krashen said teachers should challenge language learners with tasks that are no more than slightly beyond their current knowledge or ability. If students perceive learning assignments to be too hard, they are likely to become demotivated (Sakai & Kikuchi, 2009; Yu, 2011).

In Krashen's model, " i " is the learner's interlanguage, or the current proficiency level. Therefore, $i + 1$ symbolizes learning activities that are just beyond the learner's current proficiency. This instructional technique of continually challenging the students, but taking care to ensure that the new learning task is only slightly beyond the previous one, preserves motivation and makes learning more natural making it a sound addition to the Standard Model of CALL.

7. Task-Based Instructional Design

The authors have read many CALL studies in which intriguing technology is offered to students, but pitfalls have made themselves clear. One notable issue is that students are not always given specific tasks to accomplish with the chosen technology, leaving them uncertain as to how to proceed, or how to achieve the most beneficial outcomes (Chwo, Marek & Wu, 2016).

Task-based Language Teaching (TBLT) was developed by Candlin and Murphy (1987) as an outgrowth of Communicative Language Theory (Richards, 2006). In TBLT, the *task* should be the basic unit of work in language learning instructional design (Ellis, 2009). TBLT tasks must produce measurable results that can be evaluated objectively, not subjectively. The Ministry of Education in China has recently developed a curriculum based on TBLT which, as a result, is expected to become a major foreign language teacher mode in China (Zhang & Li, 2014).

Willis (1996) recommended that TBLT designs employ learning tasks that are purposeful, problem-oriented, or outcome-driven. In this way, they become equivalent to authentic,

real world activities, thus promoting meaningful communication and making the language learning context positive and motivating.

The authors propose, therefore, that the standard model of CALL should include tasks as the basic building block of CALL lesson plans.

8. Gamification

Many scholars have found success in turning drill and repetition into a game, a process called "Gamification" (Hamari, Koivisto & Sarsa, 2014). The affordances provided by Gamification are that students will enjoy playing the game, which motivates them to play more. In playing many times, they repeat a cycle of learning, making it likely that they can use the learned vocabulary when needed. "Winning the game" means moving to the next higher level, but also equates with mastery of the particular learning task.

Gamification can be used in many ways, including via computer, mobile device, or even in-person classroom activities. The specific area of gamification via mobile devices, however, has proven to be more suitable for drill and repetition and less for the introduction of new knowledge because students often use their mobile devices in brief moments of free time (Chwo, Marek & Wu, 2016). Thus, activities requiring deep engagement may not be as suitable for smartphone use. This suggests that introduction of new knowledge via MALL may be less effective, because it requires more sustained attention by students, than use of MALL for shorter but repeated learning tasks that lead to mastery, such as that typically found in gamified learning.

Therefore, while the authors believe that gamification can play an important part in the proposed standard model of CALL, the authors caution that the specific of the gamification must be carefully attuned to the students interests and lifestyles.

9. Long term use (Hawthorne Effect and curriculum integration)

The final element in the proposed standard model of CALL is that the instructional use of technology, once carefully engineered, must be suitable for use over an extended period of time, with appropriate evaluation and evolution. Kennedy and Levy (2009) contrasted this longer-term use with short-term one-off research projects into instructional techniques that are not intended to be reused. This concept is called *Sustainability* or *Sustainable Design* (Levy, 1997) meaning building systematically on past implementations of technology rather than jumping from one new technological innovation after another.

Technology for CALL that is engineered with the intent of long-term use is certainly in the best interests of CALL students, and should be a focus of all CALL instructional design (Chwo, Marek & Wu, 2016).

CALL in Context

The XVIIIth International CALL Research conference theme emphasizes the importance of local context, understanding that local factors are crucial in understanding CALL success. There are innumerable local environmental or contextual factors that can affect the outcomes of CALL research and learning. They include conceptual framework, physical environment, instructional design, technology choices, specific learning tasks, and other contextual elements.

A key part of this local context is the curriculum and instructional design, which the authors' literature reviews have often found to be flawed, meaning that the research outcomes may

also be flawed and not reproducible. The authors suggest that creating a sound local teaching and learning context requires a sound theoretical foundation, and the proposed "Standard Model of CALL" translates these foundations into theory-based practice.

The "Standard Model of CALL" proposed herein addresses several of the questions in the call for papers of the conference. The nine elements of the standard model inform curriculum and instructional design, in turn forging the context for making meaning by language students. They guide when and how technology is used, the kinds of learning tasks for which technology is used, and how the learning tasks are administered and performed. As such, they provide a foundation and framework for common contextual elements that all CALL instructional design should incorporate.

While the emphasis of CALL research often focuses on the technology, the authors hope that this discussion of the theory-based instructional context can lead to more effective instructional design, greater student success, and better research outcomes.

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CALL integration into Modern Languages Courses in Brazil: teachers' views on the role of context

Bio data



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Abstract

Integration is sine qua non for CALL to exist. In educational settings it might be said to be a precursor to normalization or to ecological change. However, it is still a challenge. The objective of this presentation is to report the results of a study on the integration of CALL in the classroom of Modern Languages courses in the state of Paraná, Brazil, specifically the results related to context. This mixed methods study adopted a sequential explanatory design that had two distinct phases: a first phase with a quantitative approach and a second phase with a qualitative approach. The results of both phases provided the final inferences. Rogers' Diffusion of Innovations Theory and Hong's Spherical Model of L2 Teachers' Integration of CALL Technology into the Classroom were the theoretical and analytical models that respectively guided the research. Since integration is a complex issue, the option was for a mixed methods study that would provide a comprehensive picture of all the questions approached and a deeper understanding of the teachers' views. All the research objectives were achieved and several other findings were made. In this presentation the focus will be specifically on the results and discoveries concerning the contextual factors. These factors can comprise different elements, they can be seen as physical or intangible or they can be categorized as material conditions or non-material conditions. The factors analysed in this study were accessibility / availability and the conditions of the computers teachers and students use, the type of internet connection, the department view on technology, and the technological climate . The results of the quantitative phase showed that individual factors and contextual factors are important predictors of CALL integration. In the qualitative phase five categories emerged after coding the data and one of them was: the context of educational institutions: an obstacle to be overcome for CALL integration. The final inferences provided a clearer picture of CALL in the Modern Languages courses in

Paraná. And in this picture contextual factors emerged as relevant elements for CALL integration in the two phases of the research. By analysing the teachers' views it was possible to see the impact that context still has. Not only these results corroborated what previous studies in education and in the CALL field have already shown, but they also indicated possible solutions and/or strategies that can be adopted by language teachers in other settings in Brazil or abroad.

Conference paper

Integration is sine qua non for CALL to exist (McCarthy, 1999). In educational settings it might be said to be a precursor to normalization or to ecological change (Levy & Stockwell, 2006). However, it is still a challenge and an innovation in several contexts. In Brazil, CALL is not common knowledge among the majority of teachers and it is still not present in all Brazilian universities (Martins, 2015).

The objective of this paper is to report the results of a study on the integration of CALL in the classroom of Modern Languages courses in the state of Paraná, Brazil. The focus will be the results related to the contextual factors.

The study was conducted with Foreign Language (FL) teachers from higher education due to the central role they play in the education of future language teachers. The general objective of the study was to analyse what makes higher education FL teachers integrate CALL into their classroom. One of the specific objectives was to identify if contextual factors influence the different uses of technology.

This mixed methods study adopted a sequential explanatory design that had two distinct phases: a first phase with a quantitative approach and a second phase with a qualitative approach. The results of both phases provided the final inferences. Rogers' (1995) Diffusion of Innovations Theory and Hong's (2009) Spherical Model of L2 Teachers' Integration of CALL Technology into the Classroom were the theoretical and analytical models that respectively guided the research. The use of technology in the classroom was not considered as a unitary construct, but rather multifaceted. The aim was to avoid analytical constraints in cases where teachers use technology for different instructional purposes.

Since integration is a complex issue, the option was for a mixed methods study that would provide a comprehensive picture of all the questions approached and a deeper understanding of the teachers' views. All the research objectives were achieved and several other findings were made.

The quantitative phase of the study used a survey questionnaire that was answered by 152 teachers from 33 public and private institutions throughout the state of Paraná from December 2012 to March 2013. Descriptive statistics and multivariate analysis methods were used to analyse the data. A series of logistic and linear regression models were also estimated to examine the relationship between the three sets of factors from the Spherical Model - CALL teacher education, individual factors, contextual factors - and the multifaceted uses of technology by teachers.

In this paper the focus is specifically on the results and discoveries concerning the contextual factors. These factors can comprise different elements, they can be seen as physical or intangible or they can be categorized as material conditions or non-material conditions. The factors analysed in this study were accessibility / availability and the

conditions of the computers teachers and students use, the type of internet connection, the department view on technology and the technological climate.

The results concerning technology identified four different uses: (1) Technology for Delivering Instruction (TDI); (2) Technology for Class Preparation (TCP); (3) Teacher-directed Student use of Technology to Perform Tasks (STPT); and (4) Teacher-directed Student use of Technology during Class Time (STCT).

The results of the descriptive analysis of the questionnaire that comprised the independent variable *Contextual Factors* showed that 48 % of the teachers work in classrooms that have computers for them. Nevertheless, only 7.9 % of the classrooms have computers for student use. Most departments (84 %) have an average of two labs, with approximately 20 computers in each. In 65% of the cases these computers have high-speed internet connection. But only in 31 % of these labs, students can access them whenever they want to use them. There are approximately 1.4 technicians in 53 % of the institutions. However, teachers have no technical support in 38 % of the institutions. The attitude of the departments towards technology is moderate: mean score = 3.5 (in a 5-point Likert scale).

The technology environment in the institutions is not the ideal. Most teachers do not have classrooms equipped with computers for them and/or for their students or full time technical support. For 52% of the teachers it is necessary to take their equipment to the classrooms if they want to use it in their classes. The computer lab model still prevails and this takes time and planning since teachers and students have to leave their classrooms to go to the lab. Student access to these labs is still restricted when it is not class time. It is clear the need to have more investment in context in most of the institutions investigated.

Three multiple linear regression models were fitted to analyse the impact of the *Contextual Factors* set on the TCP, STPT and STCT uses. Two models were statistically significant: STPT use (p-value = 0.004) and STCT use (p-value = 0.003).

Results showed that the higher the number of technicians and the greater the department support, the more likely teachers are to ask their students to use technology to do their assignments. It can be inferred that teachers need technical support and department encouragement to ask their students to do these kinds of tasks. Another result was that the more labs the department has, the more likely teachers are to ask students to use technology during class time. The explanation is that for teachers to ask their students to use technology during class time, they need to have the necessary equipment available for use, which normally happens in Brazil only in computer labs.

TCP use (p-value=0.31) was not a statistically significant model. The conclusion is that contextual factors do not influence teachers' use of technology for class preparation. This result was expected since teachers in Brazil do not generally prepare for their class at their institutions. This is done at home.

A logistic regression model was developed to analyse the impact of the variables from the *Contextual Factors* set on TDI use. The model was statistically significant. (p-value = 0.004). This was an expected result since teachers need to have the technological infrastructure to deliver instruction using ICTs. Results showed that when there is a computer available in the classroom, the odds of teachers using technology to deliver instruction is 2.48 higher than when there is no computer. Technology availability facilitates, and is an impetus for TDI use.

The technological climate (overall teachers' technology education, i.e. the total number of hours that the FL school teachers devoted to courses and workshops during their pre- and in-service period divided by the number of teachers in each school) was another contextual feature to be analysed. The objective was to determine if the technological climate of the institution influenced the uses of technology. However, because of the small number ($M = 4.6$) of teachers in each institution and the low percentage of prior technology education experience this was not possible to be determined.

One important conclusion from the quantitative phase of the study was that individual factors and contextual factors are important predictors of teachers' four uses of technology, that is, of CALL integration.

In the qualitative phase 16 semi-structured interviews were conducted with teachers from 12 higher education institutions located in eight different cities throughout the state. Data collection took place from April to August 2014. The aim was to explain and interpret the quantitative findings. For this second phase participants were selected according to the results of the quantitative phase and to Rogers' (1995) Individual Innovativeness Theory.

The constant comparative method and the software MAXQDA were used to analyse the data. After coding the data five categories emerged: the dimensions of use of CALL; the context of educational institutions: obstacle to be overcome for CALL integration; teachers' digital literacy: the prevalence of the informal; teacher education in Modern Languages courses: the negligence of the CALL dimension; and the influence of students in teachers' CALL uses.

The category "the context of educational institutions: obstacle to be overcome for CALL integration" revealed the importance contextual factors have for CALL integration. The results obtained in the quantitative phase were corroborated in the interviews and there were several additional findings. The location of the institutions, the difficulty of reaching them, lack of financial resources for buying appropriate equipment, lack of physical space, internet problems (not reliable; slow; limited access; password requirements; etc.); lack of equipment maintenance and/or technical support were mentioned by respondents.

The availability of equipment in the classrooms emerged as an important factor for a greater use of technology by teachers and students. As to the use of the labs respondents reported that their low use was related to the number of problems they faced, such as technical failures, old equipment or equipment that is not working well, lack of computers for all the students, the need to book them, among others.

It is clear that what teachers need is to have equipment available for their students to use. Only then it will be possible to demand such use from them, whether in laboratories or in the classroom. Another reason reported by teachers for practically not asking their students to do tasks with technology was their lack of knowledge about technology itself, about what to ask students to do. Perhaps with technical and departmental support, in terms of courses, this could be solved.

The issues raised by the teachers in the interviews were reported by Levy (1997) in the 1990s. Levy and Stockwell (2006) and Chambers and Bax (2006) also include them among the factors that they consider to be critical or essential to CALL normalization.

The process of change, of innovation diffusion, however, is slow in universities and it rarely accompanies the same rhythm of the advances that occur in society. In any case, there is an urgent need for educational institutions to invest and develop a policy on how to give

teachers technology support. The role of the institution is, at the very least, to provide the basic conditions and the necessary infrastructure so that teachers can focus on the pedagogical part of CALL integration with the certainty that their work will not be done in vain and that they will not waste their students' time in class.

Rogers' (1995) Diffusion of Innovations Theory was the theoretical model that guided this study. This theory incorporates several sub-theories, each focusing on different elements of the diffusion process. Two of them were used here: The Individual Innovativeness Theory and the Innovation Decision Process Theory.

The Individual Innovativeness Theory was used to select the participants for the qualitative phase of the study. It allowed the CALL integration process to be analysed through the eyes of individual adopters represented by the members of Rogers's (1995) five categories of adopters: Innovators, Early Adopters, Early Majority, Late Majority and Laggards. According to this theory, some individuals are more innovative than others and will adopt an innovation earlier than the majority of the group. That is to say, some individuals have more or less of innovativeness than others.

By using the adopter categories for the sample selection it was possible to maintain a proportion similar to that of the Individual Innovativeness Theory, but focusing on the voice of the mainstream, that is, Early Majority, Late Majority and Laggards. The aim was to avoid a pro-technology bias that could occur in the selection of participants in a study of this type.

The use of Rogers' (1995) theory in the analysis and interpretation of the results also allowed seeing that the degree of individual innovativeness generates patterns in the process of CALL integration. It was possible to outline some of the individual characteristics of the teachers in relation to technology use. The objective was not to determine the adopters' characteristics in detail. But when one realizes that these characteristics can be observed and categorized, then it is possible to focus on specific strategies to deal with each group and to meet their needs, thus increasing CALL integration. In addition, there is the possibility to anticipate and focus on specific groups.

The technological climate could not be analysed in the quantitative phase. The use of the adopter categories in the qualitative phase, however, showed that this is an important feature to be investigated. Respondents reported how the influence of Innovators or Early Adopters can help or stimulate them to use technology more frequently in their institutions.

The Innovation Decision Process Theory made it possible to verify that CALL integration is a process and depending on the use of technology and / or on the activities it may be in one of the five stages established by the theory: (1) Knowledge; (2) Persuasion; (3) Decision; (4) Implementation and (5) Confirmation. Although this was not done in detail in this study because it was not its objective, the identification of each of these stages also helps in the development of more effective strategies for the integration of CALL.

Bax's (2003) normalization concept, one of the most influential views in the CALL field (Hubbard, 2009), is based on Rogers' (1995) Diffusion of Innovations Theory. In the present study the option was to have Rogers' (1995) Diffusion of Innovations Theory as the theoretical framework since it is the foundation of the normalization concept, but at the same time the focus was kept on it.

The integration of the results from the two phases confirmed the importance of context for CALL integration. Based on these results some recommendations or practical implications can be discussed. Since most of the institutions investigated do not do not generally provide

adequate infrastructure (probably a problem related to the lack of funds) a possible solution would be for them to invest in robust, reliable and high-speed internet.

An investment in internet connection would allow students and teachers to use their own equipment, which is becoming more and more common practice. This would avoid the need to leave the classrooms to go to the labs and would minimize technical problems, since each person would be responsible for his own equipment. Bringing technology into classrooms seems to be the most viable path, so the first step is then the availability of internet connection. Depending on the context, obviously, not all students would have conditions to bring the material, but working in pairs is always an option, until it is possible for institutions to acquire equipment for everyone.

The use of Rogers' (1995) adopter categories helped to characterize language teachers. It provided elements that make it possible to understand their needs in relation to the use of technology. It is possible to try to develop strategies so that CALL integration works. One of these strategies is related to the so-called technological climate of institutions.

The reports in the interviews of the influence of Innovators or Early Adopters in some of the educational institutions showed the importance of the technological climate in the context of this study. Universities or course departments could then identify the Innovators and Early Adopters so that their motivation and skills could inspire and encourage other language teachers and changes could occur.

This, however, should not be the only strategy, it is very fragile. But, together with other procedures, it can help to a more effective integration of CALL. The responsibility for integrating CALL, then, should not fall only in the hands of language teachers, even if they are Innovators or Early Adopters. It is necessary that the institutions offer conditions for teachers to act, and this includes not only the infrastructure, but also time. The first steps to integration can begin in the language departments. A joint movement of language departments, language teachers and the institutions in general is likely to be more successful than individual initiatives.

The final inferences of the present study provided a clearer picture of CALL in the Modern Languages courses in Paraná. And in this picture contextual factors emerged as relevant elements for CALL integration in the two phases of the research. By analysing the teachers' views it was possible to see the impact that context still has. Not only these results corroborated what previous studies in education and in the CALL field have already shown, but they also indicated possible solutions and/or strategies that can be adopted by language teachers in other settings in Brazil or abroad.

CALL in Context

The XVIIIth International CALL Research Conference focus on the role of context. The present study shows the results of an investigation on the integration of CALL in the classroom of Modern Languages courses in the state of Paraná, Brazil, specifically the results related to context. Results showed that contextual factors are important predictors of CALL integration. It fits, therefore, within the conference theme because its focus is exactly on the role of contextual factors in the CALL field. The context investigated is that of higher education in a state in Brazil, a very specific context. Nevertheless, it provides further data and expands the evidence base about the influence of context on language teachers to integrate technology in their classrooms. It was possible to corroborate previous studies in education and in the CALL field about the importance of context and to show the

impact that it still has. Context shapes the design of the learning environment. It was clear in the results that if teachers had equipped classrooms and available equipment for themselves and their students, their use of technology would be greater and more frequent. The issues raised in the study were reported by Levy (1997) in the 1990s, what shows how far from normalization CALL is here and how slow is the process of change in higher education. Maybe in other countries this is not an obstacle, however, this still is the reality in the context investigated. The use of Rogers' (1995) Individual Innovativeness Theory is a possibility to detect how different teachers are in relation to the adoption of technology. Rogers' (1995) adopter categories can also help to develop specific strategies to deal with each group and to meet their needs. The results obtained here are not different from previous studies but show that the problems and obstacles remain the same. There is the need to change the strategies, to do something different so that CALL integration really happens. Some of the solutions recommended are very basic and practical (e.g. investment in internet connection) but are feasible and can be adopted in other settings in Brazil and maybe abroad.

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Cultural Contextualization: Using mobile tools to bring the local context of the learner into the FL classroom
Bio data

Kerrie McKim obtained a Ph.D. in Applied Linguistics specializing in Second Language Acquisition from the Université de Grenoble (France). She has taught French as a Foreign Language in the United States as well as English to Speakers of Other Languages in the United States and in France. Her research interests focus on the integration of websites, games, social media, and mobile tools in language learning.

Abstract

While modern technology lends itself to internationalization and connecting language learners across the globe; as Trace, Hudson, and Brown (2015) point out, “this movement [to internationalize] should not come at the expense of the local context.” This paper explores a learner-centered teaching design that emphasizes the local context of the learner through the realization of technology-mediated learning tasks. The ongoing research and development of this design, taking place in an elementary French language course, is based on approaches in task-based learning (TBL) and mobile-assisted language learning (MALL). The course is setup with a blended learning approach where learners complete tasks outside of class using their mobile devices which is followed by the integration of these messages into the face-to-face tasks and discussions. Given the nature of elementary language courses and the projected outcomes focused on the ability to describe oneself and hold a basic conversation with an L1 speaker, tasks are designed for learners to post messages (including audio and visual components) relating to their daily lives. At the end of the course, learners are assessed for their language performance through the completion of recorded conversational tasks.

Conference paper

Introduction

In this 21st-century world focused on globalization, one mustn't forget the local context of the learner. In the language learning classroom, one of the main goals is learning about the target culture(s). However, one mustn't forget about the learner's local context while completing tasks and activities to learn about the target language and culture. Looking at the Common European Framework of Reference (CEFR) and the American Council on the Teaching of Foreign Languages (ACTFL) can-do statements, one can see the importance of being able to communicate about one's personal local context. Mobile devices and applications provide a space for sharing about one's personal life and daily habits giving learners the opportunity to integrate the local context into their learning while preparing them for future discussions with native speakers about the target culture. This conference paper presents a mobile-assisted

language learning instructional design that incorporates the learner's local context into his/her learning while learning about the target culture.

Focus on the needs of the novice-intermediate learner

The local context can be seen as the combination of the location, individual learners, and the needs of the learners. The needs of elementary and intermediate language learners can be seen through the ACTFL and CEFR can-do statements. These statements tend to focus on being able to describe one's personal life and immediate environment. In ACTFL's can-do statements for novice levels (ACTFL, 2015), one finds statements including "I can present information about myself" (novice-low, novice-mid); "I can often understand words, phrases, and simple sentences related to everyday life" (novice high). The CEFR provides its own set of can-do statements that includes basic user (level A) statements such as "can introduce him/herself and others and can ask and answer questions about personal details" (level A1) and "can understand sentences [...] related to areas of most immediate relevance (e.g. very basic personal and family information [...])" (level A2) as well as "can describe in simple terms aspects of his/her background, immediate environment and matters in areas of immediate need." (level A2) (Council of Europe, 2001).

Blended Learning and Mobile-mediated TBLT

In the field of Task-based language teaching (TBLT), researchers tend to agree that a task focuses on meaning rather than on language use. Some researchers (see Ellis, 2003; Skehan, 1996) also emphasize real-world application or the resemblance to real-world communicative tasks. Chapelle (2003) points out the important role of topics in Internet tasks; stating that Internet task topics must be relevant, up to date, and interesting to the learners. Using personal topics related to the learners makes them intrinsically relevant to the learners and meets their immediate language needs as well as the criteria set out by CEFL and ACTFL for lower-level language learners.

In the field of Mobile-Assisted Language Learning (MALL), mobile devices respond to the ideas of TBLT in that they can provide opportunities for real-world communication. As Reinders (2010) point out, "phones are social tools that facilitate authentic and relevant communication and collaboration among learners" (p.20) The use of mobile tools allows social interaction to take place through the posting of personal messages. Burston (2015) adds that mobile devices can be used with real-world activities having learners do tasks that incorporate personal artefacts. These artifacts can include incorporating photos, audio and video recordings to the learners' personal postings.

Mobile devices are well suited to blended learning language courses. While there is no one definition for "hybrid learning" or "blended learning", the general consensus tends to include a portion of the instruction that takes place in face-to-face and a portion of the instruction that takes place outside of the classroom instructional hours. Stockwell (2012) defines blended learning environments as "an environment in which technology is used as part of the curriculum in conjunction with face-to-face activities, but there is a large degree of variation in how the role of technology is described" (p. 73)

Context & Instructional Design

This instructional design is being implemented in elementary and intermediate French language courses in the United States. Learners use their mobile devices inside and outside of class in a blended learning environment. The course design is set up for learners to post messages online during the distance phase of the course. Messages relate to the personal, daily lives of the learners in the local context. The posted messages are then integrated into the class sessions as the content of the messages becomes the topic of conversation during

classroom tasks and discussions. Learners have the opportunity to compare and contrast their personal lives and context with that of the target culture(s).

Learners use mobile devices and social learning tools (*ie.* Edmodo) to communicate with their classmates in the same way that they communicate with their friends and family on social media sites in their personal lives. The tasks completed focus on the main goal of being able to describe oneself and one's personal life with the end goal of being able to hold a basic conversation and have a better understanding of the French-speaking world.

Goals of the elementary and intermediate French language courses fall in line with ACTFL and CEFR can-do statements and include goals such as:

- To be able to hold a basic conversation with a native French speaker
- To be able to describe oneself including one's likes and dislikes, hobbies, hopes and dreams, and career and educational goals
- To have a better understanding of France and the Francophone World

Tasks completed online are related to the learners' daily lives and include tasks such as the following:

- Post a message about your typical breakfast with picture(s) of the meal and a written description of your meal.
- Upload a picture of video showcasing your participating in your favorite leisure activities and describe them.
- Post a message (and images) to share what activities you completed over the weekend.

Following the online posting of personal messages outside of class, the class members break into small groups to compare and contrast their personal likes and dislikes, routines, favorite hobbies, etc. Target culture videos and websites are incorporated to then compare with the target culture. Students refer to the posted messages and discuss together the similarities and differences between the habits of the learners in their local context and the habits of the native speakers in the target culture.

The conference presentation will present data from the online tasks, in class tasks, and discuss the link between the two and the implication of the tasks focused on the local context in the students' overall learning.

CALL in Context

This conference paper presents a mobile language learning instructional design and reflects upon the conference question regarding how the local context shapes the design of the learning environment.

Flipped classrooms integrating mobile devices are an ideal solution for incorporating the local context of the learner into the language learning classroom. In the concept of a flipped classroom, learners prepare materials online before coming to class which is devoted to classroom discussions. In this design, the distance phase is devoted to posting online messages on a social learning application. The learners then use these posted messages to initiate group discussions during the face-to-face component of the course.

This instructional design incorporates ideas coming from a task-based approach with a sociocultural perspective. Learners complete tasks online and in class that relate to the local context and their personal lives. This learner-centered design which uses mobile devices to personalize language learning fits in the realm of a sociocultural perspective as

learners are active participants in the learning process and engaging in personal meaningful interactions with their peers.

Building on the affordances of mobile devices and social learning, this practice uses social learning applications to incorporate the local context into the foreign language classroom. Tasks being completed outside class through the social learning tools allow learners to integrate the local context by uploading videos and photos (using the multimedia functions of their devices) and writing personal messages. These messages lead to discussions in class relating to their personal lives as well as comparing and contrasting their lives to the target culture. Using a learner-centered design that integrates these mobile tools, their online postings (reflecting the local context) shape the in-class discussions and the overall learning environment.

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The Design of English as a Foreign Language Learning through a Language-Learning Digital Game Shaped by the Social-Cultural Context of Thailand

Bio data



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Abstract

As the only country which was not historically colonized by the western power in the Southeast Asia, Thailand is distinguished by the fact English is a totally foreign language. Once Thailand embraces the English world in terms of tourism, technology, and social development, the significant issue of inadequate English competency has become a prominent issue. Arguably, this is due to limitations of English as a Foreign Language (EFL) learning in formal settings. Digital game-based language learning (DGBLL) has the potential to be a solution for poor student outcomes and could act as a motivator for EFL students. However, little is known about which designs could benefit learning outcomes and fit learners in this particular context. This project appraises a language-learning digital game (LLDG) specifically designed for English language practice, *Trace Effects*, as the main resource for EFL learners' independent learning outside of the formal class setting. The findings show that the proficiency test results between the control group and the experimental group at the pre-test show no statistical difference. Notwithstanding, post-test scores of the students in the experimental group are significantly greater than their own pre-test score and higher than the post-test score of the control group. The students recognize the LLDG as ideal edutainment for collaborative learning as they prefer to get either instruction from a teacher or support from friends throughout the gaming. Although having a positive attitude towards the game, an unwillingness to adjust the gaming skill and to explore the sophisticated physical game design were the main factors for the lack of the game progress. This discouraged students to continue the game play. To be successful in promoting LLDG as an informal learning alternative, the EFL learners who are familiar with learning from a textbook and have limited exposure to a real English communication must get a direct linguistic substance within an effortless game structure. The findings highlight that the learners' game literacy, the familiarity of the traditional instruction, the background of the exposure to English language interaction, and their way of life influence the learning motivation. These findings are closely related to the social-cultural context of Thailand. On one hand, the content of LLDG should be context-dependent, namely, the game related to

the learners' reality of life. On the other hand, the process of using LLDG is relying on the learners' learning style which is determined by their cultural value and educational perception rather than the technology itself. The paper will raise a significant issue that the design of LLDG must be appropriate to the context of learning and the cultural values of EFL learners in Thailand.

Conference paper

Introduction

In this era where knowledge and information become wireless as well as the entire world turns borderless, the English language plays a role as a multinational medium for communication and explicitly has an impact on individuals (i.e. for one's career advancement, limitless business networking, daily communication, etc.). An effective English language learning strategy, therefore, makes a great contribution to a growth of a country, especially a country where English is not the first language and people lack interaction opportunity like Thailand. It is worth paying close attention in English as a Foreign Language (EFL) teaching and learning perspective that affects the way non-native English speakers overcoming their first language limit. Thanks to globalization, digital technology has eliminated the problem of the lack of English exposure in terms of input skills obtainable through digital platforms. Among a bundle of choices, Digital game-based language learning (DGBLL) is reasonable for the learners in the context because of the nature of digital games that are motivating (e.g. Sykes & Reinhardt, 2013), engaging (e.g. Chik, 2014), and able to minimize EFL learners' barriers for learning English (e.g. Reinders & Wattana, 2015).

However, the learning process itself is abstract and varies with a personal condition, a well-matched resource and learning pedagogy in a particular context is needed for EFL learners' linguistic achievement. This article aims to discuss parts of the results from a research study on an out-of-class practice with a language-learning digital game (LLDG) of a group of English as a foreign language (EFL) learners in the Thai context, regarding its impact on the learners' listening proficiency and the influence of the context of the study on learners' attitudes towards the LLDG.

Method

The data collection consisted of three stages: pre-intervention, intervention, and post-intervention. The participants were grouped into Group A (control group) and Group B (experimental group).

At the pre-intervention stage, both groups were invited to an introduction session for information and having a pre-test of English listening proficiency. Listening skill is part of a communicative skill that Thai people lack exposure and, as an input skill, it has potential to improve within a short period of time. The listening section with 100 items of a re-designed TOEIC[®] Test was chosen to test the participants' proficiency before and after the intervention. The decision to use TOEIC[®] Test was based on two reasons: (1) the requirement of TOEIC[®] score as a proof of English Proficiency level of employees in workplaces across Thailand; (2) its multiple choice option among all of the standard English proficiency test so that the test result will not be influenced by other skills i.e. writing. Additionally, all of the participants were asked to complete two sets of questionnaires. One set was about learner autonomy scale. Another set covered the participants' demographic data and information regarding their language background, attitudes on the English language, self-assessment of English proficiency, information and communication

technology (ICT) habits and computer-assisted language learning (CALL) experiences, familiarity with a digital game context, and their expectations towards an LLDG.

At the intervention stage of 8 weeks, Group A participants were not assigned any extramural activity while Group B was assigned a language practice outside class schedule with a selected LLDG. Group B participants received a gaming record booklet and we encourage them to note down their practice track. '*Trace Effects*', an adventure role-playing game, was chosen to be used as the main material for the intervention. The game is a single-player game that can be accessible online and offline using CD-Rom. Players will take the role of *Trace*, a university student that is trying to return to his year. Through seven chapters of his adventures across the US, *Trace* must complete sets of missions e.g. gathering information, collecting items, and completing quests using appropriate language prompts to interact with non-player characters (NPCs) in the game as shown in figure 1.

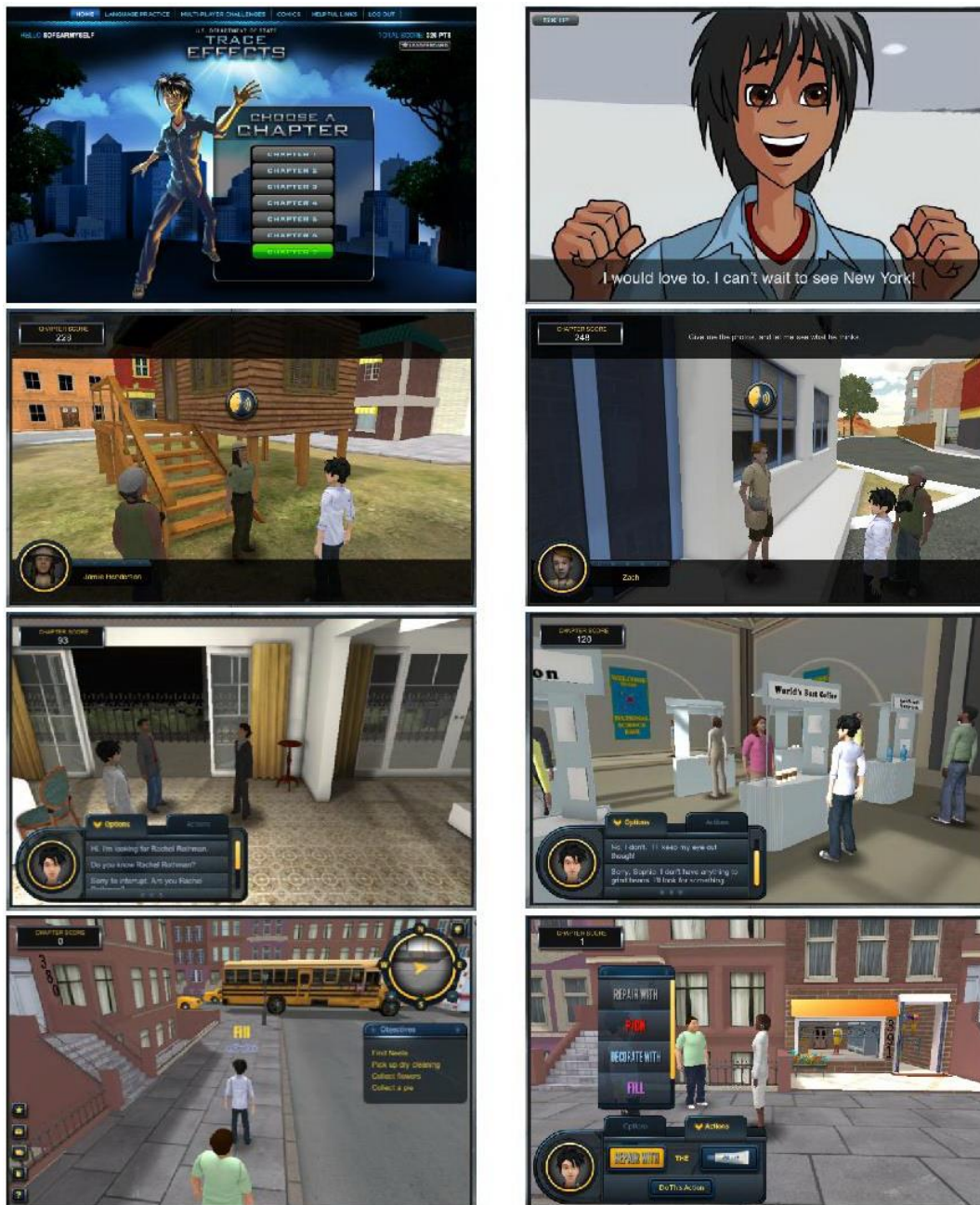


Figure 1. Example screenshots of *Trace Effects*

At the post-intervention stage, all participants in both groups were asked to have a post-test on English listening skill and complete another set of a questionnaire for learner autonomy. Study group B was additionally asked to complete a post-intervention questionnaire on the change in attitudes through their experiences on DGBLL. This article aimed to report a partial data from the study focusing on the impact of the LLDG on the learners' listening skill and the learners' attitudes towards the LLDG.

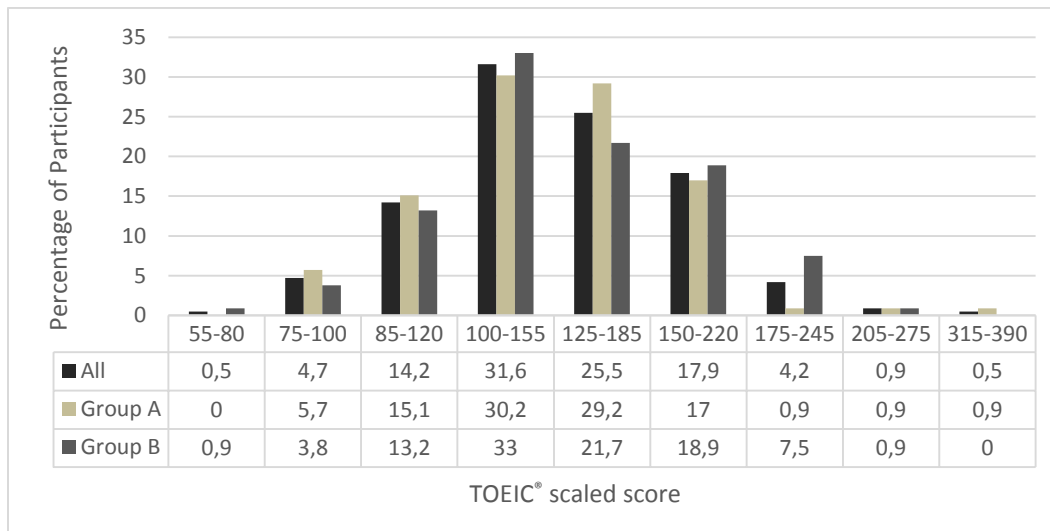
Participants

The study was conducted at a public university in Bangkok vicinity of Thailand. Due to limits of time and resources, the participants were randomly selected from non-native English

speaking students enrolling in the first year of non-English major at the undergraduate level with an age range of 18 years or over. The first-year students were targeted for the study to guarantee their background of the English language study of the minimum twelve years as regulated by national education policy ("National Education Act B.E. 2542 (1999) and Amendments (Second National Education Act B.E. 2545 (2002)," 2002). The study purposefully targets the Communicative English course that focuses on communication skills to ensure that listening skill practices occur in the formal class setting. Five intact classes of three lecturers who consented to participate in the study met the requirement and we got 212 participants giving consent to participate. Based on students' name lists, the students in the first half of each class were assigned to Group A (control group) and those in the second half were assigned to Group B (experimental group). Therefore, the sample group for the study consisted of 106 students in Group A (85 females and 21 males) and 106 students in Group B (90 females and 16 males). The age pattern of the participants ranged between 19 and 22, the average age was 19.64 (Group A $M=19.76$, and Group B $M= 19.56$)

Background English listening competency levels of the participants reflecting through the TOEIC® scaled score shows that 100-155 (31.6%) is the score range with the highest numbers of the students, followed by 125-185 (25.5%) and 150-220 (17.9%). The lowest score range is as low as at 55-80 (0.5%) while the 0.5% of the students with the highest score range at 315-390. This fact reveals that the English proficiency of the students is far from the professional requirement of at least 275 scale score (calculated from 50% of 550).

Figure 2. English listening proficiency level of the participants at the pre-test

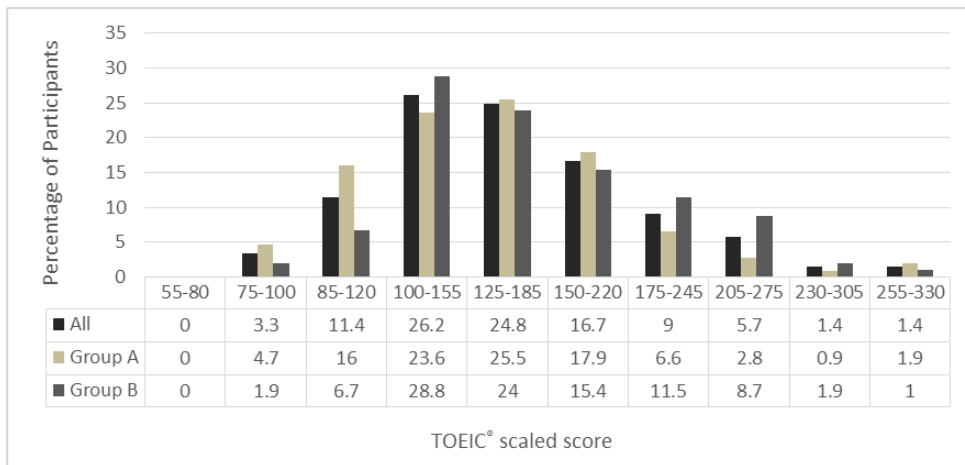


Note. $N= 212$ (All), $N= 106$ (Group A), $N= 106$ (Group B)

Results

After eight weeks of the intervention, students in both groups were asked to have a listening proficiency test again. The result is illustrated in figure 3 below.

Figure 3. English listening proficiency level of the participants at the post-test



Note. N= 210 (All), N= 106 (Group A), N= 104 (Group B)

Interestingly, the students’ proficiency levels at the post-test were higher than the pre-test observing from more students got the score range of 175-245 to 255-330. The Group B students mainly scored higher than the Group A student above 200 and lesser numbers of the Group B students obviously scored lower than 100.

We compared the listening proficiency levels between Group A and Group B using a Mann-Whitney U Test and found a relative result as shown in Table 1.

Table 1. Comparison of the English listening proficiency levels between groups

		N	Mean Rank	U	Z	P
Pre-test	Group B	106	109.62	5287.000	-.763	.445
	Group A	106	103.38			
Posttest	Group B	104	113.72	4657.500	-1.981	.048*
	Group A	106	97.44			

*α = .05

The test result indicated that, after the intervention, the English listening proficiency levels of the Group B students (Mean Rank = 113.72, n = 104) were significantly higher than those of the Group A students (Mean Rank = 97.44, n = 106), U = 4657.500, z = -1.98 (correct for ties), p = .048, two-tailed.

Even though the students in both groups experienced the same class setting, the Group B students were supposed to have an extra practice with the LLDG more or less. We ran a Wilcoxon Signed Rank Test to answer whether the proficiency levels the two groups improved in the post-test have a significant difference. The analysis is summarized in Table 2.

Table 2. Change of the English listening proficiency levels after the intervention

			N	Mean Rank	Sum of Ranks	Z	P
Group A	Posttest-Pre-test	Negative Ranks	34	35.47	1206.00	-1.873	.061
		Positive Ranks	45	43.42	1954.00		
		Ties	27				
		Total	106				
Group B	Posttest-Pre-test	Negative Ranks	26	29.04	755.00	-4.117	.000*
		Positive Ranks	53	45.38	2405.00		
		Ties	25				
		Total	104				

* $\alpha = .05$

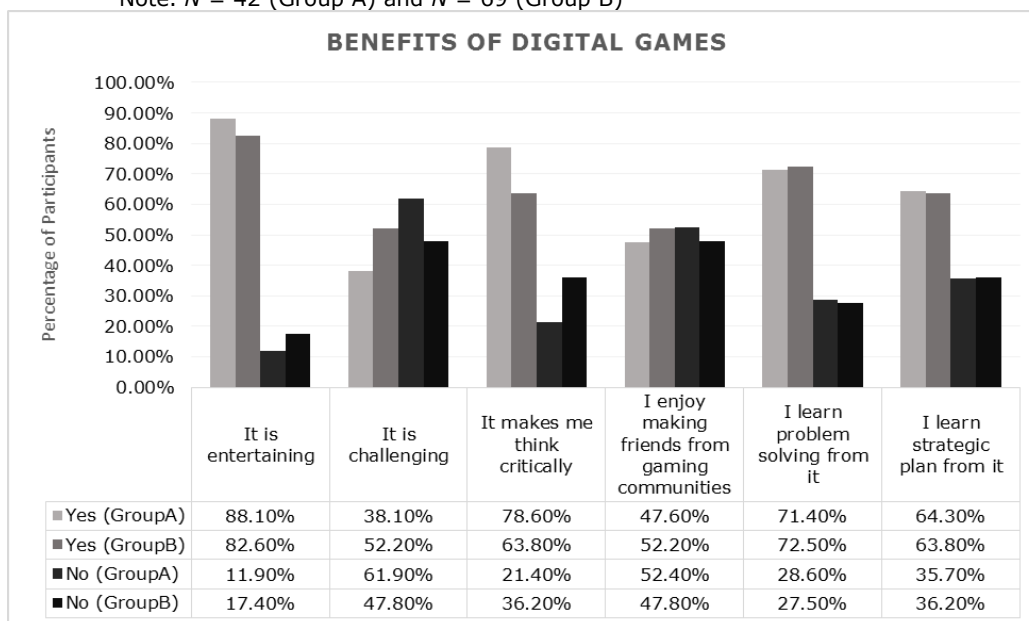
The Wilcoxon Signed Rank Test indicated that English listening proficiency levels of the Group B students were significantly higher after the intervention period of 8 weeks, T=2405.00, z=-4.12 (corrected for ties), N-Ties=79, p=.000, two-tailed. This result reflects that the LLDG has potential to influence positively on the learners' proficiency improvement.

The result compiled with the self-rating competency that the students believed their English language skill improved in terms of listening, reading, and writing. With no in-game exercises or missions requiring a writing skill, it suggests that the students have potential to only rely on the game attributes and apply other resources for additional practice along during gaming. Although the communicative skills that are listening skill (rank 1, 45.2%, n = 135) and speaking skill (rank 2, 40.0%, n = 135) were highly expected to be improved with the game practice, speaking skill was rated with less improved at the intervention. It is not surprising as the game has not equipped with any utterance features requiring the learners to interact with speaking.

Attitudes of the learners towards digital game in general

From Figure 4, more than 50% of the students in both groups have a positive attitude on digital games and think it benefits them emotionally (entertaining) and intellectually (critical thinking, problem solving, and strategic planning).

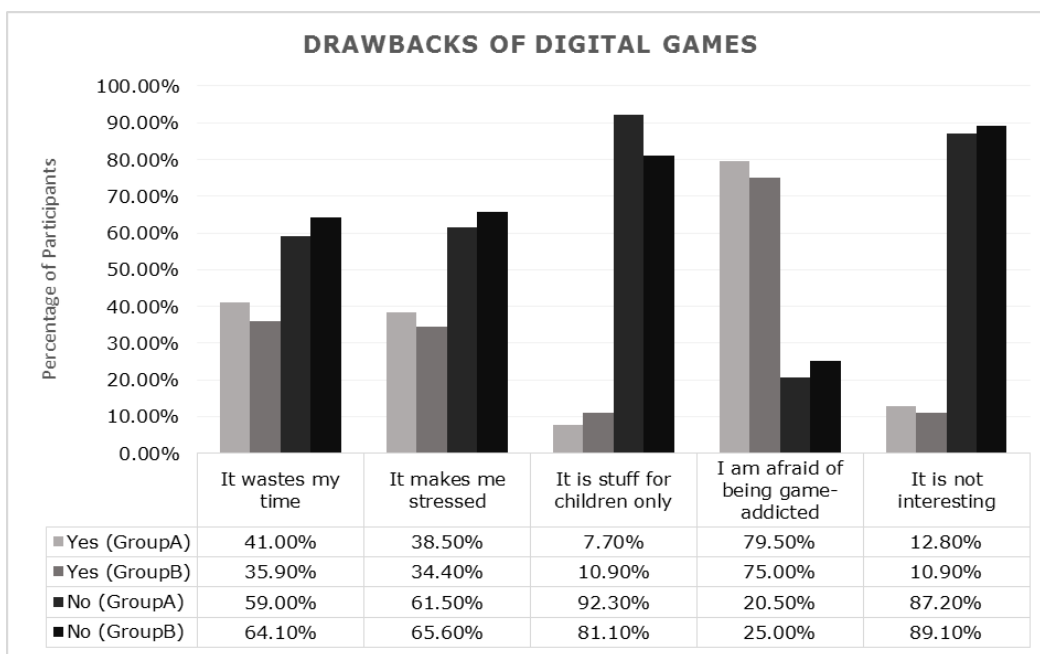
Figure 4. Participants' reflection on the benefits of digital games in general
Note. N = 42 (Group A) and N = 69 (Group B)



It seems that the students did not consider digital games that much challenging. Instead, they likely consider an LLDG as an edutainment material that can craft them with a range of intellectual skills, within a pleasant learning atmosphere.

This potential has been asserted in Figure 5 that is showing a high percentage of dissenting opinion against the drawbacks of digital games.

Figure 5. Participants' reflection on drawbacks of digital games in general



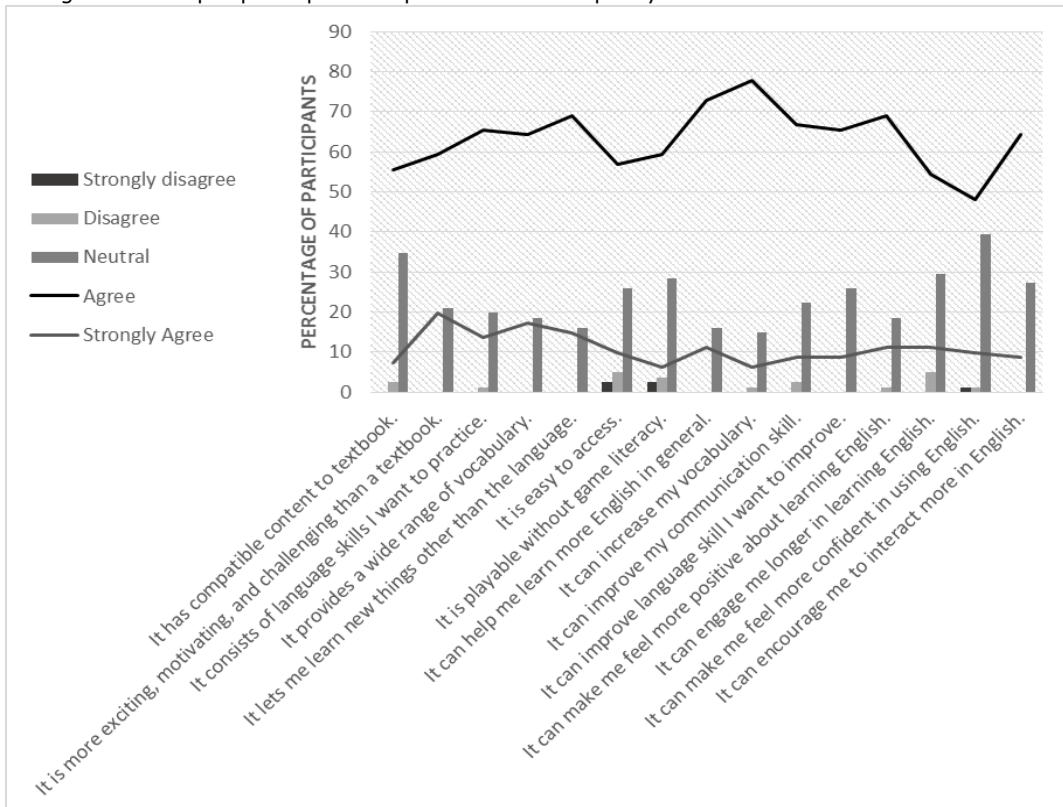
Note. N = 39 (Group A) and N = 64 (Group B)

The students tend to avoid playing a game in general because they are afraid of game-addicted. This fact will, on the other hand, benefit a chance of a well-designed LLDG that can stand a chance to engage EFL learners for a long time in the long term.

Attitudes and Expectation of the learners towards an LLDG

'Agree' was the highest responses from students in Group B on all items on the properties and capability of the game before the intervention. This clearly illustrated the students' positive expectation on the game quality in relation to the language learning (as shown in figure 6).

Figure 6. Group B participants' expectation on the quality of an LLDG before the intervention

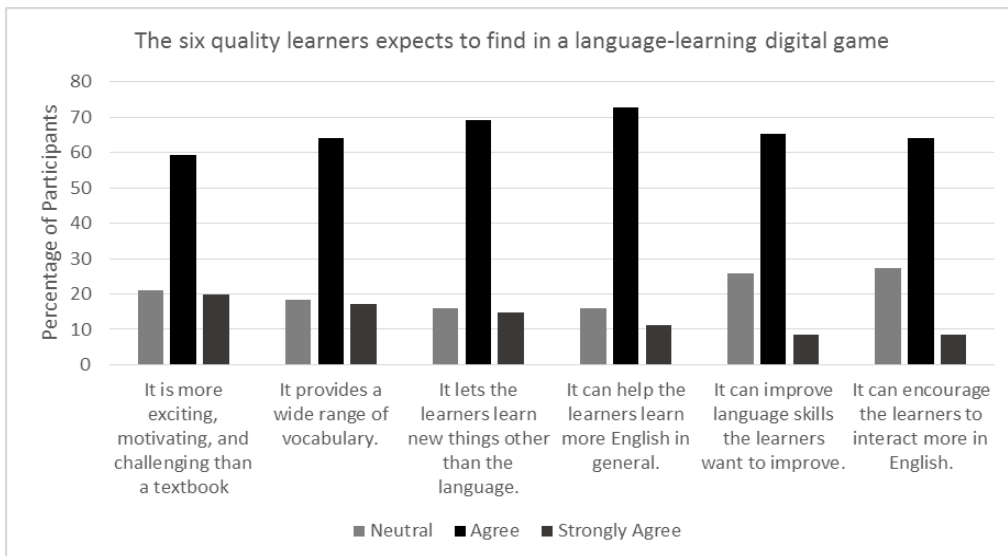


Note. N = 81 (Group B)

This positive expectation can reflect that the students were highly motivated to learn the English language with the game.

Before the intervention, as shown in figure 7, 6 items came up without no negative attitudes. It is likely that all of the students somewhat believed the language-learning game they were getting involved absolutely came with these affordances.

Figure 7. Summary of the quality indicators of an effective language-learning digital game framed by EFL learners in the Thai context



Noted. $N = 69$ (Group B)

Thus, it suggests that the six affordances possibly contribute to a perfect game design for an effective language learning support:

- It is more exciting, motivating, and challenging than a textbook.
- It provides a wide range of vocabulary.
- It lets the learners learn new things other than the language.
- It can help the learners learn more English in general.
- It can improve language skill the learners want to improve.
- It can encourage the learners to interact more in English.

As shown in Table 3, a Wilcoxon signed rank test indicated that change of attitudes on some affordance of the LLDG digital game had a significantly greater after the intervention. In other words, a language-learning digital game is likely disappointing to the learners and negatively affects their attitude if the learners find that:

- It is not playable without game literacy.
- It cannot help the learners learn more English in general.
- It cannot make the learners feel more positive about learning English.
- It cannot make the learners feel more confident in using English.
- It cannot encourage the learners to interact more in English.

These variables seem to negatively influence the students' engagement with the game and probably cause to cease from playing. The further game design that well addresses these unwanted lists are likely to engage learners more with the game and may have a high rate of continuing gaming. The results seemingly fit basic requirement of DGBLL principle that suggests good language-learning digital games should not interrupt the learners with difficulty in over-struggling with the content during the play and should require as less gaming literacy as possible. Otherwise, it might make the learners easily give up rather than enjoy the learning.

Influence of these affordances is likely to impact the learners' motivation to practice with the LLDG to some extent. In the post-intervention questionnaire, more than half (54.3%) of the Group B students ($N = 81$) reported that they practiced with the LLDG only once a week in the past eight weeks. 35.6% of the students ($N = 73$) reportedly spent 1 hour per play and 30.1% of the students ($N = 73$) spent 2 hours per play. The average time the students spent in each time of the practice was 2.03 hours.

Table 3. The Learners' attitudes on an LLDG through their experience

Item Description	Wilcoxon Signed Rank Test				Attitude degree of the group B students towards a language-learning digital game
	Post-intervention - Pre-intervention			p	
	Negative rank	Positive rank	Ties		
It is playable without game literacy. (N = 68)	n=29	n=10	n=29	.002	<p>Bar chart showing attitude degree for 'It is playable without game literacy.' The Y-axis ranges from 0 to 80. The X-axis categories are Strongly disagree, Disagree, Neutral, Agree, and Strongly agree. For 'Before the intervention' (grey bars), the values are 2.5, 3.7, 28.4, 59.3, and 6.2. For 'After the intervention' (black bars), the values are 5.9, 11.8, 41.2, 37.6, and 3.5.</p>
It can help me learn more English in general. (N = 68)	n=22	n=11	n=35	.030	<p>Bar chart showing attitude degree for 'It can help me learn more English in general.' The Y-axis ranges from 0 to 80. The X-axis categories are Strongly disagree, Disagree, Neutral, Agree, and Strongly agree. For 'Before the intervention' (grey bars), the values are 0, 0, 16, 72.8, and 11.1. For 'After the intervention' (black bars), the values are 0, 4.7, 28.2, 61.2, and 5.9.</p>
It can make me feel more positive about learning English. (N = 68)	n=27	n=9	n=32	.004	<p>Bar chart showing attitude degree for 'It can make me feel more positive about learning English.' The Y-axis ranges from 0 to 80. The X-axis categories are Strongly disagree, Disagree, Neutral, Agree, and Strongly agree. For 'Before the intervention' (grey bars), the values are 0, 1.2, 18.5, 69.1, and 11.1. For 'After the intervention' (black bars), the values are 0, 7.1, 35.3, 49.4, and 8.2.</p>
It can make me feel more confident in using English. (N = 68)	n=27	n=9	n=32	.008	<p>Bar chart showing attitude degree for 'It can make me feel more confident in using English.' The Y-axis ranges from 0 to 60. The X-axis categories are Strongly disagree, Disagree, Neutral, Agree, and Strongly agree. For 'Before the intervention' (grey bars), the values are 1.2, 1.2, 39.5, 48.1, and 9.9. For 'After the intervention' (black bars), the values are 0, 10.6, 51.8, 34.1, and 3.5.</p>
It can encourage me to interact more in English. (N = 68)	n=27	n=7	n=34	.001	<p>Bar chart showing attitude degree for 'It can encourage me to interact more in English.' The Y-axis ranges from 0 to 80. The X-axis categories are Strongly disagree, Disagree, Neutral, Agree, and Strongly agree. For 'Before the intervention' (grey bars), the values are 0, 0, 27.2, 64.2, and 8.6. For 'After the intervention' (black bars), the values are 0, 4.7, 47.1, 45.9, and 2.4.</p>

Note. $\alpha = .05$

To strengthen an LLDG to meet the learners' satisfaction, from the study, we found six in-game elements that significantly influence the learners: (1) the agent character, (2) the reaction of NPCs, (3) chapter introduction, (4) the optional audio button, (5) the storyline, (6) and the lesson exercises.

Apart from a sense of agency that gets learners immersed in a game, these in-game elements suggest two main substances for a well-design game for promoting a language learning. An LLDG must have 'continuation' referring to its repeatability e.g. the optional audio button before progressing onwards that probably impacts proficiency improvement, and its 'connection' e.g. the storyline, the agent character, the reaction of NPCs, and the lesson exercises that support learner autonomy in the circumstance that learners can stop playing and continue the play again at any time without difficulty to recall.

Overall, 91.3% of the Group B student ($N = 80$) reported that they have a positive experience with the LLDG. 80.7% of The Group B students ($N = 83$) prefer to have English language practice equally in both in-class and out-of-class practice setting. Even though they have potential to like practicing English with a language-learning software, 83.1% of the Group B students ($N = 83$) reported that they prefer learning English with both teachers and a language-learning software if possible.

Discussion and conclusion

Thai EFL learners face an ongoing communicative problem mainly resulting from the first language inference and lack of English exposure (Kirkpatrick, 2012). In a study by Khamkhien (2010), common issues found in Thai learners are mispronunciation, communication breaking down, and failing to produce natural communication. To solve this problem, Thai EFL learners may need more genuine practice with authentic learning material to create communicative competence which promotes better language achievement (as also discussed in Teng & Sinwongsuwat, 2015).

The result from this study reaffirms this aspiration. Thai EFL learners open mind and welcome alternative ways of English learning with few conditions regarding an LLDG. Firstly, it will be highly convincing if the game offers a communicative interaction affordance and signals a potential of listening and speaking skill improvement. Secondly, new vocabulary is plausibly considered as new knowledge for the learners. More input like a range of vocabulary in a game likely satisfies the learners to a certain level that may engage them with the gameplay. Thirdly, it should be recognized as beneficial to the learners as if they are spending time with a textbook. Thai EFL Learners expect to reach to a linguistic substance with less distraction from a wide scenario in a game structure. At the same time, fourthly, the game should represent a real situation with a rich content that learners can exposure to something related to the target language rather than only a language practice e.g. culture and value of the native speakers. Lastly, game literacy should have less influence on the learners' progression. The learners are not likely to concern about their gaming background. They seems to be ready to practice English skill with positive expectation. Nonetheless, a small technical problem can be the main issue that ceases their enthusiasm and interest.

The research result mainly suggests two options for fostering Thai EFL learners' autonomous learning and integrating an LLDG into EFL pedagogical applications in a context like Thailand.

First, a *singleplayer-typed LLDG* is appropriate for supplementing a classroom activity for a sole learner, pair work, or group work. The learners who are other-regulated, passive learners, and teacher-dependents (Tutwisoot, 2012) tends to spend more time to continue

the gaming and increase their learning progress among a collaborative learning environment.

Second, a *multiplayer-typed LLDG* with an in-game chat will be an ideal material for all digital learners. This type of LLDG tends to serve the need of learners at all levels as it will enable learners to consult with an online teacher or peers, chat to relax or update information, and compete with other learners anywhere anytime. Often the learners do gaming, more potential for them to develop their autonomous skills e.g. self-regulation for their benefits in life-long learning as an active learner.

A well-matching between an LLDG and a learning pedagogy will compliment a possibility to mitigate a few main factors regarding classroom limitations. The prominent limitations resulting in the failure of EFL teaching and learning in Thai context are, for example, unqualified and poorly-trained teachers, poorly-motivated students, learners of mixed abilities, overly large classes, and lack of opportunities to expose to English outside class schedules (Kitchakarn, 2014; Srichanyachon, 2011, 2013; Thongthaw, 2014; Wichien & Aksornjarung, 2014; Wongsurawat, 2011; Wongwanich, Sapsombat, Intanam, Ajpru, & Prasertsin, 2012).

The impact of the LLDG has affirmed its benefits in accelerating a better outcome of communicative learning principle. The lack of confidence in handling the learner-centered technique along with their deficient English input may be the main factors preventing EFL teachers from successful execution in a class setting. Teachers need more endeavor to grasp the basic concept of CLT as well as a relevant pedagogy training. As Thomas (2012) suggested that 'DGBLL curricula should incorporate a blend of 'formal instructed language learning' and 'informal extra-curricular contexts' that simulate learner play', a well-designed LLDG should fulfill either content-oriented, culture- or task-based foreign language curricula.

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CALL in Context

Reflecting from the data, the Thai EFL learners have some aspects that prevent them to have utmost benefit from a learning..

Other-regulated. Most of the students in the Thai context are still teacher-dependent and lack of self-regulation. Learning is preferred to take place in a classroom so that they can interact face-to-face with peers and get instant feedback. This behavior results in a lack of self-determination which is a barrier for learning initiation of the learners in the context. Consequently, they are not likely familiar with determining a suitable material for their own learning.

Lack of learning strategies. Learners in the Thai context are other-regulated, less self-determined, or teacher-dependent because they tend to lack language learning strategies. These characteristics may cause from the teacher-centered learning setting and environment around them since they were young. Through my observation, Thai students depend on a tutorial class after school rather than reading a book at home and reflecting by themselves. It is the answer to their unwillingness to adjust to a learning environment which is discrepant from what they expect.

With a well-handling strategy, learners have potential to learn from everything they expose. Due to the different learner preferences, knowing what they want to learn and knowing how to learn from it will make the most benefit to individuals. A teaching or learning pedagogy that can train Thai EFL learners to be familiar with language learning strategies should be literally embedded into learning support materials or in class activities. Once the learners equip themselves with the learning strategies, the lack of English language exposure in the Thai context will be only an excuse. Conversely, the Internet will become a classroom for them and all digital resources will become learning materials for their lifelong learning.

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Preparing pre-service EFL teachers for CALL acceptance: A Chinese perspective

Bio data



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Abstract

Based upon prior technology acceptance research, a wide range of factors predicting teachers' technology uptake have been identified. However, less is known about the effect of current teacher education system on preparing pre-service EFL teachers to face challenges in the information age. Viewing this gap, this study aimed to evaluate the effect of an EFL pre-service teacher education program at a university in mainland China under the theoretical framework of technology acceptance research. Using data from 295 teacher candidates, six relevant dimensions (perceived usefulness, perceive ease of use, technology self-efficacy, subjective norm, perceived facilitating conditions, and intention to use technology) drawn from prior technology acceptance research were tested for measurement invariance and latent mean difference between a junior group ($n = 204$) and a senior group ($n = 91$). Results suggest that there existed strong measurement invariance across groups, which lends further support to the viability of technology acceptance research in educational contexts. However, with regard to the latent mean comparison, only one significant mean difference was found in perceived usefulness, with the senior group possessing a higher value (Cohen' $d = .27$). The findings demonstrate that though progress has been made, the teacher education program still needs further improvement to foster greater technology acceptance among EFL teacher candidates. The article concludes with a discussion of the implications of the research findings for EFL teacher education and practice in mainland China.

Conference paper

Introduction

In educational contexts, pre-teachers are important consideration in effective technology integration in educational contexts, because they largely control the timing, approach, and types of ICT that they are to adopt in their future teaching practice (Chai, Koh, & Tsai, 2013; Cviko, McKenney, & Voogt, 2014; Tondeur et al., 2012). Recently, there is a surge of

research focusing on pre-service teachers' pedagogical use of ICT (Dong, Chai, Sang, Koh, & Tsai, 2015; Kavanoz, Yüksel, & Özcan, 2015; O'Bannon & Thomas, 2015; Sadaf, Newby, & Ertmer, 2012). However, most research to date in this regard has been conducted to identify potential factors influence future teachers intention to use technology (Teo, 2015; Tondeur, van Braak, Siddiq, & Scherer, 2016); and scant efforts have been made to connect teacher education programs and pre-service teachers' acceptance of pedagogical use of ICT; that is, whether such programs can increase pre-service teachers' beliefs in those identified dimensions, which would lead to greater technology acceptance in the near future.

Out of this aim, the current study evaluated the effect of a pre-service EFL teacher education program at a mainland Chinese university on teacher candidates' acceptance of Web 2.0-based computer assisted language learning (CALL) using a multi-group confirmatory factor analysis approach (T. A. Brown, 2015). Specially, this study examined whether configural, metric, and scalar invariance were present across a junior group and a senior group, and compared the latent means between the two groups.

We hope that findings of this study could yield a better understanding of the effectiveness of the teacher education program in fostering the teacher candidates' technology acceptance. It is also our hope that this study could also shed light on future research endeavouring to link technology acceptance theory and practice, and generate insights into a practical framework evaluating the effect of teacher education programs on teachers candidates' future pedagogical use of ICT in classrooms.

Theoretical framework

Technology acceptance

With the ever-increasing availability of technology, a growing body of research has shown that besides system usability and availability, users' perceptions towards and beliefs in technology should also be considered to ensure the expected technology integration (e.g., Davis, 1989; Davis, Bagozzi, & Warshaw, 1989; Taylor & Todd, 1995). Against this backdrop, technology acceptance research, which focuses on identifying psychological factors influencing users' technology uptake became increasingly prominent.

The basic tenet for technology acceptance research is that users' beliefs, attitudes, and intentions could influence their actual use of technology (Taylor & Todd, 1995; Venkatesh, Morris, Davis, & Davis, 2003).

Currently, under the TAM research framework, several factors have been consistently verified to link positively to pre-service teachers' intention to use technology in their future classrooms over the years. These factors include perceived usefulness (Davis, 1989; Scherer, Siddiq, & Teo, 2015), perceived ease of use (Abdullah, Ward, & Ahmed, 2016; Venkatesh, 2000; Venkatesh & Davis, 1996), technology self-efficacy (Ariff, Yeow, Zakuan, Jusoh, & Bahari, 2012; Scherer & Siddiq, 2015; Yeşilyurt, Ulaş, & Akan, 2016), subjective norm (Chen, Yen, & Hwang, 2012; Lee & Wan, 2010; Schepers & Wetzels, 2007), and facilitating conditions (Moses, Bakar, Mahmud, & Wong, 2012; Teo, 2009), and intention to use technology (Davis, 1989, 1993; Fishbein & Ajzen, 1975). Given the background, these six factors were adopted as the grounding of this study.

Measurement invariance

Measurement invariance test checks "whether or not, under different conditions of observing and studying phenomena, measurement operations yield measures of the same attribute" (Horn & McArdle, 1992, p. 117). With the development of SEM, two options are currently available for researchers to investigate measurement invariance and latent mean structure. They are the multiple-indicator-multiple-cause (MIMIC) modelling and the

multiple-group confirmatory factor analysis (MGCFA). According to Brown (2015), compared with MG CFA, MIMIC modelling is confined to the test of only intercept and latent mean invariance, and is less commonly used in practice.

Aim of this study

This study aimed to assess the effect of an EFL teacher education program at a mainland Chinese university on improving student teachers' beliefs in Web 2.0-based CALL. Specifically, measurement invariance tests and latent mean comparison were performed between a junior group and a senior group in the six aforementioned dimensions (i.e., perceived usefulness, perceived ease of use, CALL self-efficacy, subjective norm, and facilitating conditions, and intention to use CALL). Below are the research questions for this study:

1. To what extent does measurement invariance exist in these six dimensions across groups?
2. Are there significant latent mean differences in these dimensions between a junior group and a senior group?

Method

Research context and participants

This study conducted a non-experimental anonymous census survey of valid participants in one site, creating a case study context. The pre-service EFL teachers who participated in the survey were from a higher education institution located in the central part of China. Geographically, the university is located in central China, connecting the developed eastern China and the impoverished western China, which represent the two poles of economic and social development of mainland China (State Council, 2010b). Additionally, in terms of its ranking among mainland Chinese universities, the university is neither among the top universities listed in the Chinese government 211 or 985 projects (i.e., Chinese Government's national level endeavour to build world-renowned universities) (see Wang & Cheng, 2014), nor among the low-ranked provincial, regional, or municipal universities. The university is ranked middle among mainland Chinese universities, and it is jointly sponsored by the Ministry of Education and the local provincial government. This is especially important in that a majority of pre-service EFL teachers in China are trained in middle-ranking universities (Ding & Sun, 2007). Choosing this university as a research site suited the aim of the research, providing a glimpse of the mainland Chinese pre-service EFL teachers' reasons for using or not using Web 2.0 based CALL.

A total of 310 participants returned the completed a paper-and-pencil survey questionnaire, making a participation rate of 80% of the complete cohort. Considering the incompatibility of missing data with maximum likelihood estimation method in SEM, List wise deletion due to missing data resulted in a final sample of 295 participants. Table 1 provides the demographic information of these participants.

Table 1
Demographic Information about the Participants (N = 295)

Year of Study	Gender		Age	
	Male	Female	<i>M</i>	<i>SD</i>
Year 1	9	97	19.71	1.19
Year 2	7	91	20.88	1.10
Year 3	10	57	21.94	1.13
Year 4	1	23	23.00	1.18
Total	27	268	20.87	1.55

By year level, these participants were divided into a junior group comprising Year 1 and Year 2 students ($n = 204$) and a senior group comprising Year 3 and Year 4 students ($n = 91$). The small sample size of the senior group was mainly due to the fact that most Year 4 students were on practicum when the questionnaire survey was carried out.

The research instrument consisted of three parts. Part 1 was demographic in nature, and was designed to collect basic information of these pre-service EFL teachers. Part 2 was designed to measure their familiarity with various Web 2.0-based CALL practice, using a five-point rating scale (i.e., 1 = *very unfamiliar*, 2 = *unfamiliar*, 3 = *neutral*, 4 = *familiar*, 5 = *very familiar*). Part 3 contained the items for the six factors. All items have been validated in previous studies. Three items each were selected for perceived usefulness (adapted from Davis, 1989), perceived ease of use (adapted from Davis, 1989), subjective norm (adapted from Taylor & Todd, 1995), CALL self-efficacy (adapted from Ajjan & Hartshorne, 2008), facilitating conditions (adapted from Teo, 2009), and intention to use CALL (adapted from Davis, 1989).

To avoid potential problems caused by respondents' positive inclination to the novel idea of Web 2.0-based CALL, a 6-point positively-packed self-report rating scale was used (Brown, 2004). They include two negative options (i.e., 1 = *strongly disagree* and 2 = *mostly disagree*) and four positive options (i.e., 3 = *slightly agree*, 4 = *moderately agree*, 5 = *mostly agree*, and 6 = *strongly agree*).

Data analysis

Data were analysed in two main stages, using AMOS 21.0 (Arbuckle, 2012) with maximum likelihood estimation method. In the first stage, confirmatory factor analysis was conducted with the pooled sample ($N = 295$) to check model fit of the measurement model. Then a configural invariance test was conducted to evaluate the measurement model fit across the two groups simultaneously. Statistical goodness of fit of the measurement models was assessed by referring to multiple indices (Kline, 2010). Acceptable fit is deemed achieved if the ratio of chi-square to the degrees of freedom (χ^2/df) < 3.0 (Kline, 2010), comparative fit index (CFI) > .90, gamma hat ($\hat{\gamma}$) > .90 (Fan & Sivo, 2007), root mean square error of approximation (RMSEA) \leq .08, and standardised root mean residual (SRMR) < .06 (L.-t. Hu & Bentler, 1998). Next, after confirming the fit of the measurement model and establishing the configural invariant baseline model, two more stringent invariance levels were assessed across groups. Following the current conventions for assessing MI (Cheung & Rensvold, 2002; Vandenberg & Lance, 2000; Wu, Li, & Zumbo, 2007), the decision rule applied in this paper was $\Delta CFI \leq 0.01$ since the chi-square test is overly sensitive to large sample sizes.

Additionally, ΔCFI has been shown to be superior to $\Delta RMSEA$ and $\Delta SRMR$, both of which are alternative indices for measurement invariance (F. F. Chen, 2007).

Results

Before testing for measurement invariance, the validity of the measurement model was checked by evaluating the goodness of fit of the measurement model with the pooled sample. The model fit indices of the initial measurement model test revealed that it did not have a good fit to the pooled sample data ($\chi^2 = 393.89$; $\chi^2/df = 3.44$ ($p > .05$); CFI = .92; gamma hat = .90; RMSEA = .09; SRMR = .08). A further examination revealed that this problem was caused by a reverse coded item for CALL self-efficacy. After this item was excluded from confirmatory factor analysis, a good model fit was achieved ($\chi^2 = 277.32$; $\chi^2/df = 2.67$ ($p > .05$); CFI = .95; gamma hat = .94; RMSEA = .08; SRMR = .05).

Next, the test of configural invariance based on the modified measurement model revealed an acceptable model fit ($\chi^2 = 410.79$; $\chi^2/df = 1.98$ ($p > .05$); CFI = .94; RMSEA = .06; SRMR = .05), suggesting the same factorial structure existed across the two groups.

When testing metric invariance, factor loadings were constrained to be equal. Results supported metric invariance ($\chi^2 = 421.85$; $\chi^2/df = 1.93$ ($p > .05$); CFI = .94; RMSEA = .06; SRMR = .05). Scalar invariance was also supported as this was not statistically significant at $p < .05$ level when intercepts were constrained to be equal across groups ($\chi^2 = 432.26$; $\chi^2/df = 1.88$ ($p > .05$); CFI = .94; RMSEA = .06; SRMR = .05). Table 2 provides detailed information related to the measurement invariance tests results.

Table 2

Results of the Measurement Invariance Tests

Model	Fit statistics						
	χ^2	<i>df</i>	χ^2/df (< 3.0)	RMSEA ($\leq .08$)	SRMR ($< .06$)	CFI ($> .90$)	ΔCFI ($\leq .01$)
1 (CFA)	277.32	104	2.67 ($p > .05$)	.075	.054	.949	--
2 (CI)	410.79	208	1.98 ($p > .05$)	.058	.050	.941	--
3(MI)	421.85	219	1.93 ($p > .05$)	.056	.051	.941	.00
4 (SI)	438.29	236	1.86 ($p > .05$)	.054	.051	.941	.00

Given the establishment of scalar invariance, we constrained the latent factor means of the junior group to be zero to test for latent mean differences. The results of this step is listed in Table 3

Table 3
Latent Mean Difference Tests with Junior Group as a Reference Group

Latent factor	Mean				
	difference	SE	t-value	p-value	Cohen' d
PU	0.23	0.12	2.03	.04	.27
IU	0.17	0.12	1.43	.15	--
SN	0.09	0.12	0.70	.48	--
CSE	0.07	0.13	0.50	.62	--
PEU	0.06	0.14	0.43	.67	--
FC	-0.04	0.12	-0.30	.77	--

As is shown in Table 3, only one significant latent mean difference was detected in perceive usefulness, with the senior group possessing a statistically higher value. The value of Cohens' d (0.27) indicated a between-small-and-medium effect size for this mean difference.

Discussion

In this study, we investigated six pertinent dimensions around Pre-service EFL teachers' acceptance of Web 2.0-based CALL. Measurement invariance tests and latent mean comparison were performed between a junior group and a senior group to better understand the impact of an EFL teacher preparation program. Results suggest that there existed strong measurement invariance across the two groups, which lent further support to the viability of technology acceptance in educational contexts and paved the way for subsequent latent man comparison tests. It was found that only one significant mean difference existed in perceived usefulness. With regard to the other five dimensions, no significant latent mean differences were detected, suggesting that though progress has been made, the current EFL teacher education program may need further reform to foster greater technology acceptance.

Perceived usefulness

Prior studies have revealed that grater perceive usefulness links to greater technology acceptance (e.g., Davis, 1989; Scherer et al., 2015). In this study, we identified that there existed greater perceive usefulness among EFL teacher candidates from the senior group, suggesting that the current EFL teacher education program is efficacious in this regard. This may also be attributed to recent policy orientation in teacher education in mainland China. Because of its conviction in the potential benefits afforded by the ICT, the mainland China's leadership has attached strategic importance to the integration of ICTs into education and initiated long-term endeavour to improve its ICT infrastructure, to provide professional training opportunities, and to develop online teaching and learning resources. With the government's consistent commitment to ICT integration, much investment has been made to improve ICT infrastructure to support the integration process during the past two decades. Following from these initiatives, the teaching, learning, sharing, and managing capacities of educational institutions have been significantly enhanced. Educational use of ICT in teacher education programs is becoming increasingly commonplace across the educational sectors in mainland China. All these changes could have made these per-service teachers more aware of the positive contribution of technology to EFL education.

Perceive ease of use

As another well documented dimension in technology acceptance research, it is well acknowledged that when perceive to be ease to use, a technology is more likely to be adopted by users (Abdullah et al., 2016; Venkatesh, 2000; Venkatesh & Davis, 1996). From a practical perspective, it is assumed that pre-service EFL teachers in Mainland China are likely to view Web 2.0-based CALL as useful if it is easy to use and is normative in their professional and social context. However, in this study, no significant mean differences were found between the junior and senior groups. This may be due to the rapid development of Web 2.0 technologies and widespread popularization of mobile digital devices and innovative applications such as instant messaging, micro blogging, mobile search engine, online video streaming, online shopping, and online education are exerting growing influence upon mainland Chinese young generation (CNNIC, 2016). Obviously, the affordances provided by smart hand-held digital devices (e.g., smartphones and tablet computers) could have decreased significantly the challenges posed by computer ownership and technological thresholds, which in turn, has increased their perceived ease of use.

Subjective norm

Though prior research findings have accentuated the positive influence of subjective norm on technology acceptance (Chen et al., 2012; Lee & Wan, 2010; Schepers & Wetzels, 2007), no significant mean difference in subjective norms between the two groups was detected. This could possibly stem from the fact that the participants of the study are pre-service teacher but not in-service teachers. The opinions on Web 2.0-based CALL they get are mainly from their teachers and their peers. It is, therefore, highly likely that they are under the same influence. However, as these teacher candidates become frontline teachers in the near future, their perceived subjective norm may change accordingly.

CALL 2.0 self-efficacy

To our surprise, there existed no significant mean difference in Web 2.0-based CALL self-efficacy between the two groups. Given the fact, pre-service EFL teachers have taken courses aiming to improve their competence in pedagogical use of ICT, the result shows the effect of these courses may not be as expected. This may be in part due to the fact that the ICT courses they have taken aim at generic pedagogical use of ICT, while the current research focused on more specific use of technology, that is, how to integrate appropriated Web 2.0 technologies efficiently in language classrooms. This suggests that though these teacher candidates are technology savvy, they might not be adequately trained to use CALL to support language learning innovatively and flexibly.

Facilitating conditions

The study revealed a lack of statistical difference in the dimension of facilitating conditions between the junior sample and senior sample. This might be due to that there might exist a disconnection between teacher training institutions with schools so that teacher candidates do not know enough about the technical, financial, and administrative support at the school level. Therefore, a closer connection should be established, so teacher candidates could be more informed of the real situation at schools, such as school policies on pedagogical use of ICT, available infrastructures, technical support for pedagogical innovations, and professional development opportunities. In addition, it should also be noted that China's Internet gateway, dubbed as The Great Firewall, may also lead to this insignificant difference for the system to a substantial extent limit mainland Chinese Internet users' access to most English-medium Web 2.0 recourses.

Intention to use CALL

As the predictor of these pre-service teachers' future adoption of CALL, intention to use CALL was found to be not different in the mean scores between the two groups. This may indicate that the current teacher education has limited effect on improving these teacher candidates' technology acceptance. This finding corroborates previous research (L. Hu & Webb, 2009; Z. Hu & McGrath, 2011), which has reported in China, educational technology uptake for language teaching and learning purposes does not meet expectation. The causes of this problem are multifaceted. It may be from these teacher candidates' prior experience of high stakes examinations, the deep rooted teachers-centered pedagogy, and lack of reliable access to English medium Web 2.0 resources in EFL teaching context.

Implications

An important implication of this study is the need for a systemic and reliable approach to the evaluation the effect of teacher education program on the improvement of teacher candidates' acceptance of CALL. Towards that aim, this article provides a framework to test measurement invariance and compare latent means on the basis of technology acceptance research.

For teacher educators and institutional leaders, the multidimensional conceptual framework of technology acceptance research can be used to align technology, curriculum, and pedagogy (e.g., less focus on technical sides) and to evaluate teacher candidates' progress at a certain level. The effect of new curriculum designs can check whether expected progress is taking place among teacher candidates. Additionally, closer connection with schools should be established so that teacher candidates are more aware what is required and can be provided in the frontline classrooms. Furthermore, current courses can be restructured to better meet the practical needs of EFL teacher candidates, for example, reducing the weight of generic computer technology while adding more about how to deliver subject content knowledge with appropriated technology and pedagogy.

This study also offers a frame of reference for language education policy makers. It can be used to evaluate the effectiveness of its teacher education policy on the improvement of EFL teachers' technology acceptance. This is especially important because it is not adequate to simply make policies without measuring their impact. For policy makers, reliable empirical evidence can keep them informed of what progress has been made and what needs further improvement; therefore successful experience can be promoted across EFL teacher education sector or corresponding policy adjustment, made in time. Given the current lack of empirical research in this realm, a mechanism should be established to collect relevant empirical evidence.

Limitations and recommendations for future research

This study has several limitations. First, convenience sampling was employed. Second, due to the practical limit, this study is cross-sectional in nature. Last but not least, though robust statistical techniques were employed and the latent mean across two year levels, the effect of these six aspects may not appear simultaneously for some dimension may surface at latter stage. Future studies involving paired sample research or longitudinal design may yield more informative research findings. Furthermore, more grouping variables (e.g., gender and age) may be taken into consideration to help us identify trends and gain a clearer idea of how Web 2.0-based CALL is being perceived across groups.

CALL in Context

The study demonstrates that there exists a dubious effect from the local context on EFL teacher preparation programs in mainland China. On one hand, with strong support for ICT development from the central government (State Council, 2010) and the widespread of indigenous Web 2.0 technologies and digital devices (China Internet Network Information Center, 2016), EFL teacher education programs have significantly improved teacher candidates' awareness of the potentials of CALL and competence in using generic technologies. However, the lack of access to mainstream English-medium Web 2.0 language education resources, the deficiency of CALL curriculum in EFL teacher preparation programs, and the pressure of high-stakes examinations (e.g., Gaokao, the national standard examination for higher education in mainland China) are, on the other hand, impeding pre-service EFL teachers' greater acceptance of Web 2.0 based CALL in mainland China.

Specifically, this paper fits into the conference theme by revealing the effect of local context on EFL teacher candidates' acceptance of CALL and providing a plausible framework detecting the extent of that impact.

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Belief in the Role of Technology by Educational Attainment

Bio data



Lauren Menard earned a Doctor of Education from the University of Louisiana at Lafayette in 2010. Her dissertation utilized General Social Survey data in a test of Emerging Adulthood Theory. Her 17 years of experience in education have influenced interests in instructional pedagogy and technology.

Abstract

The purpose of the current study was to examine relationships between belief in the value of technology and educational attainment in American data. A relationship between belief in the value of technology and educational attainment level was expected based on frameworks of Self-Determination Theory and Technology Acceptance Model. The following research question was investigated: Does belief that computer science and technology make our lives better (i.e., healthier, easier, and more comfortable) vary by educational attainment level?

Data from the nationally representative 1972-2014 General Social Survey Datafile (GSS) were utilized. The Computer-assisted Survey Methods Program at the University of California, Berkeley facilitated online data access and analysis. Belief in technology was measured with a variable from the 2014 Science topic module: *Computer Science and technology are making our lives, healthier, easier, and more comfortable*.

A separate multiple regression revealed a weak, significant relationship between educational attainment and technology belief ($B = .100$, $SE[B] = .029$, $T\text{-statistic} = 3.490$, $p < .001$). Cross-tabulation analysis indicated the proportion of Americans with a Bachelor degree agreeing that technology bettered lives (91%) was 12 percentage points larger than that of those with High School or Less (79%). Unexpectedly, the proportion agreeing with a Graduate degree (84%) was seven percentage points smaller than that of Bachelor degree ($X^2 = 17.89$, $p \leq .001$, $N = 1,217$). Individuals with High School or Less ($Exp[B] = .544$) were nearly half as likely to agree with the bettering role of technology, while those with a Bachelor degree ($Exp[B] = 2.637$) were over twice as likely to agree ($p < .001$).

Technology promotes information access in the 21st century, and information is power. If university coursework influences greater appreciation of the benefits of technology, considering practices that bring similar learning experiences to K-12 environments is worthwhile. Practical implications also include opening dialogue and future qualitative research on the perceived risks of technology use.

Conference paper

Lack of technology use represents vulnerability and defenselessness when knowledge is power (Bacon, 1889). While tracking “the amount of new information stored on paper, film, magnetic, and optical media” (Brooks-Young, 2006, p. 13), a 2003 study from the University of California Berkeley observed a near doubling in the amount of information in only two years. Hilbert and López (2011) explained this exponential increase in available information in terms of global storage capacity— information maintained for later retrieval. It would have taken roughly eight days for communication technologies to exhaust global storage capacity in 1991, increasing to two and a half weeks in 2000. By 2007, filling global storage capacity would have taken nearly eight weeks (Hilbert & López, 2011). Societal changes, such as dynamics of the Informational Age (as explained by Castells, 2011) have broadened literacy expectations to “include skills for accessing, evaluating, and using information now available in new formats” (Brooks-Young, 2006, p. 14). Illiteracy now means more than simply not being able to read or write because accessing today’s growing masses of information requires technology skills. Technologically available information holds potential for bettering individual lives through limitless everyday applications, including facilitating healthier, easier, and more comfortable living. Especially within the context of a more educated citizenry and 21st century information highway, individuals who do not use technology are at a disadvantage.

Self-Determination Theory (SDT) supports the notion that use of technology may depend on an individual’s motivation for using technology. The theory examines motivation “intrinsic to individual development and within social contexts, that facilitate vitality, motivation, social integration and well-being” (Ryan & Deci, 2017, p. 3). Self-determination theory delves into the intrinsic motivation within social contexts that shapes attitudes and behaviors. According to Ryan and Deci (2017), “SDT is practical insofar as it points to how features of contexts more or less facilitate or undermine the motivations and satisfactions underlying effective self-regulation and wellness” (p.3). From exploring motivation behind game participation in music education (Denis & Jouvelot, 2005) to explaining the position of bystanders in school bullying (Tsang, Hui, & Law, 2011), SDT historically encompasses and recognizes a variety of related theories (Ryan & Deci, 2017). Technology Acceptance Model (TAM) is a framework for examining an individual’s attitude towards technology.

The Technology Acceptance Model (TAM) was introduced by Davis in 1986 and is widely used in the field of Information Systems to explain why users accept or reject technology (Davis, 1993). User attitude is “a function of two beliefs: perceived usefulness and perceived ease of use” (Davis, 1993, p. 476). According to Davis (1993), “ease of use influences usefulness” (p. 478) and a rationale exists for “the flow of causality from system design features through perceptions to attitude and finally usage” (p. 478). In the current study, it is hypothesized that greater familiarity with technology and computing improves perceived ease of use, with indirect implications for increased usage and a reaping of the benefits of technology.

Conceptual Framework

College graduates may be more likely to believe that technology betters lives because of higher education’s influence on developed mindsets and cognitive processes (Menard, Slater, & Flaitz, 2011) and because university coursework increases familiarity with technology and shapes perceived ease of use. Previous research has established significant correlations between educational attainment and various dependent measures, including disaster preparedness (Menard, Slater, & Flaitz, 2011), financial satisfaction (Menard, 2014), online political and civic participation (Menard & Slater, 2012), and social trust (Menard, 2011). It follows, a relationship between an individual’s educational attainment

level and an individual's belief about technology is likely to exist. Self-Determination Theory and TAM grounded a study framework for expecting improved intrinsic motivation for technology use with improved perceived ease of use. As noted by Davis (1993), there is a connection between perceived ease of use and perceived usefulness. Individuals who believe that technology better lives may be more likely to use and reap the benefits of technology, experiences which, in return, enhance attitudes.

Research Question

The purpose of the current research study was to examine relationships between belief in the value of technology and educational attainment in national American data. The following research question guided the investigation: Does belief that computer science and technology make our lives better (i.e., healthier, easier, and more comfortable) vary by educational attainment level?

Methods

Data from the 1972-2014 General Social Survey (GSS) Datafile were utilized (Smith, Marsden, Hout, & Jibum, 2015). Data was accessed and analyzed online through the Computer-assisted Survey Methods Program at the University of California, Berkeley. The GSS contains 1,427 variables, with more than 230 trends and over 20 data points, to track opinions, beliefs, and behaviors of non-institutionalized, English speaking Americans 18 to 89 years or older (Smith, Marsden, Hout, & Jibum, 2015a). The General Social Survey is second only to the American Current Population Survey (United States Census) as the most popular data set in top sociology journals (National Science Foundation, 2005).

Total population size for survey year 2014, the year of analyses of the current study, was 2,538. Data analysis includes frequency cross-tabulations and logistic regressions. A separate multiple regression was performed to answer the research question. Probability levels from a Rao-Scott adjustment (F-value) were displayed as Chi-Square p values. Unstandardized regression coefficients and the exponential of logistic regression coefficients were reported. A weight for non-response adjustments and a significance threshold of .5 was applied throughout.

Belief in technology and educational attainment were survey variables used in the current study. See Table 1 for categories and descriptive statistics of variables. Belief in technology was measured with the following survey question from the 2014 Science topic module:

I'm going to read to you some statements like those you might find in a newspaper or magazine article. For each statement, please tell me if you strongly agree, agree, disagree, or strongly disagree: Science and technology are making our lives, healthier, easier, and more comfortable. (Smith et.al., 2015)

Response categories were collapsed into the two categories of Agree and Disagree for analyses.

Table 1

Descriptive Statistics for Study Variables

Measure	Category	n	%
Belief in Technology		1,217	
	1: Strongly Agree	217	18
	2: Agree	779	64
	3: Disagree	200	16
	4: Strongly Disagree	19	2
Educational Attainment		2,538	
	0: Lt High School	323	13
	1: High School	1,293	51
	2: Junior College	185	7
	3: Bachelor	474	19
	4: Graduate	263	10

Source. General Social Survey (1972-2014). Accessed through Computer Assisted Survey Methods Program, University of California, Berkeley.

Educational attainment level was the independent variable. The variable measured the educational attainment level of respondents. The categories of Little High School and High School were combined for analyses and a category for Associate Degree was omitted. For the multiple regression, variables were not controlled or filtered, but the variable was recoded to label categories Strongly Disagree (1) to Strongly Agree (4).

Results

A separate multiple regression was performed to answer the following research question: Does belief that computer science and technology make our lives better (i.e., healthier, easier, and more comfortable) vary by educational attainment level?. Data analysis revealed a weak, significant relationship between technology belief and educational attainment ($B = .100$, $SE[B] = .029$, $T\text{-statistic} = 3.490$, $p. < .001$).

Results from cross-tabulations indicated belief in technology varied significantly by educational attainment level (Table 2). The proportion of Americans with a Bachelor degree agreeing that technology bettered lives (91%) was 12 percentage points larger than that of those with High School or Less (79%). The proportion agreeing with a Graduate degree (84%) was seven percentage points smaller than that of Bachelor degree.

Table 2

Cross-Tabulation: Belief in Technology by Educational Attainment

Role	Name	Label				Range
Row	BETTRLFE(Recoded)	SCIENCE MAKES OUR LIVES BETTER				0-2
Column	DEGREE(Recoded)	RS HIGHEST DEGREE				0-3
Weight	WTSSNR (non-responses)					

Frequency Distribution						
Cells contain: -Column percent -Confidence intervals (95 percent) -Weighted N		DEGREE				
		0 *-* Associate Degree (Excluded)	1 Little High School/ High School	2 Bachelor Degree	3 Graduate Degree	ROW TOTAL
BETTRLFE	1: Strongly Agree/Agree	82 (70-90) 60	79 (75-82) 631	91 (87-94) 208	84 (74-90) 97	82 (79-85) 996
	2: Disagree/Strongly Disagree	18 (10-30) 13	21 (18-25) 167	9 (6-13) 20	16 (10-26) 19	18 (15-21) 219
	COL TOTAL	100 --- 74	100 --- 798	100 --- 228	100 --- 116	100 --- 1,215
Means		1.18	1.21	1.09	1.16	1.18
Std Devs		.39	.41	.28	.37	.38
Unweighted N		82	786	225	124	1,217

Color coding:	<-2.0	<-1.0	<0.0	>0.0	>1.0	>2.0	Z
N in each cell:	Smaller than expected			Larger than expected			

Summary Statistics	
Eta* =	.12 Gamma = -.23 Rao-Scott-P: F (3,462) = 5.44 (p= 0.00)
R =	-.07 Tau-b = -.08 Rao-Scott-LR: F (3,462) = 6.15 (p= 0.00)
Somers' d* = -.06	Tau-c = -.07 Chis-P (3) = 17.89
	Chis-LR (3) = 20.23
*Row variable treated as the dependent variable.	

A series of independent logistic regressions were performed to support cross-tabulation findings (Table 3). Individuals with High School or Less level of educational attainment were

nearly half as likely to agree with the bettering role of technology, while those with a Bachelor degree were over twice as likely to agree.

Table 3

Logistic Regression: Educational Attainment on Agrees with Technology's Bettering Role

	<i>B</i>	<i>SE (B)</i>	<i>Exp (B)</i>	<i>t-test</i>	<i>p</i>
Little High School/High School	-.608	.179	.544	-3.403	.001
Bachelor Degree	.970	.252	2.637	3.853	.000
Graduate Degree	.118	.306	1.125	.384	.701

Source: General Social Survey (1972-2012). Accessed through Computer Assisted Survey Methods Program, University of California, Berkeley.

Discussion and Conclusion

Study findings revealed a weak, positive relationship between an individual's belief in technology and individual educational attainment level. Further analysis confirmed associations between believe in technology's bettering role - making lives healthier, easier, and more comfortable - and educational level. The smallest proportion of Americans who agreed that technology bettered lives was in the lowest category of educational attainment, Little High School/High School (79%). Seventy-nine percent is a firm majority and high percentage for any category, but this leaves approximately one-fifth of Americans with a High School or Less level of educational attainment without appreciation for technology. The proportion of Americans with a Bachelor degree agreeing that technology bettered lives (91%) was 12 percentage points larger than that of those with High School or Less. One interpretation is that more frequent use of technology in college coursework influences a perception of greater ease of use. Higher education may also influence mindsets that better appreciate technology.

The proportion of Americans agreeing that technology bettered lives with a Graduate degree (84%) was seven percentage points smaller than that of Bachelor degree. Why wasn't the percentage at least equal to that of Bachelor Degree? One interpretation is that those with highest levels of educational attainment may be more aware of the risks of technology, and this risk awareness affects their perceived use of technology.

A limitation of the current study is that the data were self-reported. Self-reported data may not represent a respondent's actual level of educational attainment or reflect educational attainment as reliably as would educational data.

Practical implications include calls for academic dialogue and future research. Qualitative studies may better identify reasons or themes for the greater technology belief found in college graduates. If university coursework influences technology appreciation, pedagogical dialogue may identify beneficial practices for the K-12 learning environment. Recommendations are made for opening academic dialogue to explore the validity of myth/hypes of technology and identify risks. Those with highest levels of education may better perceive technology risks, and examining how to mitigate legitimate risks holds the potential of generalized increased security because risks are likely to apply to all technology users. Studies aligned with a mission of investigating the views of those with a bachelor

degree and graduate degree, as well as college professors and presidents, regarding the risks and threats of technology may uniquely inform current scholarship.

CALL in Context

Established theory, such as Self-Determination Theory and Technology Acceptance Model, are useful for determining the role and shape of the most appropriate technologies for various contexts, including global citizenry and higher education. Before appropriate technologies can be identified, theory allows for better understandings of users and non-users, considerations for why technology is used or isn't, and descriptions of contexts where technology is appreciated or unappreciated. Theory allows for investigations of informed hypotheses and grounds interpretations. As one example of theory informing research, the current study hypothesized differences in belief in the bettering role of technology by educational attainment level. In particular, ease of use and intrinsic motivation may be different in college graduates than in those without a college degree. Theory also guides practice, and by-in-large the most sustainable recommendations or action steps are supported by proven theory.

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Comprehension of English Text among Saudi Arabian and American Undergraduates

Bio data



Lauren Ann Menard earned a Doctor of Education from the University of Louisiana at Lafayette in 2010. Her dissertation utilized General Social Survey data in a test of Emerging Adulthood Theory. Her 17 years of experience in education have influenced interests in instructional pedagogy and technology.

Kimberly Walker McAlister currently serves as the head of the Department of Teaching, Leadership, and Counseling at Northwestern State University of Louisiana. Dr. McAlister's research interests are focused on teacher efficacy, accreditation and alternative certification.

Author's note: This work followed a semester of teaching on faculty in Saudi Arabia and has been adapted from Comprehension of English Text Among Saudi Arabian and American Undergraduates (ERIC: ED563494) for presentation at XVIIIth International CALL Conference: CALL in Context, Berkeley, USA

Acknowledgments

Special thanks to Siddiqua Aamir, PhD., Assistant Professor and Coordinator in Core Humanities (Female Campus) of Prince Mohammad bin Fahd University, Saudi Arabia. Dr. Siddiqua's research inquiry on how K-12 programming may impact the progress of post-secondary students and her dedication to instructional pedagogy were instrumental to the development of this study.

Abstract

Reading comprehension was investigated between undergraduates at a university in Louisiana, United States ($n = 17$) and an English-based university in Saudi Arabia ($n = 41$) for the purpose of comparing variance and proficiency. Comprehension was measured with an 8th grade curriculum-based measure administered in English. The research hypothesis of a larger proportion proficient (60% or higher) from the university within the United States (99%) than the proportion proficient from an English-based university in Saudi Arabia (49%) was revealed in data ($X^2 = 10.49$, $p = .0012$). Greater variance in reading comprehension was expected at the English-based university in the non-English speaking country because of non-standardization of English instruction in k-12 programming. Analysis of sample variance in student data from Prince Mohammad bin Fahd University ($s^2 = 11.575$) and Northwestern State University ($s^2 = 4.639$) confirmed this expectation.

Differentiating and scaffolding support according to student performance level is a staple of 21st century American education. In English-based universities, a student's level of English proficiency affects academic performance. The support needed to address the low academic performance of undergraduates who are non-proficient or emerging proficient in English differ from the interventions, strategies, and programming supports commonly in place for low performing students who are English-proficient. Concerns regarding how best to support bilingual students in higher learning environments will become more prevalent as population shifts increase the number of students entering universities in the United States who are not fluent speakers, readers, or writers of English. The current small comparative study is best viewed as a preliminary observation that contributes to scholarship by verifying significant difference in English proficiency and variance of reading comprehension in English do exist between two small samples of undergraduates from English-based universities.

The overall interpretation of results is more than an observation of low reading comprehension scores in the PMU sample. Observing a 50 percentage-point larger proportion proficient in reading comprehension at NSU than PMU is dramatic. Only one NSU student did not meet the reading comprehension proficiency of 60%, and 99% proficient was a high bar for comparison. Students from NSU scored very high, but university students attending American K-12 schools at a time when curriculum-based assessment is an instructional routine were expected to score well on an 8th grade reading comprehension assessment (especially education majors). The question the current study does not answer well is why the NSU proportion was not 80 or 90 percentage-points larger than the PMU proportion. Twenty bilingual young women from PMU did score proficient, and it is important to keep these students in mind when making instructional decisions based on assumptions of student capabilities

Conference paper

Universities are now ranked on a global scale, and those universities interested in maximizing their international identity are English-based. The rising trend towards international comparisons among higher education environments is associated with globalization, including cross-border influxes, people mobility, and a networked world (Marginson & Wende, 2007). The language of research is English, and global rankings "are tailored to science-strong and English-speaking universities" (Marginson & Wende, 2007, p. 306). English proficiency level affects academic progress (Fakeye, 2014) and is a prerequisite for learning in English-based higher learning environments.

The effects of globalization in higher education is more than internationalization. As universities abroad hire English-speaking professors to teach in their English-based programs, from Singapore to Saudi Arabia American professors are bringing their educational experiences and expertise with them across the globe. The opportunity of bringing what worked locally to new students in faraway places is an adventure that holds potential for transforming curricular approaches and improving student learning. Curriculum-based measurement, a common instructional tool in American schools that is less recognized in k-12 settings worldwide, is but one example.

The importance of English proficiency for students in English-based universities, especially Middle Eastern universities, and the inconsistencies of k-12 English instruction in non-English countries were themes central to the study framework. English-based universities in non-English speaking countries prepare students for global citizenry, as well as build cross-

border connections and global partnerships that increase understandings and respect pluralism. Abdo and Breen (2010) observed, "The political and global implications of increasing understanding of the English language in Jordan and other areas of the Middle East cannot be overestimated" (p. 48). Individuals in non-English speaking countries, however, may fail to recognize the importance of English proficiency for accessing expansive knowledge bases and participating in commerce, cross-cultural communications, and international relations worldwide. English proficiency is not a necessity of everyday practicalities in non-English speaking countries (Abdo & Breen, 2010). Moreover, how and when English is taught in elementary, middle, and high schools in non-English speaking countries is unregulated and inconsistent.

The Study

The current study compared reading comprehension levels between female education majors at Northwestern State University (NSU) in Natchitoches, Louisiana and female students in Core Arts and Sciences at Prince Mohammad bin fahd University (PMU) in Al Khobar, Saudi Arabia. All students were undergraduates. Data was collected with a curriculum-based reading comprehension measure. Curriculum-based measurement was suitable for exploring a central study inquiry: Are students in English-based universities in non-English speaking countries adequately prepared to read, write, and discourse academically in English at the collegiate level? The purpose of the present study was to (a) compare variance in scores from reading comprehension assessments conducted in English between NSU and PMU undergraduates, and (b) compare reading comprehension proficiency between NSU and PMU students. The following research hypotheses were developed based on a review of literature and faculty experience at both universities:

H1. Reading comprehension variance will vary significantly by university.

H2. Reading comprehension proficiency will vary significantly by university.

Methods

Data was gathered at the end of the Spring 2014 semester at PMU and at the beginning of the Fall 2014 semester at NSU. The data collection instrument was the web-based EasyCBM™ (2012) curriculum-based measurement platform, which is a curriculum-based assessment tool distributed by Houghton Mifflin Harcourt. Student rosters were uploaded to the EasyCBM™ program as Excel csv files. The EasyCBM™ teacher version (EasyCBM™ Lite) is free, and a district license is available for a fee. The following information from a press release described the assessment tool:

Initially developed in 2006, easyCBM™ was developed with federal guidance to be a key component of a district's response to intervention program. Earlier versions of the product only covered K - 4 reading for classroom use, but have now expanded to K - 8 reading and mathematics for district wide implementation. Since easyCBM™ is computer administered, student performance and progress is managed in real time, while educators spend less time having to enter data on their own...

Currently, there are more than 6.5 million easyCBM™ tests being administered each year, with over 163,000 teachers relying on the data for their instruction. EasyCBM™ is an approved tool by the National Center for Response to Intervention.

(EasyCBM™, 2012, para. 2-5)

Assessments were completed in an online environment of student choice, such as home or school.

The highest grade level of EasyCBM™ reading comprehension was 8th grade level. The 8th grade assessment was viewed as appropriate for the purpose of comparing the reading

proficiency of college students because reading comprehension is not routinely taught and assessed specifically at secondary and post-secondary levels. Although reading comprehension may be addressed through interventions or developmental coursework, students typically use reading comprehension skills at higher levels in coursework, such as English 1 or American Literature.

Assessments contained a reading passage and 20 multiple choice questions. One of the following three trials of the reading comprehension assessment were assigned to students: The Camel's Back, The Hedgehog Experience, and The Not So Bad Bully. Student scores were banked in the web-based data management system of EasyCBM™ as students completed testing.

Participants. Research participants were selected by convenience sampling. Participation in the study was voluntary. All participants were female undergraduate students. Students from PMU were in the university's core program and students in one of three of the author's sections of Writing and Research. Prince Mohammad bin fahd University students were bilingual students who had moved up from the university's prep program and, as such, were accustomed to having their English proficiency examined. Students from NSU were enrolled in the elementary education teacher preparation program. All students were advised that professor research was the purpose of the reading comprehension assessment and student performance on the reading assessments would not impact student grades in university coursework.

Total number of students invited to participate in the study was 70 from PMU and 29 from NSU. This total number reflected beginning of semester rosters, but did not accurately represent the actual number of students. Several students were on beginning rosters, but did not attend for various reasons (i.e., no shows, dropping the course, and switching course sections because of scheduling conflicts). The actual number of students from each university who completed a reading assessment was 17 from NSU and 41 from PMU. The total study population was 58, with a response rate of 58.9%.

Analysis.

University was the independent study variable. The two categories of university were Northwestern State University (NSU) in Natchitoches, Louisiana, USA and Prince Mohammad bin fahd University (PMU) in Al Khobar, Saudi Arabia.

Variance in student reading comprehension scores and reading comprehension proficiency were dependent variables. Total reading comprehension scores of the present study ranged from 5 to 20. A reading comprehension proficiency variable was created through recoding by collapsing variable categories into one of two categories: proficient and non-proficient. Proficiency was defined as a reading comprehension score of 60% (12/20) or greater. Statistical significance was determined at a threshold of .05. Descriptive statistics for reading comprehension and reading proficiency are shown on Table 1.

A scatterplot and histogram were created to visualize data and observe frequency distributions (Figure 1). An analysis of sample central moment, as measured by sample variance (s^2), was conducted to investigate the study hypothesis of differences in comprehension variance by university and confirm observations visualized in data. Sample variance reliably estimates population variance by measuring deviations and the frequency of deviations (Grinstead & Snell, 1998). The F-Test Two-Sample for Variances was also conducted.

Table 1
Dependent Variables

Variable	<i>N</i>	<i>M</i>	<i>SD</i>	%
Reading Comprehension	58	12.775	3.886	
PMU	41	11.219	3.360	71%
NSU	17	16.529	2.089	29%
Reading Comprehension Proficiency				
Proficient	36	15.361	2.086	62%
Non-proficient	22	8.545	2.063	38%

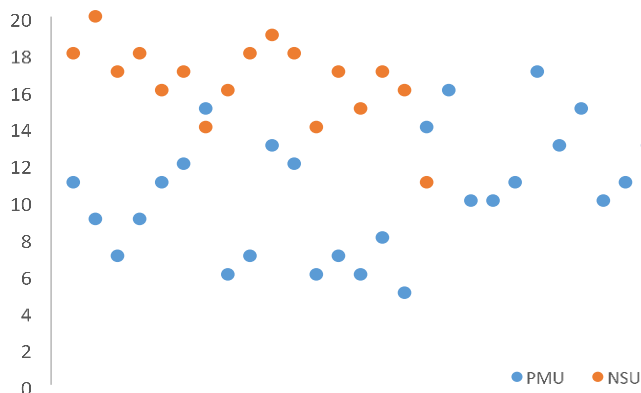
Note: Prince Mohammad bin fahd University (PMU); Northwestern State University (NSU).
Percent reported for Reading Comprehension is the proportion of total study population in categories of university. Reading Comprehension at a 60% or higher level of proficiency and 59% or lower level of non-proficiency were recodes for Reading Comprehension Proficiency

The Chi-statistic (X^2) and significance level (p) of frequency data cross-tabulated according to categorical study variables (Lowry, 2014) were observed to investigate the research hypothesis of reading proficiency varying by university. The Chi-statistic was especially useful for investigating differences in proportions proficient by university because “It does not require equality of variances among the study groups or homoscedasticity in the data” (McHugh, 2013, para. 1). As shown on Table 1, the PMU sample was over twice as large as the NSU sample.

Results

Variance. Scores from NSU (11-20) fell within a nine-point span, with PMU (5-15) scores ranging within a 10 point span. However, as observed in the scatterplot of scores (Figure 1), reading comprehension scores from PMU were more widely distributed. A cluster of NSU scores at upper ranges is also evident.

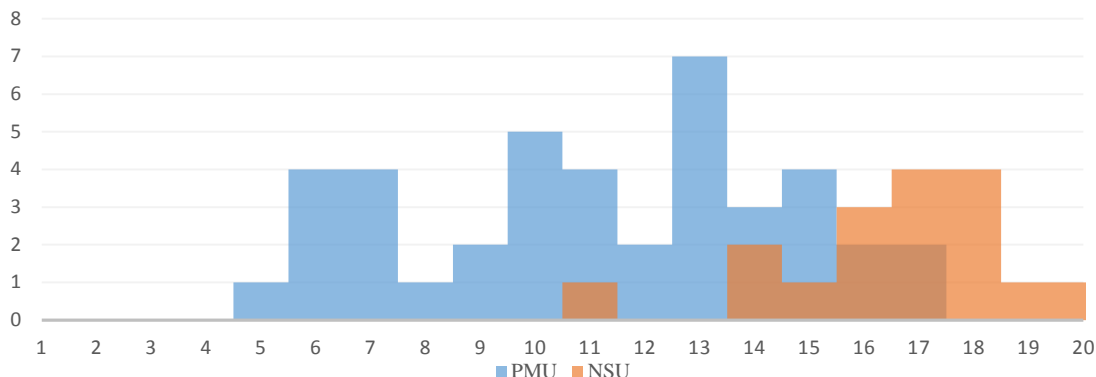
Figure 1
Scatterplot of Reading Comprehension Scores in Two Samples



Frequencies for each score of the reading assessment by university (1-20) are readily observable in the Figure 2 histogram. The wider spread of frequency distributions in the PMU sample is evident. One relative outlier is observed at score 11 in the NSU sample.

Figure 2

Histogram of Reading Comprehension Scores in Two Samples



Sample variance analyses supported observations from the scatterplot and histogram that revealed smaller variance in the NSU sample ($s^2 = 4.639$) than in the PMU sample ($s^2 = 11.575$).

Means of reading comprehension are shown on Table 2. Undergraduate females at NSU ($M = 16.529$) had a higher mean on the 20-point assessment than their PMU counterparts ($M = 11.219$). The p -value from the F-Test Two-Sample for Variances was smaller than the .05 level of significance (Table 2). Sample variance and F-Test analysis confirmed a study expectation of reading comprehension frequencies varying significantly and a rejection of the null hypothesis of no difference in reading comprehension by university.

Table 2
F-Test Two-Sample for Variances

	PMU	NSU
Mean	11.21951	16.52941
Variance	11.57561	4.639706
Observations	41	17
df	40	16
F	2.494902	
P(F<=f) one-tail	.025649	
F Critical one-tail	2.150711	

Proficiency. The research hypothesis of reading proficiency varying significantly by university was confirmed by the Chi-statistic and significance level (Table 3). A larger proportion of NSU students (99%) scored proficient than their PMU counterparts (49%) ($\chi^2 = 10.49$, $p = .0012$). The proportion of female NSU undergraduates scoring proficient on the 8th grade curriculum-based reading comprehension assessment was 50 percentage points larger than the proportion of female PMU undergraduates scoring proficient.

Discussion

The current pilot study explored hypotheses of significant differences in reading comprehension variance and proficiency between undergraduate students in an English-based university in the United States and an English-based university in Saudi Arabia. There is a growing number of English-based universities in countries outside of the United States and other English-dominant countries. International universities offer students in other countries the advantage of earning an English-based college degree without going abroad. Coursework in English-based universities is delivered in English, but unlike universities in countries where English is the native language, English is a second language for university students in English-based universities in non-English countries.

An interpretive lens of differing k-12 English preparation contributing to wider variance in English comprehension proficiency connects to the study framework. Some PMU students, for example, may have had designated programming and instruction of English within the k-12 setting, while others may have only had one English language elective course in high school. Moreover, considering the effects of globalization, some PMU students may have routinely spoken English at home with a family member, while other students may have only spoken English on the university campus. Professors on faculty at PMU noticed differences in the English proficiency of students and reflected on how these differences may be affecting student progress in university coursework. Study findings of lower variance in reading comprehension scores and a larger proportion of students proficient at NSU suggest this issue may be more intense among staff in English-based universities in non-English speaking countries. As the population shifts and a growing number of students educated in foreign k-12 school systems enter universities in the United States, concerns regarding varying English proficiency levels among undergraduates may become more widespread among higher education faculty.

The overall interpretation of study results is more than an observation of low reading comprehension scores in the PMU sample. Observing a 50 percentage-point larger proportion proficient in reading comprehension at NSU than PMU is dramatic. Only one NSU student did not meet the reading comprehension proficiency of 60%, and 99% proficient was a high bar for comparison. Students from NSU scored very high, but university students attending American K-12 schools at a time when curriculum-based assessment is an instructional routine were expected to score well on an 8th grade reading comprehension assessment (especially education majors). The question the current study does not answer well is why the NSU proportion was not 80 or 90 percentage-points larger than the PMU proportion. Twenty bilingual young women from PMU did score proficient, and it is important to keep these students in mind when making instructional decisions based on assumptions of student capabilities.

Faculty in English-based universities in countries where English is not the dominant language should expect wide variance in the ability of students to understand, speak, and write in English. If the expectation is for students in non-English speaking countries to attend English-based universities, a standard of quality for English instruction in k-12 programming is crucial. Nearly half of PMU undergraduates scored proficient on English-based reading comprehension assessments, and that proportion is likely to grow with standardization of English instruction in k-12 programming

CALL in Context

How can professors detect and formulate to what extent learners are different? In the context of K-12 learning environments in the United States, instructors typically make data-based decisions based on student testing performance. With the current American agenda of college and career readiness for all students, professors now teach a greater diversity of student aptitudes, life experiences, ethnicities, and socio-economic statuses. Testing data does not explain differences in today's university students well. This is especially so in the context of English-based universities in non-English speaking countries and bilingual students.

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**A Model for Developing Technology-based Student Learning Targets:
Personalizing Assessment and Learning in Primary Classrooms****Bio data**



Lauren Menard earned a Doctor of Education from the University of Louisiana at Lafayette in 2010. Her 17 years of experience in education have influenced interests in instructional pedagogy and technology.

Abstract

The current American educational practices of Common Core State Standards (CCSS) (National Governors Association Center for Best Practices, 2010) and determining teaching effectiveness based on student performance data (U.S. Department of Education, 2009; 2010) raise instructional pedagogy questions for classroom teachers. Dilemmas often center on the tension between standardization and individualization. Within the context of standardized content skills by grade-level and an expectation for all students to become college and career ready, how do teachers differentiate learning targets for widely varying student performance levels and equably measure student growth? How do teachers develop appropriate learning targets and measure growth for students with special needs who are addressing an alternative curriculum of functional academic skills? Teachers may be most interested in learning more about doable methods, practices, and models that assist them in managing instructional burdens and delivering engaging instruction.

The present review examines technology's role in enhancing classroom instruction within a context of rigorous, standard curricula; personalized learning and assessment; and data-centered instruction. Technology's potential for enhancing the development of individual student learning targets and progress monitoring in the primary classroom is specifically explored. The review begins with a discussion of SMART (Specific, Measurable, Actionable, Relevant, and Realistic) learning goals. Steps for developing SMART goals are shown on Figure 1. A model for utilizing technology in the development and progress monitoring of student learning targets based on steps outlined for SMART goals (Figure 1) is shown on Figure 2. Finally, the Model for Developing Technology-based Student Learning Targets is applied to two instructional technology sources. Routines for developing data-based, personalized learning targets and measuring student growth are illustrated. Examples describe the development of personalized goals based on student data from two web-based assessment tools and real-time progress-monitoring with online score banking. The iReady and Unique Learning System programs are the instructional technology resources used for model applications.

Conference paper

The current American educational practices of Common Core State Standards (CCSS) (National Governors Association Center for Best Practices, 2010) and determining teaching effectiveness based on student performance data (U.S. Department of Education, 2009; 2010) raise instructional pedagogy questions for classroom teachers. Dilemmas often center on the tension between standardization and individualization. Within the context of standardized content skills by grade-level and an expectation for all students to become college and career ready, how do teachers differentiate learning targets for widely varying student performance levels and equably measure student growth? How do teachers develop appropriate learning targets and measure growth for students with special needs who are addressing an alternative curriculum of functional academic skills? Teachers may be most interested in learning more about doable methods, practices, and models that assist them in managing instructional burdens and delivering engaging instruction.

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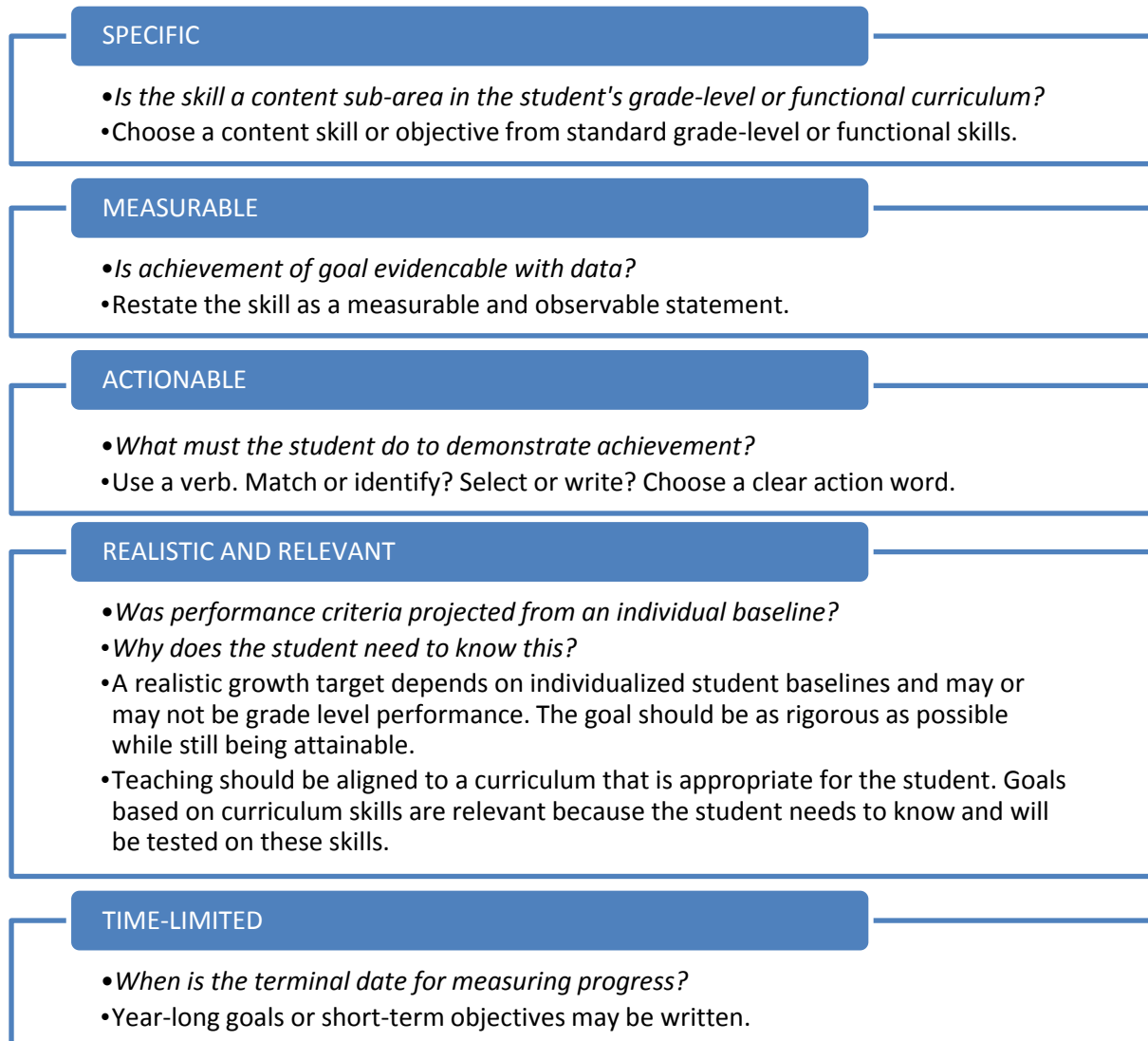
SMART Goals

Developing measurable academic goals is fundamental to special education and the Individualized Education Program (IEP) process (Heward, 2017). The current practice of basing teacher effectiveness ratings on student attainment of individualized learning targets that represent one-years' worth of growth (U.S. Department of Education, 2009; 2010), elevates personalized goal writing and progress monitoring to 21st century instructional pedagogy (Menard, 2014). In today's classroom, the personalization, specialization, and individualization of instruction that was once associated with special education (Menard, 2011a; 2011b) is now a standard component of effective teaching for all students.

Wright and Wright (2006) developed the synonym SMART to help teachers develop appropriate goals. Student goals should be *specific*. There is tighter alignment between instruction and progress-monitoring when goals have a clear and specific working objective, and with responsive teaching, goals that are progress monitored well are more likely to be achieved. Goals should also be *measurable*. Teachers cannot demonstrate student progress or achievement if goals are not measurable, and evidencing the value teaching has added is now a component of teacher evaluations and teacher effectiveness ratings (Menard, 2014). Vague goals, such as targets for exposing a student to knowledge or improving a student's appreciation of content, are not measurable. Goals should contain an *action* word (i.e.,

read, solve, identify) to keep focus on what the student needs to do to meet the learning target. Goals must be *realistic* and *relevant* for students. Criteria of performance (i.e., a score of 450, a percentage of 80%) should not be too high or too low a target for the individual student. Targets projected from performance baselines gathered with the same method of measurement as the goal help ensure individualized and realistic learning targets for each student (Menard, 2013). Goals aligned to curriculum standards, whether a standard curriculum or extended standards, are *relevant* because they address those skills the student is expected to know, which are the skills of testing. Goals that are SMART are time-limited. A goal completion date (e.g., nine weeks or one year) is the terminal date for reviewing progress and determining whether a goal was achieved. Guiding questions and tips for developing SMART learning goals are shown on Figure 1.

Figure 1: Developing SMART Goals



A Model for Developing Technology-based Student Learning Targets

Technology facilitates the development of measurable, reasonable, and relevant student goals. The current review offers a model for developing SMART technology-based learning

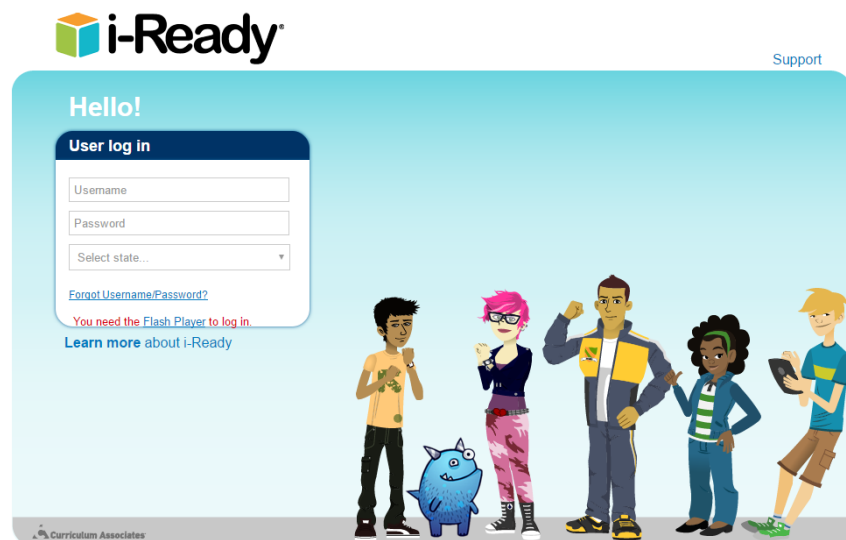
targets. Steps for choosing a method of measurement, assessing, gathering baselines, projecting a personalized goal, and progress monitoring are shown on Figure 2.

Figure 2: Model for Developing Technology-based Student Learning Targets

1. Determine Method of Measurement	2. Broad Assessment	3. Baselines	4. Project a Learning Target	5. Progress Monitor
Select an available and appropriate tool for assessing progress. The tool should assess curriculum skills.	If the specific sub-area of content needed for the goal is not known, administer a broad assessment in Math and/or Reading. Choose the lowest sub-area(s) of student performance for goals. Alternatively, choose a more heavily weighted grade-level curriculum skill (i.e., Reading Comprehension) for the goal.	Gather individual baselines with the selected method of measurement in the skill area of the student learning target.	Restate the skill as a measurable goal. Use action words. Project a target of reasonable growth, based on the baseline and expected student growth rate.	Periodically monitor student progress and adjust instruction, as needed.

From all-in-one prescriptive diagnostics programs to web-based data collection with charts and graphs, technology can assist in meaningful, standards-based, personalized instruction. When student progress is monitored in an online learning environment and score are automatically banked and graphed, teachers have more time for teaching. In the following section, steps in the Model for Developing Technology-based Student Learning Targets are applied to the iReady and Unique Learning System programs.

Applying the Model

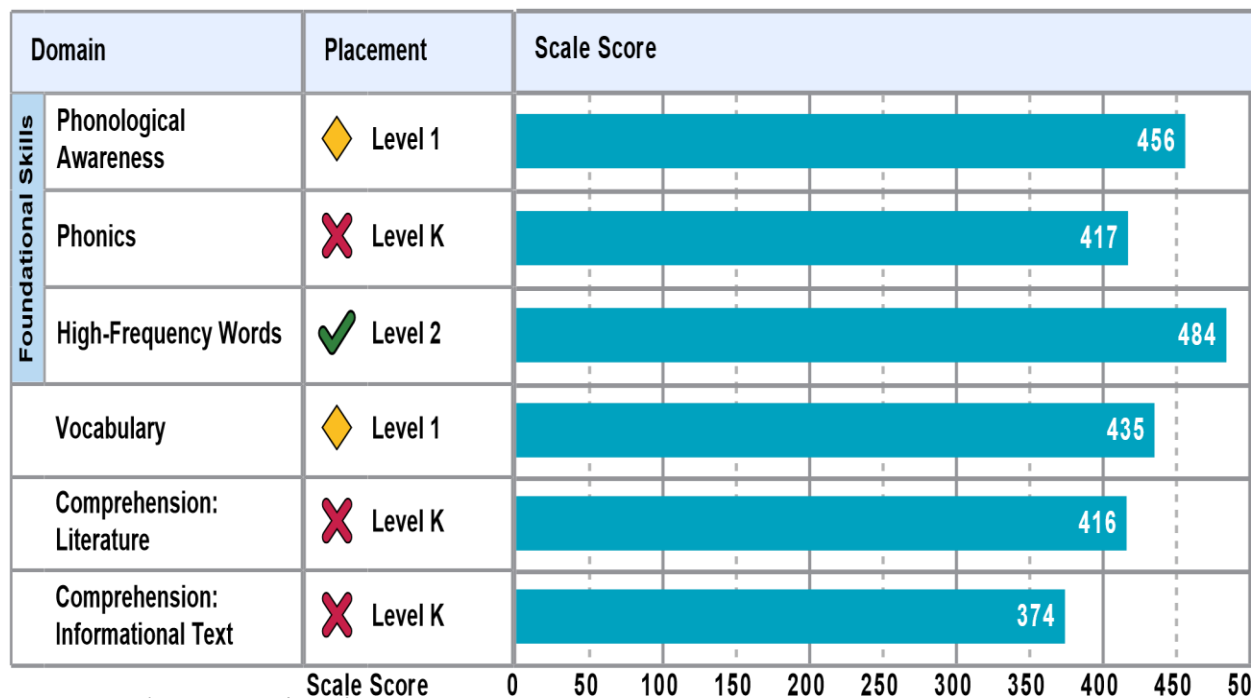


Source: Curriculum Associates (2017a)

Example 1: I-Ready. I-Ready (Curriculum Associates, 2017a) is a CCSS-aligned K-12 prescriptive and diagnostic computer program (Curriculum Associates, 2017b). An instructional program is included for grades K-8th. The skills-based lessons are prescribed for individual learners and are appropriate for all students. I-Ready won CODIE 2013, Bessie 2014, and Reader’s Choice awards (Curriculum Associates, 2017c). The program is associated with student gains and offers informative diagnostic reports, ongoing progress monitoring, and intervention lessons.

When i-Ready is the selected method of measurement, the student is given an i-Ready diagnostic to determine performance levels. Sample diagnostic results in Reading are shown on Figure 3. The student scored at varying placement levels across Reading sub-domains (Figure 3). The lowest score was in the skill area of comprehension of informational text. Reading comprehension is both a low area of performance for the student and a heavily weighted curriculum skill. It follows, comprehension of informational text is a needed skill area for a personalized, meaningful, and relevant student goal. The baseline would be 374 (Figure 3). Skills are restated as a goal in Step 3 of the Model for Developing Technology-based Student Learning Targets. The following would be a realistic goal for the student: Given supplemental instruction on comprehension strategies and a variety of informational text selections, the student will answer comprehension questions with sufficient proficiency to raise his score from 374 to 402 by May 7, 2018. Diagnostic testing can be added in the i-Ready program, and student progress on the goal can be measured by reviewing diagnostics.

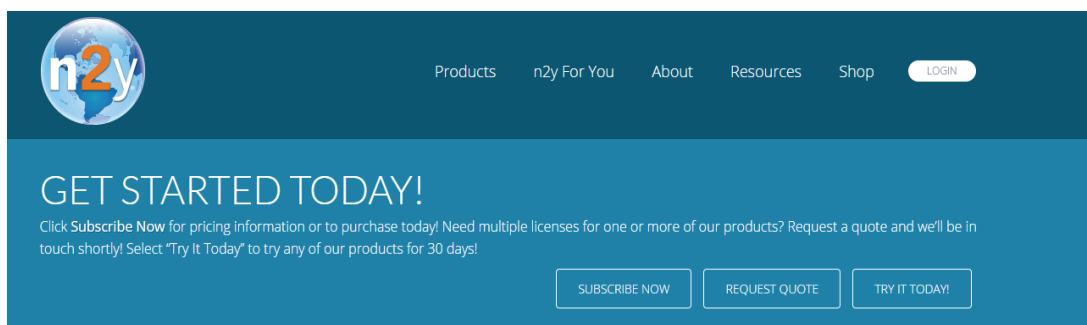
Figure 3: Sample Diagnostics in Reading



Source: Curriculum Associates (2017a)

An alternative approach to i-Ready goal writing for students who have been using the system is to use diagnostics to determine goal area, as used above, but to set criteria of proficiency for achievement percentage and number of computerized lessons passed. Since

i-Ready is diagnostic and prescriptive, students can be prescribed lessons in specific sub-domain of testing. Teachers can also add extra lessons for students to work on specific skills. Performance will likely be low in lesson sub-areas where students scored low in for diagnostic testing. An alternative i-Ready goal for comprehension of informational text would be the following: Given supplemental instruction on comprehension strategies and opportunities to participate in on-line lessons, the student will answer comprehension questions with 75% accuracy in five or more lessons by May 7, 2018. A review of student performance would reveal the baseline, such as an average of 60% accuracy in 7 lessons.



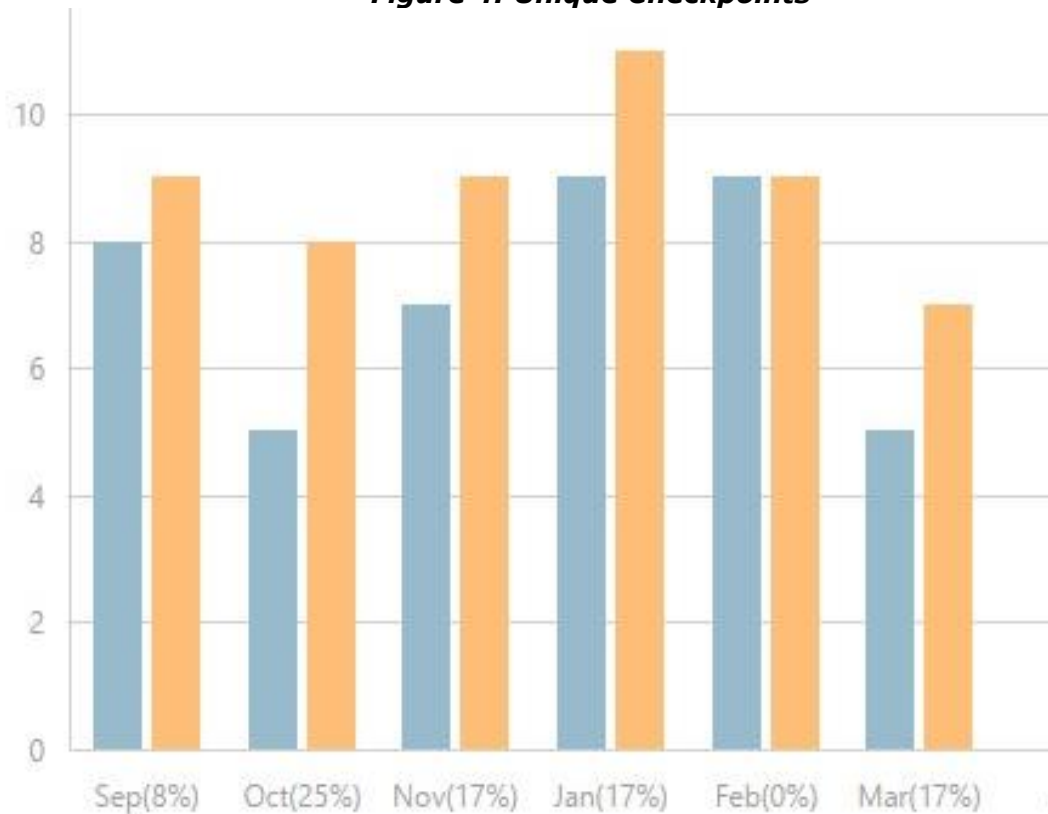
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Example 2: Unique Learning System. Unique Learning System (N2Y, 2016) is designed for students with special needs. Diagnostics are part of and aligned to the Unique instructional program, which contain a monthly pack of lessons and resources aligned to standards. Materials also align to extended standards that address generalization of skills, a functional curriculum, and embedded language support for students with significant disabilities. Testing and material are differentiated to three levels, including a picture/symbol reading level. The program offers monthly lessons and checkpoint pre-and post-testing of lessons. A sample printout of student checkpoint data is shown on Figure 4.

Since checkpoints are completed twice monthly and checkpoints represent skills taught each month, a goal based on checkpoints meets all requirements for a SMART goal. Step 2 in the Model for Developing Technology-based Student Learning Targets calls for selecting a goal area based on student data. A review of checkpoint data shown on Figure 4 reveals a developing skill area of *Identify more, less, same to 10*. A glance at the easy to read chart shows this area is the first area of hierarchical skill with more yellow (steady) and red (emerging) performance areas. Data reveals the student has consistently counted to 10 and recognized numerals to 20. There are less green (advanced) dots for *Solve for an unknow. Identify a math sentence*, but with a scaffold approach this skill comes after identifying more, less, and the same to 10. Baselines are observed in checkpoint data by average or frequency. The next step in developing a goal is to translate the skill to a learning target. A relevant and realistic goal for the student based on personalized Unique checkpoint data would be the following: Given monthly lessons with pre-and post-checkpoints, the student will identify more, less, and the same to 10 at an advanced level of proficiency in three out of five trials by May 7, 2018. Based on data shown in Figure 4, the baseline would be advanced level in one out of five trials.

An alternative approach in developing a student goal based on Unique data is to use Unique benchmark skills. Benchmark skills are skills in the following sub-area bands: Emerging, Early Learning, Reading, Writing, Basic Math, and Math Problem Solving. Skills in the sub-area of Reading, for example, are Initial Letters, Word, Rimes, Word Recognition, Reading with Symbols, Listening Comprehension, Final Letters, and Reading Assessment. Each skill has a corresponding assessment. Assessments can be repeated periodically to show growth. Results from each assessment trial are banked and displayed on skill graphs automatically by the system. Each assessment has a maximum of 18 items. An example of a goal in the area of final letters, for example, is the following: Given supplemental skill lessons, the student will identify final letters in given words with 78% (14/18) accuracy by May 7, 2018 (Baseline 9/18 = 50%).

Figure 4: Unique Checkpoints



- **Advanced level**
Consider extension activities to build higher level skills and knowledge.
- **Steady skill or knowledge development**
General presentation of lessons should provide continued growth.
- **Emerging Skills or Intensive Intervention**
Continue to work on early or prerequisite skills to support the identified objective.

Mathematics Skills Analysis

	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Count objects to 10. (Questions 1 & 2)	●	●	●	●	●	●	●	●	●	●	●	●
Recognize numerals to 10. Recognize numerals to 20. (Questions 3 & 4)	●	●	●	●	●	●	●	●	●	●	●	●
Identify more, less, same to 10. (Questions 5 & 6)	●	●	●	●	●	●	●	●	●	●	●	●
Add to 10. Add to 20. (Questions 7 & 8)	●	●	●	●	●	●	●	●	●	●	●	●
Subtract to 10. Subtract to 20. (Questions 9 & 10)	●	●	●	●	●	●	●	●	●	●	●	●
Solve for an unknown. Identify a math sentence. (Questions 11 & 12)	●	●	●	●	●	●	●	●	●	●	●	●
	Sep	Sep	Oct	Oct	Nov	Nov	Jan	Jan	Feb	Feb	Mar	Mar

CALL in Context

The current American educational practices of Common Core State Standards (CCSS) and determining teaching effectiveness based on student performance data shape expectations for effective classroom instruction. Within the context of evolving practices, there is a growing diversity of student need. The current work offered a Model for Developing Technology-based Student Learning Targets with practical applications. Technology can assist in meaningful, standards-based, personalized instruction and help teachers manage instruction for all learners, including those with special needs.

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Digital Tools for oral skills development in English

Bio data



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Abstract

This research aimed at investigating the use of digital tools to develop oral skills in English. It was carried out in an online course taught in 2016 by two teachers at a Brazilian university. The course was offered twice for groups of approximately 70 students each. It aimed at helping undergraduate students to gain more confidence in their ability to *speak English* and offered possibilities for the learning of oral skills outside the traditional classroom with the aid of digital tools. The students were assigned asynchronous tasks which stimulated collaboration and offered equal opportunities for language use. All the instructions, tutorials, discussion forums and links were posted on the Moodle virtual environment hosted by the university.

Conference paper

Introduction

Oral skills can often be considered a tortuous path in teaching English as a foreign language (TEFL) in Brazil. This seems to be a reality in both face to face and online learning. EFL learners and teachers alike talk about the development of oral skills with sadness and discredit, generally complaining that it is impossible to learn how to talk in English because of the overcrowded classes, lack of infrastructure, bad quality of textbooks, and others, as

can be seen in the language learning histories of the AMFALE project website (<http://www.veramenezes.com/amfale/>).

Moreover, although voice technology has been accessible since the 90s, there hasn't been significant investment and research in its use for developing oral skills in EFL teaching. Google Scholar search engine, for instance, does not show many articles about the use of digital tools in the context of foreign language teaching. Some of them investigated the use of low-tech tools, such as tape recorders, audio CDs, video cameras, CD ROMs etc.

Our intention is to shed light on the use of high-tech tools, web tools and apps that can be accessed both on simple computers and mobile devices, such as smartphones and tablets. Our research was carried out in an online course taught in 2016 by the authors in a Brazilian university. The course was offered twice to groups of 70 students each. It aimed at helping undergraduate students to gain more confidence in their ability to *speak* English and offered possibilities for learning oral skills outside the traditional classroom with the aid of digital tools. The students were assigned asynchronous tasks which stimulated collaboration and offered equal opportunities for language use. All the instructions, tutorials, discussion forums and links were posted on the Moodle virtual environment hosted by the university.

The next section presents the theoretical support, followed by the methodology description. Then, we analyze data derived from our observation and from the students' learning journals. Lastly, we draw some final considerations.

The Classroom as a dynamic complex system

Classrooms are dynamic complex systems because they are comprised of many interrelated elements – teacher(s) and students – in a constant movement of action, reaction and co-adaptation. They belong to different social, historical, political and cultural backgrounds and display different behaviors due to their different levels of motivation and agency. As Davis and Sumara (2006) point out, this social collective “can vastly exceed the summed capacities of their members” (p. x) and reach results difficult to be achieved individually in a short span of time.

Larsen-Freeman and Cameron (2008) suggest four components that can be applied to classrooms as a complex adaptive system. Following them, we can say that:

a) Language classrooms are connected “from individual minds up to the socio-political context of language learning, and across timescales, from the minute by minute of classroom activity to teaching and learning lifetimes” (Larsen-Freeman and Cameron, 2008, p. 198). In our classrooms, students and teachers were interconnected into a web of affordances and constraints in a virtual learning space where they are supposed to deal with digital tools for oral tasks.

b) Language is dynamic: as proposed by Menezes (2003): Language must be understood as a non-linear dynamic system, made up of interrelated bio-cognitive, sociocultural, historical and political elements, which enable us to think and act in society. Language is not a static object, but a system in constant movement. Its interacting elements influence and are influenced by each other. As language is in evolution, so too is SLA and any change in a subsystem can affect other elements in the network. It develops through dynamic and constant interaction among the subsystems, alternating moments of stability with moments of turbulence (p. 498).

Likewise, we see language learning as a complex adaptive system influenced by internal and external factors in a process which undergoes moments of stability and moments of turbulence.

Davis and Sumara (2006) state that "one cannot reliably predict how a student or a classroom collective will act based on responses in an earlier lesson, or sometimes a few minutes previous" (p.18). In our classrooms, students use language to learn the language and their language system changes along the course in a nonlinear way. Students can use an accepted form in a moment and then misuse it sometime later, and use it properly again in another opportunity.

c) Co-adaptation is a key dynamic. Larsen-Freeman and Cameron (2008) explain that Language classrooms are full of people co-adapting teacher with students, students with each other, teacher or students with learning contexts". (...) Understanding how and why co-adaptation happens will shed light on patterns of classroom action and help work out how intervention might be successful (p.199).

We see our classrooms as self-organizing and adaptive systems where teachers and learners are continually adapting to each other. Students use language in order to perform tasks and feedback influences their ever changing language system.

As complex systems are open and our main tools – digital technologies – are always changing or disappearing, the classroom system constantly changes and self-organizes, allowing the emergence of new forms of expression. We adapt to the affordances and constraints in our local and outer contexts. Each day the language classroom emerges as a new classroom because it has been learning from its daily experiences.

d) Teaching is managing the dynamics of learning. As Larsen-Freeman and Cameron (2008) highlight "the action and intentions of the teacher may work as control parameters that take the system of learners and teacher forward to new learning experiences" (p. 54). As such we were always ready to intervene and urge the students to act with the language by challenging them with creative tasks and useful tools, providing them feedback and asking classmates to do the same. But this does not mean that we can control our students' learning. Some students may refuse to perform a task and others may pick up affordances that are different from the ones we offered.

Another characteristic of complex adaptive system is its iterating function, that is, its capacity to apply a function repeatedly. Davis & Sumara (2006) explain that "At each stage in a recursive process, the starting point is the output of the preceding iteration, and the output is the starting point of the subsequent iteration" (p. 43). Larsen-Freeman (2013) considers iteration as a "key to cognitive processing" (p. 229). She advocates that repeated instances of patterns, slightly varied consecutive activities and the change of the conditions of specific tasks are essential for language development (Larsen-Freeman, 2013a, 2013b, 2015). Iteration is not merely repetition. In Larsen-Freeman's (2013a) words,

Iteration, or the opportunity to revisit the same territory again and again, is different from repetition; it is the former that is important for language learning and for transfer. "Teaching for transfer then involves returning again and again to an idea or procedure on different levels and in different contexts ..., with what appears to be different examples. But from a transfer perspective, 'different examples' are but variations on a single idea or concept" (Haskell, 2001: 214) (p. 121).

In our two courses, iteration occurred in two instances: slightly varied consecutive tasks and opportunities for the students to revisit the same territory again and again, by recording their oral productions again and again. In our pedagogical experience, it also occurred in the curriculum: at a micro level, each pedagogical experience output gave us experience for planning and re-planning the others. At macro-level, the overall experience in the first semester was the starting point for the second. All in all, the system changes with experiences and the second classroom was similar but at the same time different from the first.

Methodology

In order to choose the digital tools and design the course, we followed three steps. One and two were inspired in Siemens (2008).

1. Experimentation: selection, experimentation and evaluation of different tools and pedagogical activities mediated by digital technology to the development of oral skills.
2. Implementation: widespread adoption based on the knowledge acquired on the previous stages.
3. Evaluation: assessment of the activities mediated by digital technology in Massive Open Online Courses (MOOCs).

The digital tools were selected based on the following questions:

- a) Is the tool free?
- b) Can the tool be used in any platform?
- c) Can the tool be used without software setup?
- d) Is the software use intuitive?
- e) Can the tool be used for educational purposes?
- f) Is the tool suitable for the development of oral skills?

Then, in the *experimentation* stage, activities on the development of oral skills were created in order to be piloted by volunteer students of the ESP courses of the university. However, very few students demonstrated interest in that process, which made the piloting as originally planned impossible. Next, in the *implementation* stage, the tools were reassessed and a 15-week course was designed on the Moodle platform. Two classes with capacity for 35 students each were offered in the School of Languages.

During the course, the teachers posted comments focusing on the content of the discussion forums where the instructions and links for each task were shared.

At the beginning of the semester, students were asked how they wanted to be corrected. The majority of the class opted for a collective feedback. Thus, every week, the teachers posted a file with feedback about syntactic problems, word choice, pronunciation and stress. Then, students were encouraged to check the correct pronunciation and stress at <http://www.dictionary.com>

On the main page of the virtual environment, in addition to the area for collective feedback, there were also a forum for solving doubts and another for interviews, which were conducted throughout the semester. Students were informed about the fact that their answers would not influence their grades, but would help the teachers to evaluate the course and make adaptations for a new offer.

During the first week, students recorded an audio practicing the language functions that would be developed throughout the semester, so the teachers could evaluate their oral comprehension and production skills and make comparisons at the end of the course. As a

final activity, students were asked to listen to their first recording and evaluate their performance.

These are the tasks students were supposed to develop along the 15 weeks of the course:

1. Audio recording answers to questions with language functions that would be developed in the course, using Vocaroo.
2. Recording a personal introduction using Voki.
3. Making comments about the colleagues' introductions using Vocaroo.
4. Creating a family photo album with audio description using UTellStory.
5. Describing an influential person in the first person using Voki avatars. The colleagues were supposed to listen to the avatars and guess who the persons were.
6. Building a multimodal glossary with vocabulary about food. Students were instructed to post names of ingredients and procedures with respective images and an audio file so that other students could check the right pronunciation.
7. Recording a video recipe using PowToon or a smartphone.
8. Audio recording about the personal university routine using Vocaroo, a smartphone or any recording tool.
9. Podcast recording with image and audio describing a favorite destination in Brazil using Fotobabble.
10. Debating about likes and dislikes based on a video using VoiceThread.
11. Debating about feelings and emotions based on a video using VoiceThread.
12. Asking and giving information about the university using AudioBoom.
13. Telling a love story using Vocaroo, a smartphone or any other tool.
14. Writing their English learning histories using PowToon, UTellStory or FotoBabble.
15. Talking about plans for the future using any audio recording tool.

The script for the first recording was in Portuguese because our goal was to test students' previous knowledge without providing them any input. This script was

Greet your professors
 Say your name and your age.
 Describe your family.
 Say your favorite food and explain how to prepare it.
 Describe your university routine since you leave home until you return.
 Inform where you were born and say what you like about your hometown.
 Say your positive and negative emotions about it.
 What information about the course would you like to know?
 How do you feel when you have to speak English in the classroom?
 How was your experience with oral skills in other courses?
 How do you think you can develop oral skills in English on the internet?
 What are your plans for the future?

Each week, students could download support material from the learning environment, including documents and videos with descriptions of language functions, useful expressions, genre samples and tutorials for the digital tools.

As the course was hosted on a Moodle platform, collaboration, network creation and data storage took place in the learning environment. However, due to the lack of knowledge that Vocaroo does not store the recordings for a long time, a great amount of data was lost. This problem was solved in the second offer of the course by instructing the students to download the files and embed them in their postings. It is worth highlighting that Vocaroo is an excellent tool and was successfully used by the students.

The fourth stage, evaluation, will be discussed in the next section.

Evaluation

The data analysis is based on our observation and on the students' learning journals.

Students and teachers were interrelated in a movement of action, reaction and co-adaptation. Teachers challenged the students with different tasks to be performed with the aid of digital tools and they acted with the English language to achieve the proposed objectives. Although most of the activities were done individually, some students wrote in their diaries that they used to check their colleagues tasks before doing their own and that they learned from the teachers' collective feedback. They also contributed to each other by posting comments and giving suggestions to their classmates.

The multimodal glossary was a good example of the emergence of a product which would not be achieved by each member alone, proving that the group, according to Davis and Sumara 2006, "can vastly exceed the summed capacities of their members" (p. x). Each individual contribution worked as a stimulus for the colleague to include something different but within the same parameter of quality. Teacher feedback helped students to correct some few mistakes and in one week, they got as result a complete glossary of names of ingredients and procedures.

At the end of each course, we asked the students to compare their performances in the first and last productions and evaluate if there had been any progress in terms of language use and to say what they had learned. We also asked them to tell us if they felt more comfortable and if their recording sounded more natural.

Their reports matched our observation and support our conclusion that the first task was a moment of instability for the great majority of students, even for those who were already fluent. One student said that she was so afraid of recording her own voice that she typed her text to be read by the avatar tool. As her task was not accepted she had to do it again with her own voice.

During the semester, their anxiety decreased. They felt more comfortable and sounded much more natural at the end of the course. Although they had done their best, some mistakes were made and some students reported that not being penalized by that was very stimulating because they felt free to speak. They also considered the opportunity to listen to themselves and to check the mistakes included in the feedback file as positive contributions for their language learning. One student said: "I did not feel judged at any time and I found it interesting to listen to other people."

We can say that their language system changed along the course in a nonlinear way. Students tried to monitor their oral production, but in the same production we could observe that the same syntactic form (e.g. subject-verb agreement) was used in the standard form once and then it appeared again without the proper agreement. In the next task, it would appear in the standard form again and so on. That proves that this student's language system is in the process of self-organization and adaptation.

As a collective, we learned with each other and with our own experiences. We, teachers, had not perceived the affordance offered by Moodle for audio embedding, but a student embedded one of her audios and we asked her how to do it and she taught us. We had not perceived the constraint on the hosting time limit for the audios recorded with *Vocaroo* either. As a consequence, many audio files were lost.

We learned with both experiences and, when the second course was offered, we urged the students to embed their audio files.

Iteration was fundamental for language learning development, according to our students. Even the ones who were fluent reported that they used to prepare a script and record their task several times before uploading the final one. We understand that, each time they recorded their scripts, they monitored their performances and recorded their texts again and again to make them sound better. It was not a mere repetition because each output was the initial condition for the next oral text which was different from the previous recording. They revisited the same territory again and again in their quest for a better performance and by doing so they brought dynamicity into their systems.

Final Considerations

Students formed a connected network, interacted with classmates and teachers, learned with feedback and also with each other's performances and mistakes. Moodle together with digital tools offered a safe environment for the development of language learning. The iterative movement of recording, monitoring, re-recording was essential for the development of the students' language learning system.

The learning journals present enough evidence for us to state that the use of digital tools was essential for decreasing anxiety, increasing motivation and giving all the students the same learning opportunities.

CALL in Context

Learning English in a context where students have few opportunities to interact face-to-face with English speakers is always a challenge. In addition, the interaction in the classroom is generally an experience characterized by stress and emotional insecurity mainly because students fear being judged and mocked by more competent peers. Digital technology can be helpful to partially solve the problem, by creating a safer context where students do not feel threatened by the other participants. We chose user-friendly technology, freely available in the clouds, because not having to download any software increases the chance of motivating the students to do their tasks. The selected digital tools (text-to-speech tools, Vocaroo, Voki, Audioboom, UTellstory, Fotobable and VoiceThread) helped the design of new contexts for the recording and sharing of oral texts. The classroom in such a context was understood as a dynamic complex networked system. The **interacting elements (teacher and students) influenced and were influenced by each other** and adapted themselves to the affordances and constraints in their local and outer contexts. The different experiences with digital tools and contextualized oral tasks led **their learning behavior** to a phase **shift as** students stated they had increased their motivation and decreased stress when recording their texts with the aid of digital tools. They also said that they had learned with each other and even with classmates' mistakes. Similar results were obtained in the two courses and that proves that the findings might be generalizable.

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Using online extensive listening to promote language input in an EFL context**Bio data**



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Abstract

For students studying in English as a foreign language (EFL) contexts, there are few opportunities to engage with English outside the classroom. The Internet, more importantly, the access to English content and English discourse communities it provides, however, has the potential to transform the language learning experience. With the overarching goals of improving EFL student's listening fluency and promoting independent lifelong learning, this study reports on Japanese EFL students self-selecting English listening content online. Students were asked to listen to three online texts a week throughout a 15-week semester. Student engagement was tracked with a post-listening log, which was analyzed to explore students' material selections, problems or difficulties experienced while listening and reflections on the listening content. Student perceptions of this homework task were also collected in a post-treatment questionnaire. It was found most students had positive perceptions of this style of learning task and the most frequently chosen materials included Ted Talks, ESL Fast texts, YouTube, VoiceTube and ELLO. Students' most cited difficulties while listening were meeting unknown vocabulary, speakers being too fast and failure to focus because they were concentrating on the previous section's content or vocabulary.

Conference paper

Introduction

For a student studying in an English as a foreign language (EFL) context, there are few opportunities to encounter English input outside of the classroom. To overcome this lack of input, teachers in these contexts are using online media and encouraging activities such as extensive reading. Aiming to develop EFL students' listening skills and promote independent language learning, an extensive listening component was implemented in four EFL classes for Japanese university students. This paper begins with an introduction to extensive listening (EL) and its theoretical foundation and is followed by a review of the EL component.

Extensive listening (EL)

For this researcher and EFL teacher, EL involves students listening to large quantities of self-selected texts at or slightly below their linguistic level. The overarching goal is to develop good listening habits and students' knowledge of vocabulary and structure. The theoretical foundation for EL comes from Krashen's input hypothesis (1993), which argues for comprehensible input being a crucial ingredient for second language acquisition. In EL, three core components are highlighted: (a) student selection of listening texts, which according to Lynch (2009) encourages student motivation to practice and continue practicing in their own time; (b) listening in large quantities. Apart from spending extended periods of time listening, students need exposure to different types of discourse, such as dialogic speech and English accents (Gilliland, 2015; Renandya & Farrell, 2011); and (c) the level of the text needs to be at or below students' reading level. Following the theoretical foundation of this approach, which argues for comprehensible input, the level of text deserves special attention, especially when the focus is listening. For many EFL learners listening is exponentially harder than reading because reading and writing training most likely preceded listening instruction. As Waring (2010) noted, EFL students can only start to recognize specific linguistic features such as collocations and nuances of grammar and pronunciation when almost all of the words in the text are understood. Moreover, while reading, it is easy to go back and re-read a section to follow up on an unknown word or phrase. Reviewing a text cannot be done as easily while listening as students have to fiddle with a media player to find the section in question or forfeit understanding parts of a listening text to focus on a listening problem. For these reasons, EFL students need to receive training to help them select level-appropriate texts.

Literature Review

While the effect of EL on language learning is an under-researched area, many studies recognize its positive influence on the development of listening skills. Chang and Millett (2016) tested the effects of Taiwanese University EFL students reading-while-listening to a graded reader book then listening to the graded reader once more and answering comprehension questions for homework. Their study found that students who listened to over ten books during the treatment were able to achieve increases in listening fluency and standardized English test (TOEIC) scores. The researchers observed that the more students practiced, the better they became and that the inclusion of post-listening activities also enhanced students' listening skills. Another important observation from this study was that low-level listeners take longer to listen effectively. As a result, Chang and Millett recommended that lower level listeners spend longer periods of time working at the lowest level of listening. While this study presented some promising results advocating the effectiveness of EL, it can be criticized for not being an accurate reflection of EL as none of the texts were selected by the students, texts were not chosen based on students listening level, and students initially read-while-listening to each text.

English language students listening or watching online content and reporting in logs or diaries has been reported in some contemporary studies. In a book chapter promoting the use of listening logs as a way to encourage students to engage in English study outside the classroom, Gilliland (2015) reported on her intermediate and advanced ESL students' perceptions of EL logs. Surveys of students who used listening logs for several semesters revealed that the EL log experience had encouraged them to seek out new genres of listening content. The most popular types of content included: television comedies, dramas, and feature films while students' least favorite were lectures, news, and documentaries. Students also reported that the experience taught them more about American culture and they observed improvements in listening and critical thinking skills. Hubbard (2015) also

described an online EL component he created for ESL students. Along with developing listening skills, the component aimed to promote vocabulary knowledge and the development of personal learning strategies. Reporting on information gleaned from student self-report forms, pre and post-comprehension testing and fortnightly meetings with students, Hubbard noted that students had improved their listening comprehension skills, that students were reflecting on their learning more effectively and that students displayed a motivated stance towards the EL component.

Focusing on EFL students listening to online content, Chen (2016) reported on her Taiwanese EFL students maintaining an EL diary. Students perceived the EL diary component positively, and they cited the gaining of new knowledge, improvement in listening skills, how the task promoted future study planning, increased self-confidence as benefits. In her conclusion, Chen noted that for the seeds of successful independent learning to grow, careful scaffolding, training, and monitoring of students is required as they navigate the myriad of listening resources online.

Methods

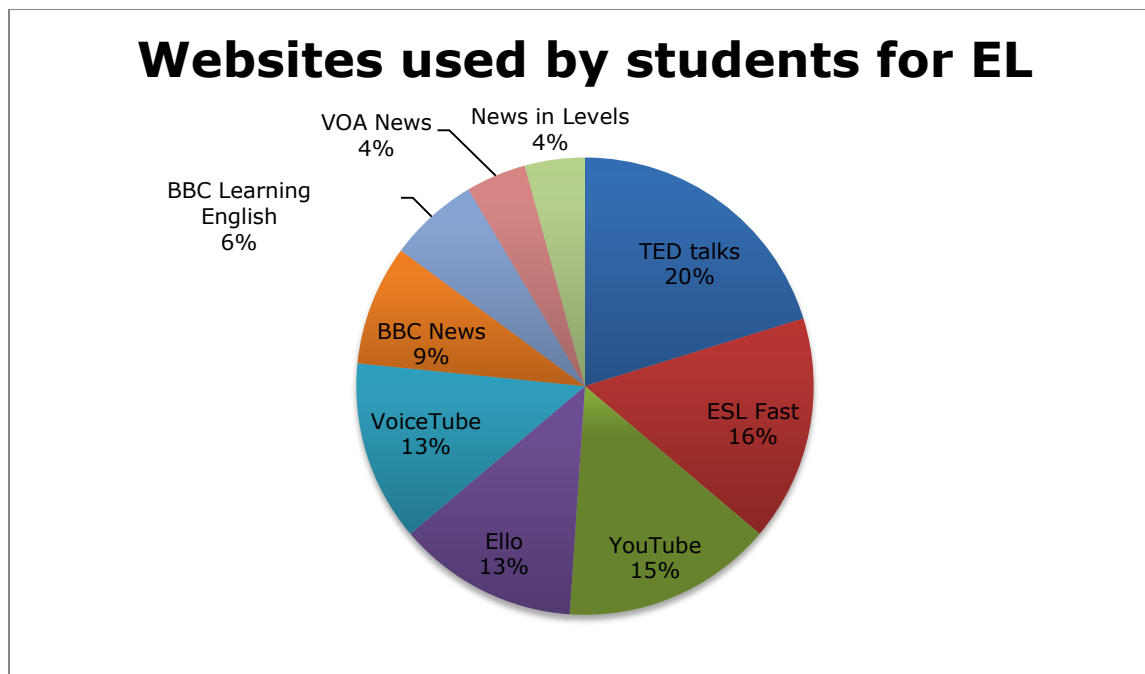
In this study, four classes of intermediate and upper-intermediate Japanese university EFL students (CEFR levels B2-C2) were asked to select audio or video texts online and complete a short post-listening questionnaire. Students were encouraged to complete a minimum of three logs per week for homework over a 15-week semester. At the end of the course, each student's log data was reviewed to establish an EL grade, which amounted to 15% of his or her overall score for the course.

To facilitate the log keeping process, a post-listening questionnaire created in Google Forms was used (available at <https://goo.gl/forms/8a17IjHAXMvcoFek1>). The questionnaire included ten questions relating to the listening experience. Student responses were also displayed in an online spreadsheet (Google Sheets) and this document was accessible to students and the teacher to track progress and share interesting listening content. Even though students were free to choose what they wanted to listen to, at the beginning of the course, the instructor introduced a range of websites that would be appropriate for finding comprehensible input and stressed that students choose texts that appeared interesting and easy to listen to (i.e., I-1 or I-2). A list of websites with graded listening content was posted to the classes' websites, and to reinforce the importance of using level-appropriate texts, a check box style question where students had to choose which website they listened to was included in the EL log.

EL log results

At the end of the four 15-week courses, a total of 1789 logs were completed. These logs were then analyzed to identify the most selected websites for students. As illustrated in Figure 1 below, the most popular websites for this group of EFL students were TED talks, ESL Fast, YouTube, VoiceTube and ELLO. Despite TED talks taking on average longer than texts found on the other sites, it was interesting to observe that it was the most used resource. One explanation for its popularity was noted by a student in the post-treatment questionnaire, "I favored the part where I could gain knowledge and listening skills at the same time through doing my listening logs." Moreover, students appreciated the variety of content and ease at which they could search for talks that interested them on the TED website. Nevertheless, the broad spread of sites used as well as 60/40 split observed between monologic and dialogic texts selected indicated that students listened to a variety of content during the course.

Figure 1: Summary of the ten most popular websites students used for EL



Another interesting finding from the logs relates to how students went about their EL. In 97% of the logs, students reported only listening to a text once. This result may be a reflection of students choosing level-appropriate texts to listen to; however, one may also question whether students were critically reflecting on their listening or working on developing strategies to fill in the gaps when listening comprehension fails. In some cases, it seemed that students were using subtitles to enhance comprehension. The use of subtitles was reported in 30% of log entries.

To promote deeper reflection on the listening process, one item in the EL log asked students to choose from a list of listening problems (adapted from Goh, 2000). Table 2 presents the frequency students experienced each problem. The most frequently reported problems were related to unknown vocabulary and failing to focus because one's attention was on the previous sections of the listening text. To control for vocabulary difficulty in the future, this group could have benefited from learning how to use digital tools to evaluate text's level of vocabulary difficulty. For example, students could be taught how to use Tom Cobb's Lextutor (www.lexutor.ca), an approach that was implemented in Hubbard's listening course (2015).

Table 2: Frequency of listening problems noted by students

Listening Problem	Frequency
Unknown vocabulary	904
Could not focus on the next part because you were thinking about the previous section/words/concepts	239
Could not chunk streams of speech	136
Quickly forgot what was heard	157
Could not understand the speaker(s) accent	148
Could understand the words, BUT NOT the message/idea	83
Could not understand the end of the story because you could not understand the introduction	33
The speech was too fast	183
Technological problems	48
No problems	220

Post-treatment questionnaire results

Following the course, 68 students responded to a post-treatment questionnaire. Overall students appeared to have a very positive perception of the online listening log component. Slightly over 70% were in agreement with the statement *I feel my listening skills improved after doing the listening log*. A further 81% were in agreement with the statement: *I would like to do listening logs in a future English class*, and 90% agreed with: *EL logs are a good way to practice listening in English*. When asked to describe what they liked about the component, popular themes included having freedom to choose what to listen to and being able to follow classmates' listening data on the online spreadsheet.

Although 1789 logs were made, had all of the 78 students completed the requirement of listening to three texts per week during the 15-week semester, a total of 3510 logs would have been recorded. Students' failure to reach the listening target suggests some refinement is required with this approach. Students' responses to the post-treatment questionnaire item asking them to list what they disliked about the EL component provided some suggestions for improvement. It seemed that students did not like to have to write a reflection for every text they listened to. A few also noted that they would like to spend more time listening rather than having to worry about what to write in a reflection. Moreover, some students asked for the questionnaire to contain only multiple choice or short response questions. That way they could complete the questionnaire more comfortably on their smartphones. In addition to frustrations relating to completing the log, a small number of students also found searching for an appropriate text troublesome, such as, "to choose various topics to listen to took too much time."

While students perceived this EL component positively and many students felt that their listening skills improved at the end of the course, some refinements need to be made. Firstly, the volume of listening required of students needs to be considered. Although requiring students to listen to a text and complete a log for three listening texts per week appears relatively simple, allocating 15% of their final grade to this task may be too little a reward for some students. Next, to keep the focus on listening some items in the questionnaire could be removed. Removing the reflection paragraph, the question that asked for the duration of the listening text and changing the order of listening problems (displayed Table 2 above) were recommended by students as ways to make the log keeping process more seamless.

This review has not evaluated the sub-goal of training students to be more independent language learners. Next time around, some items could be added to the post-treatment questionnaire to ask about this issue. To effectively monitor and evaluate student's decision making and depth of reflection, it would be worthwhile following the approach adopted by Hubbard (2015) who incorporated fortnightly interviews with students to give feedback on their listening logs and go over student's choices of materials and learning strategies used.

It will also be interesting to test whether this component can promote listening skills. A pre/post listening test could be implemented such as the Plaister Aural Comprehension Test employed by Hubbard (2015) or the TOEIC listening test used by Chang and Millett (2016). Growth in students' aural vocabulary knowledge could also be measured using the listening vocabulary size test (McLean, Kramer & Beglar, 2015).

Conclusion

To overcome the dearth of English input in the EFL learning context and promote listening and independent learning skills, an online extensive listening component was implemented in the researcher's EFL classes. This paper reported on the implementation of the component in four Japanese university EFL courses. While this review presented a number

of encouraging results, the researcher is looking forward to sharing a refined approach with a new group of learners this academic year.

CALL in Context

Concerning the questions presented in relation to the conference theme, the two most relevant include:

- How does the local context shape the design of our learning environment?
- To what extent do technologies afford context-dependent enrichment and personalization of the learning process?

This study is situated in Japan, a very homogenous country, where students face limited opportunities to use their second language, English outside the classroom. To increase students' aural input, a blended learning approach, whereby students met in a classroom for 90-minutes each week and an outside of class requirement, to listen and report on three online listening artifacts every week were combined.

Although the internet provides a massive amount of English content, it is uncategorized and often not graded for language learners. It is therefore up to the teacher to understand their students' needs and effectively guide them in choosing appropriate content. Moreover, it has been reported that Japanese university students lack core digital competencies (see: Gobel & Kano, 2014; Lockley, 2011; Murray & Blyth, 2011; OECD, 2015). As a result, EFL teachers in this context need to dedicate more time to technical training and consider ways to develop students' skills at evaluating online content. In this study for example, students were introduced to websites featuring graded texts and sites providing listening support (e.g., listening transcripts and speed controls) and taught how to search or filter through the content available.

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The role of CALL in shaping learner autonomy of undergraduate EFL students in the Vietnamese university setting

Bio data

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Abstract

One of the major questions facing educational reformers in Vietnam who value the combination of CALL and face-to-face learning is how to promote learner autonomy in this blended approach. Using a mixed methods design with two sequential phases, the aim of this research was to understand the beliefs and performance of learner autonomy in the Vietnamese EFL context, and to explore the relationship between learner autonomy and CALL. In Phase One, quantitative data collected from 1,258 EFL tertiary students in Vietnam through survey questionnaires helped to investigate several aspects of learner autonomy. It also helped to examine how these aspects correlated with CALL via students' beliefs of responsibility and self-reported autonomous practice. Phase Two focused on four students at one university that currently uses blended learning, and further explored how these learners took responsibility when having more choices in a technology-enriched environment. Qualitative data in Phase Two was collected through a series of student learning journals, classroom observations and semi-structured interviews with learners.

Results revealed students' beliefs that they should be more responsible for most stages in their learning process. However, impacts of the Confucian heritage culture kept students dependent on the teachers in certain stages, like choosing resources for learning or selecting options for assessment. Interestingly, how often learners used CALL positively correlated with the belief of their responsibility, their willingness to manage their learning process and their confidence in their ability to take charge. Another impact of the current Vietnamese context, where government and universities have strongly promoted CALL, is a changed teacher's role, from knowledge provider to organizer or facilitator. This change has turned CALL into another indispensable "teacher" in the learning process. Specifically, the time students spent with CALL in independent learning was roughly equal to the amount they spent in face-to-face learning with their teacher. The results showed that:

- students through CALL, selected and contributed an increased amount of learning content, and had a say in the learning procedures;

- students, supported by technology, tended to be more autonomous and active outside the classroom and in informal learning; and
- students were obedient and more dependent on the teachers in formal learning inside the classroom.

The findings provide students, teachers and policy-makers with new insights into learner autonomy against the backdrop of educational reforms in Vietnam. Those reforms place a high priority on the use of CALL in EFL teaching and learning.

Conference paper

Introduction

In 2008, Vietnam embarked on an ambitious project to increase foreign language proficiency among its people. The National Foreign Languages 2020 Project (NFL 2020) was initiated with the goal to renew thoroughly the tasks of teaching and learning foreign languages within the national educational system (Government, 2008). One solution the Vietnamese government implemented was to use CALL to foster learner autonomy within its education system with the argument that CALL can support learners in a number of ways. Among the many benefits cited were enhanced opportunities for practice, diversified interaction modes, or “anytime/anywhere” access to those authentic resources relevant to individual interests.

This research examines the role of CALL in fostering learner autonomy in a blended language learning (BLL) environment in Vietnam. Specifically, the research aims to:

- understand the beliefs of EFL tertiary students about learner autonomy and how the students put those beliefs into practice in the Vietnamese EFL context;
- explore the relationship between learner autonomy and CALL; and
- offer suggestions for the design of such a learning environment where face-to-face and CALL components are blended both on and off campus.
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This paper also discusses some practical ways to apply CALL so as to change the learning styles of students and their perception of their role in the learning process, which are affected by the Confucian heritage culture (CHC).

Literature review

Learner autonomy (LA) has been defined in a variety of ways in literature. On the one hand, it relates to learners’ ability or capacity to take charge of learning (Dam, 1995; Holec, 1981; Little, 1991) On the other hand, learner autonomy refers to learners’ beliefs and attitudes toward learning (Dickinson, 1995; Wenden, 1991). Dickinson (1995, p. 167) highlights autonomy as an attitude of mind when saying that “autonomy can be seen as an attitude towards learning in which the learner is prepared to take, or does take, responsibility for his own learning”. Whether it is ability, belief, or attitude, a remarkable degree of consensus has emerged around the idea that autonomy involves learners taking more control over their learning (Benson, 2011).

Fostering language learner autonomy with CALL

The potential role of CALL in fostering learner autonomy has been discussed over the years, with the claim that it enhances language learning. A number of studies have shown the positive relationship between CALL and learner autonomy (Blin, 2005; Figura & Jarvis, 2007; Healey, 2007; Schwienhorst, 2012; Yiamkhamnuan, 2016; Ying, 2002).

Fostering learner autonomy with CALL in the Vietnamese EFL context

Vietnamese language researchers have taken different approaches toward promoting learner autonomy. Examples of those approaches are curriculum development, pedagogical intervention, renovation in teaching methods, or enhancement of learner motivation (Dang, 2010; Le, 2013; T. C. L. Nguyen, 2008; T. N. Nguyen, 2014; T. V. Nguyen, 2011; Trinh, 2005). Regardless of which approach they choose, the researchers agree that it is possible to achieve autonomy in language learning within Vietnamese contexts and to train Vietnamese learners to be more autonomous.

However, some cultural constraints hinder the use of CALL in developing autonomous learning behaviour. As in some other Asian countries influenced by Confucianism, the inequality of authority and power between teacher and student has facilitated the maintenance of the teacher-centred pedagogy for a long time (Le, 2013). In such a context, teachers are expected to make most decisions related to the learning process (P. M. Nguyen, Terlouw, & Pilot, 2005), while students are neither considered ready to take over some responsibility from their teacher, nor expected to do so.

EFL research on the use of BLL approach to foster LA has been limited in the Vietnamese context. Very little evidence has been reported about tangible outcomes of such attempts. The current research will contribute to our understanding of teaching EFL by providing a picture of BLL implementation to foster LA in Vietnam.

Methodology

Study aims and design

The study employed an explanatory sequential design, characterized by the collection and interpretation of quantitative data followed by the collection and analysis of qualitative data (Tashakkori & Teddlie, 2010). This design consisted of two phases, with different participant groups from the same population. The quantitative survey in Phase One with tertiary EFL students aimed at exploring: (1) learner beliefs on their roles and their teacher's roles in language learning; (2) how ready learners are to take responsibility for learning; (3) how students learn autonomously in practice; and (4) whether CALL affects such beliefs, readiness, and practice. The qualitative multiple case study in Phase Two aimed at revealing how learners practice their autonomous ability in a technology-enhanced environment and explaining how internal and external factors contribute to the trends found in Phase One.

The study was guided by the following research questions:

1. What are Vietnamese undergraduate EFL students' beliefs of their responsibilities and their teachers' responsibilities toward autonomous learning?
2. To what extent are they willing to learn autonomously?
3. To what extent are they confident in their ability to learn autonomously?
4. To what extent do they take responsibility for their learning?
5. To what extent do they use CALL to support their learning?
6. In what ways do learners take responsibility in and out of class when they are in a blended learning environment?
7. Why do learners make such choices to take responsibility for their learning in the blended learning environment?

Participants

The target population of the study were Vietnamese tertiary students enrolled in an English major undergraduate program like linguistics and cultures of English-speaking countries, TESOL, or English translation and interpretation in universities in Vietnam. Survey participants in Phase One were 1,258 students from nine universities across Vietnam.

Participants in the case study in Phase Two were four students from a university that currently uses blended learning in their English training program.

Instruments

The instrument for Phase One was a survey questionnaire, consisting of four parts with 59 items in total. The questionnaire helped to investigate respondents' views on responsibilities of teacher and learner, and their readiness for and practice of autonomous learning. The instruments for the case study in Phase Two were a series of learner diary, classroom observation, and semi-structured interview. These instruments helped to provide in-depth insight into a blended learning environment and how students practiced their autonomous ability in that context, both on and off campus.

Data collection and management

The data collection took place over three months in 2016. The survey in Phase One was administered online via SurveyMonkey during four weeks, returning 1,258 valid responses. The quantitative data was then checked and exported to SPSS 21.0 for analysis. The qualitative data in Phase Two was collected from multiple sources over approximately two months to provide the richness and depth of each case. Data was extracted from a total of 168 diary entries, 16 classroom observation notes, and 28 interviews. The qualitative data was categorized through a process of qualitative thematic analysis.

Data analysis

Descriptive and inferential statistical procedures were used to capture the quantitative survey data in Phase One. T-tests and one-way ANOVA were used to compare different groups of participants, especially the effect of frequency of learning with CALL on students' belief of responsibility, and readiness for autonomous learning. The quantitative analysis also captured the practice of autonomous learning.

To capture the qualitative data in Phase Two, the analysis was performed at two levels: within each case and across case (Stake, 2005; Yin, 2013). Systematic text condensation and thematic analysis were used to identify patterned meaning across the dataset.

Findings

Results revealed students' beliefs that they should take more responsibility for most stages in their learning process. However, impacts of the CHC kept students dependent on the teachers in certain stages, like choosing resources for learning or selecting options for assessment. How often students learned with CALL was roughly equal to how often they engaged in face-to-face learning in class with their teacher. More interestingly, how often learners used CALL positively correlated with the belief of their responsibility, their willingness to manage their learning process, and confidence in their own ability to take charge. Another impact of CALL is a change in teacher's role, from knowledge provider to organizer or facilitator. In fact, CALL has become indispensable in EFL learning and teaching and both learners and teachers have acknowledged its important role.

The results showed that:

- students, through CALL, selected and contributed an increased amount of learning content, and had a say in the learning procedures;
- students, supported by technology, tended to be more autonomous and active outside the classroom and in informal learning; and
- students were obedient and more dependent on the teachers in formal learning inside the classroom.
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Discussion and Conclusion

The study contributes to our understanding of using CALL as an important component of a BLL approach to promote LA in a CHC such as Vietnam. Students and teachers recognize CALL as one important and integral component of the learning process. Impacts of the CHC keep students dependent on the teacher to a certain level. However, CALL is changing the nature of the teaching-learning process by transferring more responsibility from the teacher to the student, with the teacher becoming the facilitator of each student's learning process. This transfer occurs when teachers use CALL to create learning opportunities for students—an opportunity where they get to practice their new role as planner, organizer, manager and evaluator. Active pedagogical changes of CALL-related practice facilitate this transferring process, especially off-campus and in informal learning. CALL also helps learners to develop the awareness of being the centre of all learning activities by involving them actively in the decision-making process. With the support of teachers and CALL, learners can become more confident in taking charge of their learning.

CALL in Context

One main challenge for promoting the autonomy of Vietnamese EFL learners is the impact of the CHC on their learning. The theme CALL in context of this conference refers to an issue faced by both EFL teachers and learners in Vietnam: "how to use CALL to promote learner autonomy?"

Our presentation will focus on the role of CALL in changing EFL learners' perceptions and practice of learner autonomy in the tertiary EFL context in Vietnam. In particular, it will:

- highlight the effects from using CALL to enhance learners' readiness for autonomous learning; and
- offer suggestions to help teachers transfer more responsibility to their students.
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The contribution of this research is situated at the intersection of research on learner autonomy and CALL in an Asian context.

Two main benefits of the study are noted below.

- The study provides insights into the effects of CALL-related practice on promoting learner autonomy in Vietnam. These effects are stronger in informal learning and off-campus.
- The study is expected to be of use for English language teachers, curriculum developers, and policy-makers as they design a learning environment with an appropriate combination of CALL and face-to-face components in a CHC (such as that designed and used in Vietnam).

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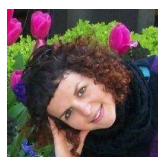
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Redesigning a telecollaboration project towards an ecological constructivist approach

Bio data



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Abstract

This paper reports on a study exploring the process of redesigning a telecollaboration project towards an ecological constructivist approach. The project aimed at examining the affordances of digital technology to develop tertiary education ESP students' intercultural awareness while fostering the development of 21st century skills. It proposed an educational intervention over one semester designed around learners' context, needs and course curricula, with data collection on intercultural awareness and competence, use of and perceptions about technology, as well as motivation for and engagement with language learning at university level. The approach adopted strongly reflects the principles of Design-based research, an emerging paradigm for the study of learning in context (in this case, ESP higher education students) through the systematic design and study of instructional strategies and tools. Under such methodology, research is carried out in iterative cycles of design, enactment, reflection, refinement, and redesign. The holistic approach underpinning the Design-based research methodology is in line with the principles of ecological constructivism, the theoretical framework that has informed the redesigning of the project in its second iterative cycle. When evaluating the results of the first iteration of the project, the researchers felt that there was a need to reshape their theoretical framework in the design of the second iteration towards an ecological constructivist approach that would explore the telecollaborative context more holistically and with a view to making it a dynamic learning environment that would enhance learners' intercultural communicative competence and 21st century skills. The redesign of the second iteration was informed by feedback collected through questionnaires and through focus groups interviews with 120

learners-participants from the two institutions involved. The key findings of the data analysis enabled the researchers to modify the design of the project, refining the tasks, activities and settings in an effort to make the affordances of the telecollaborative environment more salient so as to be noticed and acted upon by learners. In the first iteration the learners were studying different ESP courses, whereas in the second participants were learners of a matching ESP (Business Management). Therefore, the learning context (students' major, which led to the design of different tasks, activities) was substantially modified. In addition, the researchers aimed at increasing scaffolding in order to facilitate the learners' understanding and actions in relation to the tasks and tools of the online intercultural exchange project while making them engaging and more interactive.

Keywords: telecollaboration, ecological CALL, Design-based Research, 21st century skills, affordances.

Conference paper

Introduction

Educators continue to seek the alternative best methods to integrate 21st century skills into the curriculum. Many researchers and practitioners have attempted to define the learner as well as the teacher of the 21st century and how their profiles and needs have changed with the advent of new technologies. Antoniadou (2011) emphasizes that the rise of the Internet and Web 2.0 tools entails new modes of living, and thus new literacies for effective participation in online communities, doing business, and socializing with people from different cultural backgrounds. At the same time, students seem to be continuously engaged in the use of new, sophisticated technologies.

In this era of globalization and unending technological growth, telecollaborative learning projects can provide a fertile background for crossing global boundaries and meeting the demands of 21st century learners as universal citizens. Telecollaboration (Guth & Helm, 2010), or online intercultural exchange (O'Dowd, 2007) is a form of virtual mobility (O'Dowd, 2013) which is being increasingly adopted by university educators in Europe and elsewhere as a substitute or complement for physical student mobility. Foreign language telecollaboration refers to virtual intercultural interaction and exchange projects between classes of foreign language learners in geographically distant locations (O'Dowd, 2007). The term telecollaboration was firstly coined by Mark Warschauer in 1996 and was further expanded by Belz in 2003 when she defined telecollaboration as being "institutionalized, electronically mediated intercultural communication under the guidance of a languacultural expert (i.e. teacher) for the purposes of foreign language learning and the development of intercultural competence" (p.2). Guth and Helm (2010) have defined telecollaboration in language learning contexts as an Internet-based exchange aimed at developing both language skills and intercultural communicative competence while Chun (2014) has also stressed that telecollaboration is a process that is mediated by technology through online means which entails communicating and working with other people, individually or in groups, in different geographical locations. Therefore, bringing together students from distant locations has become feasible thanks to the technological advancements and to the practitioners who have managed to recognize the potential benefits of online intercultural exchanges for the development of foreign language skills, intercultural awareness and skills related to the global workplace (O'Dowd, 2015). Various studies on telecollaborative projects have showed that successful online exchanges can contribute to intercultural communicative competence (O'Dowd, 2006). Intercultural Communicative Competence (ICC) as Byram (1997) has defined it, is at the core of telecollaboration projects, drawing

from socio-cognitive paradigms (Kern & Warschauer, 2000) which view language as social and emphasize the role of cultural context and discourse (Chun, 2015).

Context

The online intercultural exchange project dealt with in this paper was implemented at two universities from Cyprus and Spain during the academic year 2015-2016. It aimed at examining the affordable opportunities of digital technology to develop tertiary education ESP students' intercultural awareness and competence learning embedded in language learning. Among the pedagogical goals of the project were to innovate and enrich the ESP curriculum so as to foster student engagement and involvement in their learning process, as well as to integrate into the ESP curriculum 21st century competences (Partnership for 21st Century Skills, 2009) for students' personal and professional development. Therefore, the project's target competences were intercultural communicative competence, language competence, and 21st century skills. The project proposed an educational intervention over one semester designed around learners' needs and course curricula, with pre- and post-intervention data collection on intercultural awareness and competence, on the students' use of and perceptions about technology, as well as on motivation for and engagement with language learning at university level. This paper reports on a study conducted at both institutions which aimed at redesigning the aforementioned online intercultural exchange project towards an ecological constructivist approach. The data analysis of the project during the reflections and evaluation phase upon completion of the online intercultural exchange denoted a compelling need to restructure the project and iterate, with a view towards making it a more dynamic and richer in affordances learning environment. According to Gibson's theory of affordances (1997), an affordance is the possibility of an action on an object or environment, but the centrality of Gibson's theory is not whether affordances exist in the environment, but whether information is available in ambient light for perceiving them (p. 60). Van Lier (2010) explains that "affordances are relationships of possibility, that is, they make action, interaction and joint projects possible (p. 4). The intercultural exchange project which was redesigned was informed by Gibson's theory and related ecology and CALL theories (Van Lier, 2010; Dey-Plissonneau & Blin, 2016) and was directed towards the synthesis of an environment that would bring out affordances actualised via technological tools. Such affordances would be salient, visible, perceptible and, therefore, acted upon by learners. With this in mind, serious contextual modifications were perceived as necessary by both researchers, which were manifested in various aspects of the project, such as the learning context, the structure, the sequence of tasks and activities, the scaffolding on the teachers' part, the mutual exchanges among interactors, and the institutional settings. The redesigned project was implemented one year later during the subsequent iterative cycle.

Design-based Research and Ecological Constructivism

The approach adopted for the design of the project strongly reflects the principles of Design-based research. Design-based research (Brown, 1992; Collins, 1992) is an emerging paradigm for the study of learning in context through the systematic design and study of instructional strategies and tools. Under such methodology, research is carried out in iterative cycles of design, enactment, reflection, refinement, and redesign. Educational interventions are viewed with a holistic perspective, and interactions between learners, teachers, artifacts, materials, departments, institutions and networks are explored. The holistic approach underpinning the Design-based research methodology is in line with the principles of ecological constructivism, the theoretical framework that informed the redesigning of the online intercultural exchange project in its second iterative cycle.

Ecological Constructivism as a theory is an amalgamation of Social Constructivism, Sociocultural Theory and Ecological Linguistics (Hoven & Palalas, 2011; Blin, 2016; Blin,

Jalkanen & Taalas, 2016). According to ecological constructivism, the systems of language, the processes of language learning, and the systems of interaction among different participants or interactors and their mutual exchanges are viewed holistically (Hoven & Palalas, 2011).

Among the principles of ecological constructivism are those pertaining to the affordances that exist in a dynamic environment, such as a language learning environment, and which are likely to be perceived and acted upon by learners both individually and in collaboration with others only when they are perceived as salient by the learners themselves. Once perceived and acted upon, affordances are then shared among learners who create an ecosystem comprising new affordances which could not exist without the learners' interactions with other individuals, groups and networks (Hoven & Palalas, 2011).

The first iterative cycle: The design

An online intercultural exchange project was implemented at two universities, which brought together 123 students from Cyprus and Spain. The designed intervention was embedded in the students' English for Specific Purposes (ESP) modules and aimed at examining the affordances of digital technology to develop tertiary education ESP students' intercultural awareness while fostering the development of 21st century skills. The exchange was twofold as it included two sub-projects: The SCI-TEL: Spain Cyprus Intercultural Telecollaboration Project, which connected 62 first-year students who were majoring in either International Business (Spanish university) or Hotel and Tourism Management (Cypriot university), and the CSI-TEL: Cyprus Spain Intercultural Telecollaboration Project, which connected 61 first-year students who were majoring in either Mechanical Engineering and Materials Science (Cypriot university) or International Business (Spanish university). Both researchers decided to implement this virtual exchange that would bring together participants with different academic needs, backgrounds and endeavours, hoping that the students would be able to view their varying disciplines as an asset and that the online intercultural exchange project would act as a bridge that would enable them to overcome the barriers and benefit from the diversity in their academic pursuits.

A socio-constructivist, learner-centered, task-based approach to computer-assisted language learning and teaching was adopted in the design of the project (Nicolaou & Sevilla-Pavón, 2016). Telecollaboration projects are by definition cooperative or collaborative. As Dooly (2008) emphasizes, "the basis of both collaborative and cooperative learning is constructivism: knowledge that is constructed and transformed by students. Learners do not passively receive knowledge from the teacher; teaching becomes a transaction between all stakeholders in the learning process" (p.21).

The tasks that were designed, thus, supported collaborative inquiry and the construction of knowledge. The tasks were designed so as to be authentic, challenging, meaningful and enjoyable while capable of enabling students to develop linguistic, intercultural, problem-solving and digital skills, based on the need for European universities to put a clear and coherent language policy in place that takes into account cultural and linguistic diversity, as established by the European Commission. The design of tasks followed O'Dowd and Ware's (2009) typology which classifies tasks and task sequences into three main categories: information exchange tasks, comparison and analysis tasks, and collaborative tasks. Participants worked in dyads or groups of four students (local and telecollaboration) on offline and online activities. Both teachers acted as facilitators who initiated tasks, informed about netiquette rules, helped participants get to know each other and then remained at a distance taking a hands-off approach whenever possible (Hampel & Hauck, 2005).

Students' participation and level of engagement was monitored continuously and evaluated at the end of the telecollaboration project. Students were assessed based on their level of dedication, responsiveness and task completion. Communication modes included synchronous and asynchronous interaction in a blended learning environment. Web 2.0 tools included the use of Google+ Communities for asynchronous interaction, Google+ Hangouts for synchronous communication, and Google Drive for collaborative completion of tasks. Both instructors agreed on a monolingual configuration whereby students used English as a Lingua Franca (ELF). This configuration allowed students to feel confident and less worried to make mistakes in language use (Hoffstaedter, & Kohn, 2015).

Methodology

When evaluating the results of the online intercultural exchange project between the two universities, the researchers felt that there was a need to reshape their theoretical framework in the design of the second iteration towards an ecological constructivist approach that would explore the telecollaborative environment more holistically and with a view to making it a dynamic learning environment that would enhance learners' intercultural communicative competence and 21st century skills. The redesign of the second iteration was informed by feedback collected through questionnaires and through focus groups interviews with 120 learners-participants from both universities. For the purposes of this paper, qualitative data collected from focus groups interviews and post-intervention questionnaires with students will be presented. Focus groups interview questions were semi-structured and open-ended and explored themes such as students' overall experience with the online intercultural exchange project, the perceived benefits and shortcomings of the exchange, the contributions of the project to the development of different competences, as well as the elements they would add to or remove from the project. Post-intervention questionnaire questions were open questions that explored the students' attitudes towards the project. These data were collected in the reflection and evaluation phase of the first iterative cycle, upon completion of the online intercultural exchange project. The data were analyzed using the NVivo software.

Results

Despite the fact that the online intercultural exchange project was positively received by the majority of students, a number of shortcomings were identified which may have hindered the maximal emergence and actualisation of the exchange's affordances, leading to a lower than optimal benefit for the students involved. This is what guided the researchers to reflect on the project, refine and iterate it.

The most important contextual modification on the project was that the learning context was changed in that it aimed at bringing together higher education students majoring in the same or near-same degree. Therefore, while the initially designed online intercultural exchange project connected students studying diverse English for Specific Purposes courses, the redesigned project connected students studying the same ESP course (Business English) who were engaged in telecollaborative activity with particular emphasis placed on business/international business tasks with an intercultural and global awareness perspective. A Spanish student of International Business points out the need for collaborating with peers pursuing similar academic degrees:

"... I don't know if it's possible but I think if we choose a group from a... who are mmm studying something similar to us -they actually don't- maybe they would be a little more...a little more involved... and closer to us."

As far as task design is concerned, in the first iterative cycle, tasks were more generic in terms of discipline as participants were majoring in varying degrees. However, in the redesigned

version, tasks and activities truly reflected the students' common ESP (Business English) curriculum.

This major contextual change, which was implemented in the second iterative cycle, impacted significantly on the establishment of rapport among students-participants who felt more related to each other. Moreover, it made the whole project more relevant to them as the tasks and activities were pertaining to the students' current academic needs, and anticipated future professional careers. The researchers decided to make this crucial modification in the learning context and task sequence, adopting the activity theoretical framework according to which "the features of a CALL environment only become affordances when they are related to the users' needs and activity" (Dey-Plissonneau & Blin, 2016, p. 298).

Another important modification that was deemed necessary was related to the structure of the online intercultural exchange project. In the first iterative cycle, the sequence of tasks was organised chronologically, i.e. pre-exchange tasks, exchange tasks, and post-exchange tasks, with various activities designed in each phase pertaining to various thematic areas (e.g. stereotypes, globalisation). Both researchers observed that while students' initial reactions and feelings towards the project were positive, their enthusiasm was gradually diminishing and their feelings evolved negatively. An International Business Spanish student mentions:

"At the beginning it was exciting but then it was...a boring thing because they were not responding."

Similarly, a Mechanical Engineering student from Cyprus explains how enthusiasm declined and communication broke down because of lack of interest:

"It started off with great enthusiasm...that we would speak with students from a different country, but after a while, communication broke down because they wouldn't log in."

The researchers decided to restructure the project in an effort to enable active and participative online communication that would be seamless and sustained. Therefore, Salmon's (2013) five-stage model for online collaborative learning was adopted according to which the sequence of tasks was structured in five stages, namely: Access and Motivation, Online Socialisation, Information Exchange, Knowledge Construction, and Development. Salmon's five-stage model provided a framework for increased scaffolding and well-paced task sequence.

Another important refinement in the online intercultural exchange pertained to the mutual exchanges among interactors. In an effort to increase communication and collaboration among students, and therefore enhance their intercultural communicative competence and learning, the redesigned project required more synchronous exchanges through the assigned tasks that promoted interdependency and mutuality between students. Collaborative tasks are the most challenging ones in a telecollaborative project due to their complexity, but at the same time they can be very constructive and effective in developing students' cross-cultural, linguistic, digital, collaborative and communication skills. They also enable students to establish rapport and a sense of connection amongst them. Finally, they enhance additional 21st century skills, such as responsibility and leadership, productivity and accountability, as well as flexibility and adaptability.

The increase of synchronous mutual exchanges was one of the suggestions students put forward upon completion of the online intercultural project. A Spanish student studying International Business notes:

"I would have done more video camera activities like for talking to them."

Similarly, a Cypriot student studying Mechanical Engineering stressed the need for increased online synchronous online collaboration:

"I would like to have English classes at the same time so as to do the tasks all together in class."

This feedback led to further modifications in the redesigned project pertaining to the institutional settings. Specifically, the researchers opted for coinciding timetables between the ESP classes at both universities, thus allowing for synchronous and collaborative completion of tasks in class and even enabling a plenary meeting at the end of the project.

Concluding remarks

The key findings of the data analysis enabled the researchers to modify the design of the project. Through the redesign of the project, the researchers redefined the project learning context, the tasks, activities and settings in an effort to make the affordances of the telecollaborative environment more salient so as to be noticed and acted upon by learners (Hoven & Palalas, 2011). In addition, the researchers increased scaffolding in order to facilitate the learners' understanding and actions in relation to the tasks and tools of the online intercultural exchange project while making them engaging and more interactive. Therefore, the telecollaborative environment became a richer and more dynamic context, an ecosystem embodying learners, mutual interactions, teachers, institutions, and networks. This ecosystem allowed for the emergence and actualisation of affordances that were observed, used and shared by the students involved.

CALL in Context

The contextual aspects played a major role in the redesign of the project. One of the modifications which were made in the redesigning of the research was to design and implement a telecollaborative project where participants were learners of a matching ESP (Business English). In the first iteration the learners were studying different ESP courses. Therefore, the learning context (students' major, which led to the redesign of different tasks and activities) was substantially modified. Furthermore, the project employed Design-based research which is contextual in nature as the researcher aims at meeting the needs of users in a specific educational context (in this case, ESP higher education students). According to DBR, a study is carried out in a real learning context which comprises of researchers, teachers and learners. The design is performed with real users of a particular context in mind, and it produces usable knowledge that is transferable in other contexts (in this case, in other ESP contexts).

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The Application of Constructivism in Teaching EFL and Worldviews Using Mobile Technologies

Bio data



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Abstract

A constructivist approach to flipped learning encourages students to activate their brains in order to create new knowledge and to reflect more deeply and consistently on their learning activities. The focus of this study is on evaluating the use of a variety of emerging technologies, from voice recognition to web-based learning, to determine their effectiveness in improving the EFL skills of native Japanese students, including their awareness of worldviews, as part of a blended-learning and flipped-lesson program. The technologies included Globalvoice CALL, ATR CALL Brix, and online materials related to worldview studies. An empirical study was conducted to examine the overall effectiveness of the program in improving the TOEIC test scores of the target group of Japanese students. The study began in April 2016 and ended in January 2017, targeting 27 undergraduates. The participants were required to complete the course using the emerging technologies and blended learning and flipped learning materials with their PCs, iPads, and smartphones. The

TOEIC pre- and post-training results (n=27) indicated that the program had assisted the students in improving their overall English proficiency during the 10-month training period from a mean score of 623 (SD: 132) to 784 (SD: 87). A post-course questionnaire also revealed the students broadened their perspectives, became more open-minded, and changed the way they viewed the world as a result of their exposure to the program.

Conference paper

1. Introduction

Mobile (m-) learning technologies such as the iPhone, iPad, podcasting, and video-casting, and others, are rapidly gaining popularity around the world as an effective means to enhance foreign language skills. M-learning is highly motivating to learners, as it offers them a rich, informal, contextual, and ubiquitous learning environment in which it is possible for them to control their learning time, environment and speed (space and pace). M-learning has other advantages over conventional teaching and learning methods, including the almost limitless number of English news programs, language learning apps, podcasting (audio series), vodcasting (video shows), and so forth, that can be easily accessible and downloadable for free or for little cost. Today, mobile devices are omnipresent and can be more easily customized, resulting in the creation of an emotion bond between the user and machine.

Recent innovations in technology have brought about the advent of social media, such as Facebook, Twitter, and LinkedIn, to such popularity that they can be experienced efficiently and smoothly using hand-held devices. This has enabled us to considerably increase the number of ideal learning opportunities through experiential learning activities with the help of mobile technologies. According to constructivism, people construct their own understanding and knowledge of the world and worldviews through experiencing things and reflecting on those experiences (McCarty, Sato, & Obari, 2016).

In this paper, we introduce a case study carried out in 2016 to help determine the effectiveness of a blended and flipped learning program that incorporated ICT and mobile technologies to improve the English as a Foreign Language (EFL) skills of a group of native Japanese undergraduate students studying at Aoyama Gakuin University (AGU), a private university in Tokyo.

2. Theoretical Background

M-Learning has indeed emerged as the next generation of e-Learning. One reason for this is due to the high availability of mobile devices worldwide. For example, nearly 100% of Japanese students own a mobile phone, with the number of smartphone users in Japan rapidly increasing (Obari, Kojima, & Itahashi, 2010). The smaller screen size and touch interface of smartphones and tablets also leads to a more focused learning, as the learner typically has running in the background just a single program at any given time, as opposed to the more common multitasking operations found on desktop and notebook PCs (Gualtieri, 2011).

The use of mobile technologies for language learning purposes has numerous advantages over other methods, for example, the countless number of English news programs, language learning apps, podcasts, and videos that are easily accessible and free or reasonably priced. Web-based resources using Web 2.0 tools and mobile computing technologies can be easily integrated to promote collaborative learning activities.

In the field of second language (L2) learning, and in computer-assisted language learning (CALL) in particular, there has been an increasing body of research dedicated to the use of mobile devices in language learning in recent years. More technologically oriented teachers and researchers use the term mobile-assisted language learning (MALL) readily as an extension of CALL, as if the term were familiar to everyone in the L2 field. Regarding the roots of MALL and its place in language learning, see Stockwell (2012b) for a detailed discussion.

According to social constructionism, people create new knowledge and learn the most effectively through social interaction and the exchange of information for mutual benefit. Constructionism also holds that learning can happen most effectively when people are active in making tangible objects in the real world. In this sense, constructionism is connected with experiential learning and builds upon the ideas of Jean Piaget (Burr, 1995, 2003).

Mobile technologies have succeeded in transforming learning methodologies (Vinu, Sherimon, & Krishnan, 2011). One such methodology that has received great attention in recent years is blended learning (BL). BL combines traditional face-to-face classroom methods with computer-mediated activities, resulting in a more integrated approach for both instructors and learners. BL can increase the options that a teacher has for greater quality and quantity of interaction in a learning environment. Mobile devices and social media are a key to the next generation of educational instruction. Digital content has been experiencing a great transformation in its form and volume as mobile technologies and social media continue to spread widely. The internet has become a vast potential learning platform in and of itself. By accessing digital contents or through connecting with other people through the internet, users can acquire a deeper and wider breadth of knowledge about various subjects (Wilson & Smilanich, 2005).

Flipped learning (FL) is now also gaining in popularity within L2 learning circles more than ever before through the utilization of a variety of mobile technologies. In the traditional classroom instruction modal, the teacher was typically the central focus of a lesson and the primary disseminator of information during the class period. "Flipping" the classroom is both a pedagogical approach and a theoretical framework rooted in the constructivist and problem-based theories of learning. FL involves reversing the traditional structure of the classroom, such that in-class time is dedicated to interactive activities and homework is dedicated to would-be in-class lecture materials (Webb, Doman, & Pusey, 2014).

3. Pedagogy of Mobile learning initiatives/innovations

According to the pretest and post-test TOEIC results of our student during the 2012 academic year, almost all showed little or no improvement, which was one of the main motivations for us to carry out the present study using a BL/FL program incorporating m-learning technologies over the past several years. The current study focused exclusively on the learning program and data results that were carried out, collected, and analyzed, respectively, during just the 2016 academic year. As stated, our goal was to ascertain the effectiveness of BL/FL activities using mobile devices for the purpose of improving our students English proficiency, including their writing, oral communication, presentation skills, as well as improvement in their TOEIC scores.

The study was conducted over a ten-month period during two academic semesters (April 2016 to January 2017). A total of 27 undergraduates were the participants of the study, all of whom were native speakers of Japanese studying at Aoyama Gakuin University (AGU) in Tokyo. The AGU students were administered the TOEIC test as a pretest in April 2016 and

again as a posttest in January 2016. The purpose of the TOEIC test was to help serve as a measurement to determine if the students' scores would improve as a result of their exposure to the BL/FL activities, and thereby help ascertain the effectiveness of the overall program.

Research questions targeted in the study included the following:

- (1) Are BL/FL activities using mobile devices useful in improving the English skills of the AGU students, the target participants of the study?
- (2) Are FL classroom activities using a variety of technologies with a tablet or smartphone useful for improving the TOEIC scores of AGU students?
- (3) Was the AGU and National University Singapore (NUS) joint seminar effective in nourishing the cultural attitudes and international understanding of AGU and NUS students?
- (4) Have AGU students changed their worldviews after their exposure to the seminar course?

The BL/FL activities of this study included the following:

The students were exposed to the following training: (1) viewed the online TED Talk of Rick Warren's "Purpose-Filled Life" using their iPads or smartphones, wrote a 300-word summary, created PowerPoint presentations of their summaries, and discussed their summaries with a group of native English speakers from the U.S.; (2) studied worldviews after viewing the online lectures (Harre, 2001) delivered by several Oxford University professors that focused on ontological and epistemological issues, and delivered numerous PPT presentations and created digital stories with their iPads; (3) watched several lectures delivered by Dr. Chan of the NUS with their mobile devices to learn the definition of culture; (4) produced and presented movies on world religions; (5) used Globalvoice CALL speech software and online ATR CALL Brix for learning TOEIC; (6) engaged in additional interactions and discussions throughout the duration of the course; and (7) spent a week participating in a joint AGU/NUS seminar in Singapore.

At the end of the academic year, a course questionnaire was administered to the students after their exposure to the BL/FL activities incorporating m-learning, for the purpose of ascertaining their impressions of the program, including their worldviews.

4. Globalvoice CALL software

One of the main goals of English education in Japan is to help students speak English more intelligibly so they can become more clearly understood while taking part in international communication (Tanaka, 2010). The Globalvoice CALL software introduces several speech parameters such as duration, power, F0 (pitch), and the ratio of vowel and consonant length to determine to what extent Japanese students can improve their English pronunciation and overall proficiency (see Figures 1 and 2 below).

Globalvoice CALL enables users to input any words or sentences to practice their pronunciation via specialized speech training. This software can enable Japanese students to correct their own pronunciation by helping them improve their production of both prosodic and segmental features. Roughly 84% of 150 Japanese EFL students who used this software

in the past reported that it was very helpful in improving English pronunciation (Obari, Kojima, & Itahashi, 2015).



Figure 1. Display of the Globalvoice CALL software.



Figure 2. Display of English phonemes.

The students of this study also used Globalvoice CALL software to improve their production of problematic English prosodic and segmental features, such as the [r]-[l] distinction, especially when practicing before their final presentations of their TED Talk summaries in the classroom. A majority of students felt the software was very useful in improving their English pronunciation and gave them extra confidence when delivering their presentations.

5. ATR CALL BRIX

ATR CALL BRIX is an e-Learning system developed by the Advanced Telecommunication Research Institution (ATR) and expanded by Uchida Yoko Co., Ltd. This is a client server system that provides English learning contents by using Internet Explorer®. Most of its system administrators allow students or employees to access the server from outside of their Intranet to offer them a ubiquitous learning environment. Through a sequence of ATR experiments, a bottom-up method was developed as an efficient way to learn English for native speakers of Japanese. This method was adopted for the ATR CALL BRIX for basic English skill training. For instance, a learner starts training by listening to a minimal pair contrast exercise, and then moves onto the next step of counting syllables of English words. For this basic skill training, a database of 15,000 English words has been created, including sample speech from over 30 native speakers of American English. Every item contains

distractors for efficient vocabulary building (Obari, Suto, Kobayashi, Ogihara, & Lambacher, 2013).

This course is designed not only for practice tests to gain higher scores on the real TOEIC® tests, but also includes vocabulary development, shadowing practice, and dictation exercises with qualified TOEIC official contents in order to improve English skills. ATR CALL BRIX is thus an e-Learning system which helps learners enhance their English skills with its course for basic skill training, as well as a TOEIC test preparation course for accessing a server from smartphones and tablet devices to provide learners with a more ubiquitous learning environment (Obari, Nagae, Yamagishi, & Tanaka, 2013). Nearly 80% of a group of 90 students who used ATR CALL BRIX commented on its usefulness in improving their English.

6. Aoyama Gakuin University (AGU)/National University Singapore (NUS) Joint Seminar

The AGU/NUS Joint Seminar has been ongoing annually for seven years. All of the first author's third-year students took part in this special seminar in September 2016 over a one-week period (see Figure 3). Before attending, the Japanese students spent several weeks during the first semester to prepare and practice presentations on Japanese culture in small groups of 5 to 6 students, and later presented them in front of the NUS students. The NUS students in turn gave presentations on Singaporean culture in Japanese in front of the AGU students. This way they could mutually enjoy the rich balance of culture and language that was exchanged throughout the week-long seminar. In addition, the AGU/NUS students took part in several field trips to major historical sightseeing spots in Singapore (see Figure 4). The AGU students also visited Microsoft, NEC complex, and APEC where they learned about globalization and ICT, which seemed to inspire them to want to more actively and effectively participate within the global society in the future.



Figure 3: Joint seminar at NUS.



Figure 4: Field trip to the Botanic Gardens in Singapore.

7. Assessment of the Blended and Flipped Learning Activities

a. TOEIC Results

The AGU students' pre- to post-training TOEIC scores increased from a mean of 623 (SD: 132) to 784 (SD: 87). The pre-/post-test results were analyzed using a t-test, indicating that the difference between pretest and posttest scores of both classes were statistically significant at a 1% level. This would seem to indicate that the students had improved their overall English proficiency.

b. Questionnaire

A post-course survey was administered to students after their exposure to the BL/FL program. Here are the pattern of responses to several of the survey questions: (1) "useful in improving your English proficiency?", 88% of students felt that the online lectures were very useful; (2) "did you find the ATR CALL Brix program useful?," 79% of students felt it was useful; (3) "Was Globalvoice CALL software useful?," 84% of students felt it was useful; and (4) "Was SNS (Facebook, Line, and Twitter) useful in learning?," 92% of student felt it was useful in learning English.

In addition, according to the survey questions related to worldviews, all the AGU students responded that they had become more open-minded and flexible in trying to better comprehend intangible things in the world, and that they could also expand their worldviews and had become more global-minded in their thinking.

8. Conclusions

An assessment of pre- and post-training TOEIC scores revealed that the various types of on-line materials and lessons included in this study had an overall positive effect on the AGU students' English skills. Additionally, the students' listening and oral communication skills improved as a result of integrating the BL/FL activities that focused on a social constructivist approach to learning.

The post-course questionnaire revealed the students were satisfied with the variety of online course materials and programs and were motivated by the BL/FL environment incorporating m-learning. The students' English oral summary and pronunciation skills also improved after their exposure to online materials and the Globalvoice CALL software. Taken as a whole, these results would seem to indicate that BL/FL program using mobile

technologies could be effectively integrated into our language learning curriculum and played a positive role in improving our students' overall language proficiency.

Additionally, our personal observations of the BL/FL lesson activities revealed that the students were very excited by using a variety of emerging new technologies, which seemed to help them to more effectively learn English, in part, by being able to access a multitude of learning materials from their mobile devices. M-learning appeared to increase the amount of comprehensible English input the students received with the aid of revolutionary education/learning applications. It was also highly motivating to the students by offering them a rich, informal, contextual, and ubiquitous learning environment that enabled them to control their learning opportunities or occasions (time), environment (space), and speed (pace). Finally, the post-course questionnaire asking students about their worldviews revealed their perspective and understanding of the world had changed, enabling them to feel more confident in speaking English and in becoming more flexible and global-minded in their thinking.

Acknowledgements

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CALL in Context

Flipped learning (FL) is now gaining popularity through the use of a variety of mobile technologies. In the traditional model of classroom instruction, the teacher is typically the central focus of a lesson and the primary disseminator of information during the class period. "**Flipping**" the classroom is both a pedagogical approach and a theoretical framework rooted in **constructivist and problem-based theories** of learning. So the incorporation of mobile technologies for language learning has numerous advantages over other methods, including the countless number of English news programs, language learning apps, podcasts, and videos that are easily accessible and free or reasonably priced. Web-based resources using **Web 2.0 tools** and mobile computing technologies can be integrated to promote **collaborative learning** activities.

According to **social constructionism**, people create new knowledge and learn the most effectively through social interaction and the exchange of information for mutual benefit. Constructionism also holds that learning can happen most effectively when people are active in making tangible objects in the real world. In this sense, constructionism is connected with experiential learning and builds upon the ideas of Jean Piaget (Burr, 1995, 2003).

Mobile technologies have succeeded in transforming learning methodologies (Vinu, Sherimon, & Krishnan, 2011). One such methodology that has received great attention in recent years is **blended learning (BL)**. BL combines traditional face-to-face classroom methods with computer-mediated activities, resulting in a more integrated approach for both instructors and learners. BL can increase the options that a teacher has for greater quality and quantity of interaction in a learning environment. Mobile devices and social media are a key to the next generation of educational instruction. Digital content has been experiencing a great transformation in its form and volume as mobile technologies and

social media continue to spread widely. The internet has become a vast potential learning platform in and of itself. By accessing digital contents or through connecting with other people through the internet, users can acquire deeper as well as wider breadth of knowledge about various subjects (Wilson & Smilanich, 2005).

The **constructivist view** of **flipped learning** encourages students to activate their brains to create new knowledge and reflect on their learning activities. In this study, we examine the use of a variety of emerging technologies such as voice recognition system of **Globalvoice CALL, ATR CALL Brix, Web 2.0 tools, Computer Assessment Test**, and other free online materials to determine their overall effectiveness as part of a blended- and flipped-learning program. The overall results revealed the students' **TOEIC scores** increased from a mean of 623 (SD: 132) to 784 (SD: 87), which suggests they improved their overall English proficiency. The students also appeared to be more highly motivated by using a variety of emerging new technologies, gained confidence in speaking English, and became more globally-minded and flexible in their thinking.

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B-MELTT (Blending MOOCs for English Language Teacher Training): a 'Distributed MOOC Flip' to Explore Local and Global ELT Contexts and Beliefs

Bio data



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Kate Borthwick is Senior Enterprise Fellow (technology enhanced learning) at the University of Southampton. She is a linguist by background and has been working in the area of CALL since 2002. She is an experienced online course and materials developer and has recently become involved in designing MOOCs. She was involved in a range of open education projects between 2009-2014 and oversees two repositories of OERs. She is the conference chair of EUROCALL 2017.



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Abstract

This paper reports on the outcomes of the 'BMELTT' (Blending MOOCs for English Language Teacher Training) project that was funded by a British Council English Language Teaching

Research Award. The phase of the project discussed here ran between September 2016 and December 2016 and involved 154 participants from different higher education contexts: Coventry University (CU/UK); Xi'an Jiaotong-Liverpool University (XJTLU/China); Sichuan International Studies University (SISU/China); East China University of Science and Technology (ECUST/China) and the University of Applied Sciences in Utrecht (HU/The Netherlands). The FutureLearn MOOC 'Understanding Language: Learning and Teaching' created by the University of Southampton in collaboration with the British Council in the UK, was embedded with a novel blended learning approach into the English Language Teaching courses of the above mentioned universities.

The type of MOOC blend described here, where the content of a MOOC becomes an integral part of an existing curriculum in institutions that are not involved in the development of the MOOC itself, is relatively new in the UK HE sector, but there are precedents in the USA (Kim, 2015; Sandeen, 2013; Joseph-Israel, 2013). Sandeen (2013) calls this type of blend 'MOOC 3.0' or 'distributed flip' model. There is also a considerable amount of interest in the creation for and integration into the curriculum of MOOCs in China (e.g. Wu & Hu, 2015).

A distinctive feature of the 'flipped MOOC' integration in this project consisted in the fact that it was carried out with the support of an Online Intercultural Exchange – OIE - (O'Dowd & Lewis, 2017) aimed at encouraging a collaborative reflection on ELT theory and practice amongst students on ELT courses in the UK, China and the Netherlands.

It was hoped that this novel MOOC/OIE blend would offer the ELT students involved in the project a unique collaborative learning opportunity, which would enable them to discuss their local ELT contexts while at the same time engage with a global community of practice. The project aimed to ascertain how teachers' beliefs could be affected by a reflection on their knowledge and practice carried out in four ways: 1. individually while doing the steps in the MOOC, 2. collaboratively in weekly face-to-face meetings in class with peers from their home institution; 3. collaboratively in online discussion forums through the OIE with students and staff from the partner universities participating in the project; 3. collaboratively with the rest of the participants from all over the world on the MOOC.

BMELTT also aimed at supporting ELT students' understanding of autonomy in learning and teaching. Autonomy appears to be a challenging concept for students on ELT/TESOL programmes, as reported in relevant literature (e.g. Dam, 1995; Little, 2001; Lacey, 2007), but there is evidence that the concept can be scaffolded through the use of blended approaches (Orsini-Jones 2015; Reinders & White, 2016).

The following research questions were posed:

1. What factors shape ELT students' beliefs regarding English language learning and teaching in different educational contexts?
2. What recommendations on how to integrate MOOCs into existing ELT courses could be made based on the results of the project?
3. Could the MOOC/OIE-blend support ELT students with becoming autonomous teachers?

Conference paper

1. Introduction (same as abstract)

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The following research questions were posed:

4. What factors shape ELT students' beliefs regarding English language learning and teaching in different educational contexts?
5. What recommendations on how to integrate MOOCs into existing ELT courses could be made based on the results of the project?
6. Could the MOOC/OIE-blend support ELT students with becoming autonomous teachers?

2. Literature review

2.1 Learning Context

The *context* where language education takes place is one of the fundamental aspects affecting language learning and teaching. Bax (2003) argues that the implicit focus of center-based pedagogies and methodologies leads novice teachers to neglect the local context instead of working with it. Hence, specific contextual aspects such as school and classroom culture, and students' needs in specific contexts should be considered within teaching and learning practices.

Kumaravadivelu (1994) proposes his *postmethod condition*, which entails a shift from the method-based pedagogy to a context-sensitive postmethod pedagogy. This postmethod framework is informed by three operating principles: (1) *Practicality* seeks to promote the advancement of teachers' reflection and action, so they can theorise from their own teaching practice and thereby practice what they theorise based on their beliefs (Kumaravadivelu, 2006a, p.173). (2) *Possibility* seeks to acknowledge the sociocultural reality that shapes identity formation in the classroom (3) *Particularity* seeks to facilitate the development of a context-sensitive postmethod pedagogy that is "based on a true understanding of local linguistic, social, cultural, and political particularities" (Kumaravadivelu, 2006b, p. 69). Emphasising therefore a context-sensitive postmethod approach may lead to the development of contextual awareness that enables ELT practitioners to theorise from their practice and practice what they theorise in accordance with their own context.

ELT students are not always aware of the impact that their beliefs can have on their teaching practice. This lack of awareness raises two areas of concern. The first one is that beliefs can act as a barrier or filter when these teachers (or future teachers) are attempting to further their own professional knowledge and pedagogy (Klapper, 2006). Therefore they need to be made aware of their own beliefs and perceptions, while they are still undergoing teacher training and education, in order to explicitly develop their own pedagogical beliefs and assumptions with the underpinning of relevant research, and develop professionally as a result. The second concern is that teachers' personal learning experience is likely to influence what their teaching is going to be like (Klapper, 2006). This is not to suggest that all teaching based on personally experienced models is bad or ineffective; ELT students might have had positive role models who have influenced their beliefs and perceptions in a positive way. However, arbitrary and random transfer might yield problematic results when teachers adopt methods and practices unsuited to a certain group of learners or contexts (Klapper, 2006; Orsini-Jones, Altamimi & Conde Gafaro, 2017). Engaging in meta-reflective practices underpinned by research on language learning and teaching can be one way of achieving beneficial transfer. 'Flipped' MOOC blends, like the one described here, can support future teachers with reflecting on both local and global learning and teaching issues affecting their practice. The initial results from this project reported below would appear to substantiate this claim.

Also, MOOC blends can provide a personalized approach to reflective practice at the user's own pace, as they are characterised by open access and learning at a distance that allows participants to self-regulate their learning journey, determining when, how and with what content and activities they engage with (Hood, Littlejohn & Milligan, 2015). MOOCs share the "anytime, anywhere principle of m-learning" (Chinnery, 2006, p.9) as defined by Kukulska-Hulme & Shield (2008, p. 281).

The added value of the OIE project and its asynchronous discussion forums running in parallel with the MOOC, offered participants a focused reflective platform which some found less daunting to navigate and to engage with than the discussion on the MOOC, with its thousands of contributions. Unlike the previous iteration of the project, where a closed Facebook area was unsuccessfully used for the OIE exchange supporting the flipped MOOC blend (Orsini-Jones, 2015), a dedicated Moodle platform was designed for BMELTT (see Figures 2&3 below).

2.2 The MOOC: Background and Description

The MOOC selected for this study was The FutureLearn MOOC *Understanding Language: Learning and Teaching* designed by the University of Southampton in partnership with the British Council (Figure 1). The MOOC iteration used for this project ran for four weeks

between the 17th October 2016 and 21st November 2016, but it had run four times before (e.g. Orsini-Jones, 2015). The MOOC had seen little change in content during the first three runs, but there had been significant revisions ahead of the 4th run (April 2016) and a new, fifth week had been added for the October 2016 iteration. The aim of the additional week was to extend the community of teachers into the realm of research.

The instructions in the MOOC suggested around 3 hours of weekly engagement to complete the course for the five weeks of its duration. Each unit consisted of five sections that included articles, discussions, audiovisual materials or exercises related to the specific themes of the unit. Week 5 had four sections that updated week 4 and invited people to take part in a research project. At the end of each unit, there was a section called 'Reflection' where participants were expected to share the positive aspects of the week and to discuss with their online peers their thoughts about how they could take the lessons forward into the field of language teaching and learning. The design of the FutureLearn platform and of the MOOC itself fosters discussion and interaction around the topics covered in the course. Appendix 1 provides a full overview of the MOOC content.

Figure 1. Screen shot of the front pages of the FutureLearn MOOC *Understanding Language: Learning and Teaching*

3. Research Methodology Tools

The research methodology approach was based on related action research cycles (Orsini-Jones *et. al.*, 2015; Orsini-Jones, 2015) that had preceded the implementation of the BMELTT project. A grounded mixed-method approach was adopted, in which both qualitative and quantitative data were collected. The main data sources used were:

1. A pre-MOOC and a post-MOOC online survey administered through the Bristol Online Survey (BOS: a survey provider that complies with the UK Data Protection Act

- requirements) to involve participants in individual meta-reflections before and after they engaged with the MOOC modelled on previous cycles of the project.
2. The discussion postings in the asynchronous forums in a tailor-made Moodle environment managed by Coventry University to engage participants in collaborative meta-reflections while doing the MOOC that was set up in October 2016, before the MOOC started. The need to set up an area where the participants could exchange reflections and comments on the MOOC had been made necessary by the fact that FutureLearn did not grant access to their analytics in the previous iteration of the project.
 3. The transcripts of the semi-structured interviews carried out after the completion of the post-MOOC survey with self-selected participants to triangulate the findings from the surveys and from the weekly discussions posted in the VLE. Some of these were carried out in group and some individually.

4. Results

4.1 Moodle discussion on asynchronous forums (selected results)

There were 154 participants enrolled on the Moodle BMELTT website in Moodle (*Figure 2*).

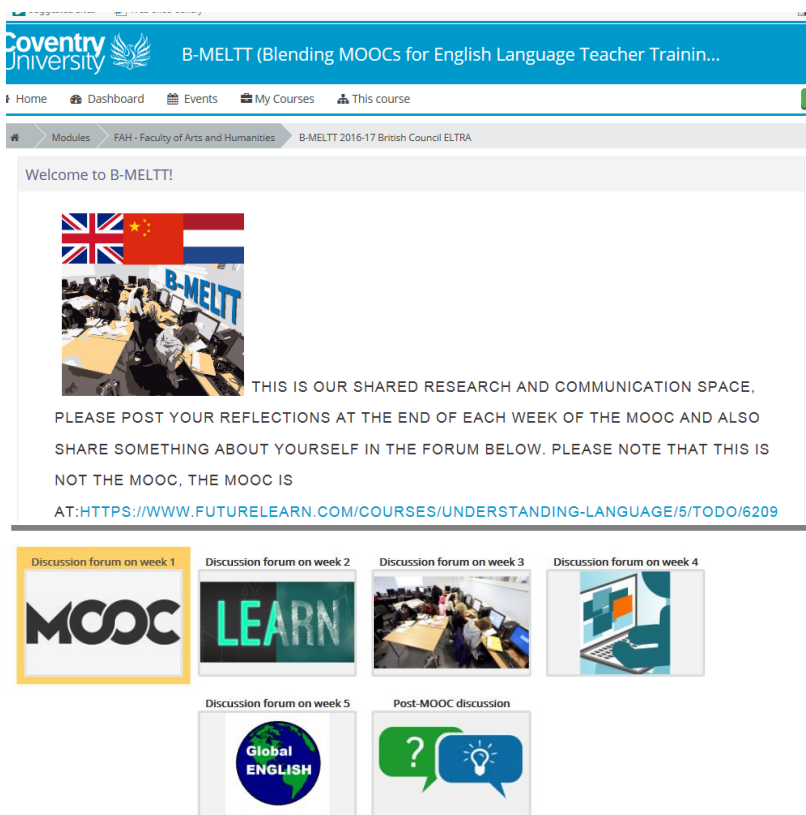


Figure 2: Moodle Website for the BMELTT project

Of these, 78 posted on the forums. In relation to 'contexts' of teaching, two trends emerged in the forum exchanges: the first one related to appreciation for how much could be gained by engaging with a global community of teaching practice, e.g.:

Participant 1 (HU), posting from 11/12/2016

In the MOOC, the discussion forum added extra value as compared to my blended learning experience as I really learnt from the many postings of other participants.

Participant 2 (HU), posting from 16/12/2016

I thought it was really cool about the mooc that people all over the world could comment on your ideas and even add in some ideas of their own. it gave me , as a student teacher, a lot of tips to work with students face to face but also via the internet. it gave me also a fresh perspective on how to deal with online learning and how to make the best of it for students and for myself as a future teacher. technology is our future so we have to learn how to work with it and how to make sure your students can adapt easily towards the future and technology is a big part of that! I enjoyed this course and it will be likely to do one again.

Participant 3 (HU), posting from 14/12/2016

In week 1, it was especially eye-opening to see SO many people and their opinions on teaching etc. It was very helpful and informative, inspiring even, because we're a bunch of people from ALL around the world trying to be the best teachers we can possibly be and it's nice to know that on here, we could give each other advice, talk to each other and motivate each other.

The BMELTT project on the other hand also appeared to provoke some 'food for thought' in terms of raised awareness of specific teaching contexts and the need to teach intercultural awareness as well as a few words of warning towards the dominance of English on the global linguistic arena:

Participant 13 (SISU), posting from 14/11/2017

English is taught as a foreign or second language in many countries, this is the inevitable result of globalization. Many universities around the world to offer courses through the medium of English to meet the needs of the global community. As far as I am concerned, this can help students adapt to the society and further connected with the world. But every coin has two sides, this teaching methods does not take into account the individual differences of students. What's more, some universities pay too much attention to English, but ignore the mother tongue. This is not conducive to the heritage and development of local culture.

Participant 14 (SISU), posting from 8/11/2016

As a future teacher, I will not just teach my students the vocabulary, the grammar and other aspects of English (which I received in my previous study), I will consider more about the intercultural awareness.

Participant 6 (SISU), posting from 20/11/2016

There are many traditional festivals every year in China. While in these years, more and more people especially children celebrate western festivals, such as Christmas, Halloween, April fool's day. It is difficult for our children to recognize what is tradition, why they are different. This may affect our culture's inheritance. Learning a language, we must get to know some cultures of their country. If we blend them together with our own's, the disadvantage is obvious.

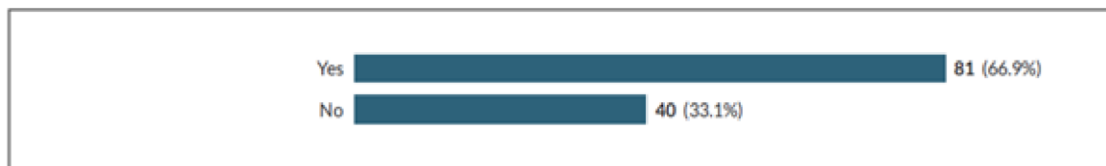
4.2 Pre-MOOC Survey (selected results)

There were 154 participants that gave their consent to participate in this project, of these 121 completed the pre-MOOC survey. In the first set of questions, 67% of respondents answered that they knew what a MOOC was. However, only 25% of them had participated

in a MOOC before and 4% of them stated that they had completed an online course for Continuous Professional Development (CPD): Table 1 below:

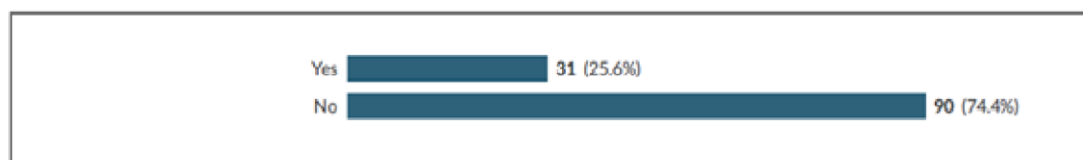
Table 1. Sample answers from the Pre-MOOC survey

Do you know what a MOOC is?



The major

Have you participated in a MOOC (Massive Open Online Course) before?



Have you ever completed an online course for CPD (Continuous Professional Development) before?



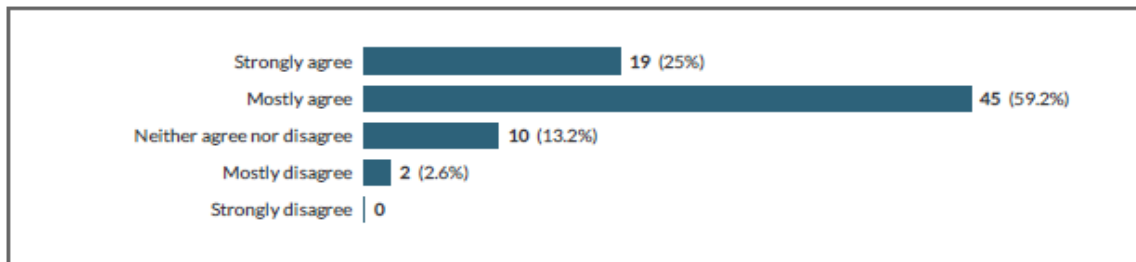
differences amongst the three educational contexts represented in the project related to the definition of 'learner autonomy' (varying between 'working on one's own' (CU and CHINESE Universities) to 'learning with others but taking responsibility for one own's learning' (HU). Another difference in the pre-MOOC survey related to the differing degrees of control that the teacher should have on the learning environment (same 'split' as for previous question). The fact that 23 out of the 36 CU participants were Chinese would appear to indicate that participants from China, whether based in China or at CU, favoured a tutor-centred approach and associated the concept of 'autonomy' with working on one's own.

4.3 Post-MOOC survey (selected results)

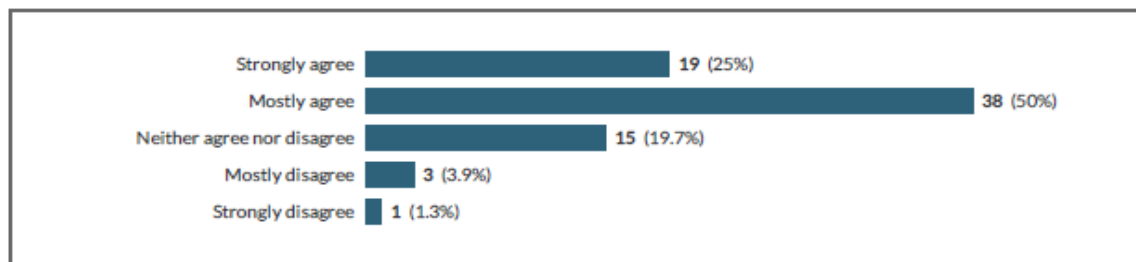
The post-MOOC BOS was completed by 76 participants and their feedback on the engagement with the project was overall very positive, particularly with reference to their raised awareness of their teaching context (Table 3).

Table 2. Sample results from the Post-MOOC survey December 2016

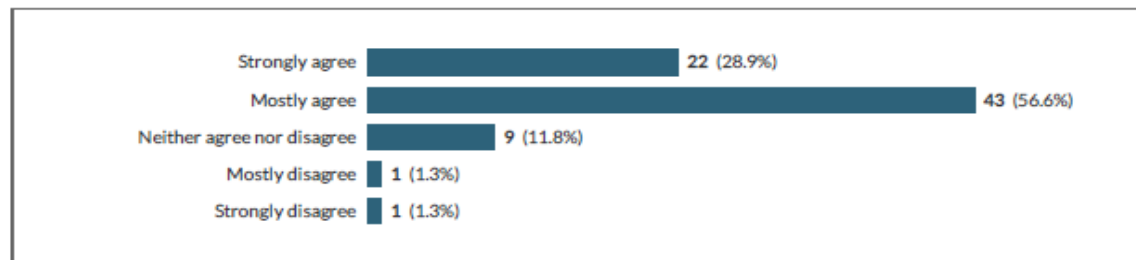
I think that participating in the project as a whole helped me to reflect on how students from my teaching context learn.



I think that participating in the project as a whole helped me to reflect on how I learn.



I think that participating in the project as a whole helped me to reflect on how I plan to teach in my teaching context.



Most participants agreed that more scaffolding was needed within the MOOC from mentors/tutors as they thought that there was not sufficient support to gain full benefit from its socio-collaborative aspects.

It was also interesting to observe that the percentage of the sample that considered the teaching context as an obstacle to promote autonomy increased from 48% to 68% after engaging with the blended MOOC.

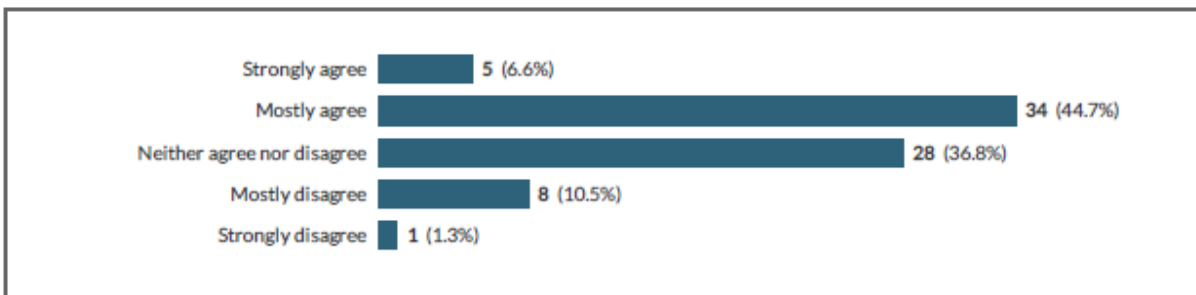
Half of the participants (51%) agreed that engaging with BMELTT had changed their

beliefs on language learning and teaching (Table 3). Triangulation with the semi-structured interview transcripts confirmed that many participants were converted to the use of online learning for their own practice, which they had not considered before: (the BMELTT project) “opened my eyes not only to new ways to learn but also new ways to teach. I was thinking a lot about what it is like to be a teacher on a screen (...) and it also opened my eyes to teaching online” (HU2, semi-structured interviews group 2).

Table 3. Post-MOOC survey Perceptions on Changed Beliefs

5. Conclusion

My beliefs on language learning and teaching have been changed by engaging with the B-MELTT project.



The initial results have suggested that students studying on ELT courses welcome this type of MOOC/OIE-blend. With reference to the initial research questions:

- What factors shape ELT students’ beliefs regarding English language learning and teaching in different educational contexts?

Contextual factors, such as a tradition of tutor-centred, face-to-face ELT practice strongly affect ELT students’ beliefs. However, the global discussion on the MOOC provided interesting ‘food for thought’ for all participants and there was a noticeable shift in positive beliefs towards online learning during the course of the project. Many participants who had not contemplated blended learning before started to see its potential. It could be argued that the global collaborative knowledge-sharing exchange afforded by the MOOC and reinforced by the OIE Moodle discussion and the face-to-face contact in BMELTT contributed to some transformative changes in some of the participants’ beliefs.

- What recommendations on how to integrate MOOCs into existing ELT courses could be made based on the results of the project?

Although most participants valued the asynchronous discussion forums, many stated that they would appreciate it if there were more synchronous sessions both on the MOOC and on the BMELTT project. One recommendation would therefore be to include more opportunities for synchronous communication in future projects and MOOCs whenever possible. The second recommendation for teacher trainers considering this type of ‘flipped MOOC blend’ carried out in conjunction with an OIE project like BMELTT, would be to clarify in writing with all partners involved what is meant by each relevant term, starting at “MOOC” and “blended learning”. The third recommendation would be to provide clear written step-by-step instructions on the stages of the project and the aim and purpose of each tool used (again, both for the MOOC and the OIE project). The fourth would be to insure that the blend includes a face-to-face element.

- Could the MOOC/OIE-blend support ELT students with becoming autonomous teachers?

A limitation of this study is that this question cannot be answered without a longer, longitudinal, approach to data collection and analysis. The initial results, which could not be reported in full here due to word-length constraints, would appear to indicate that the engagement with the MOOC in conjunction with an OIE stimulates the development of an autonomous approach towards a review of one's own ELT practice. Some ELT students found the amount of information on the MOOC daunting though and, contrary to some existing literature, many were not as digitally literate as some experts claim and were challenged by navigational issues. On the whole the data collected would however appear to indicate that BMELTT supported the enhancement of digital critical skills, the development of the ability to engage online with a global community of practice and the opportunity to embrace new practices. Some of the results from BMELTT are still being processed at the time of writing (April 2017 -semi-structured interviews) and more research is needed to ascertain the value of embedding MOOCs into existing ELT curricula in conjunction with OIE, which is still a relatively underexplored area of CALL.

Appendix 1: Structure of the FutureLearn MOOC 2016: Understanding Language: Learning and Teaching.

FutureLearn MOOC: Understanding Language: Learning and Teaching		
Week 1: Learning Language: Theory		
Section 1: Welcome		
1.1	Welcome to the Course	Video (02:02)
1.2	Join the Online Community	Article
1.3	Using future learn and Getting Help	Article
Section 2: Introduction to Week 1		
1.4	Welcome to Week 1	Video (00:47)
1.5	How do You Use Language in Your Life?	Video (04:43)
Section 3: What is Language?		
1.6	What do We Know When We Know Language?	Video (02:40)
1.7	What is Meaning?	Video (04:26)
1.8	Task: What is Meaning? -Implied Meaning	Article
Section 4: What is Hard and What is Easy in Second Language Learning?		
1.9	How do We Acquire Meaning: The Bottleneck Hypothesis	Video (02:57)
1.10	Understanding 'the Bottleneck' of Language and Issues in Language Learning	Discussion
1.11	What is Hard in Second Language Learning?	Article
1.12	What is Easy in Second Language Learning?	Article
1.13	Implications for Teaching	Video (01:15)
1.14	Other Factors Which Affect Language Learning	Audio
1.15	Poll: What do You Think?	Exercise
Section 5: Summary Activities		
1.16	Video Update on the Week's Activities	Article
1.17	Reflection	Discussion
1.18	What's Next?	Article

FutureLearn MOOC: Understanding Language: Learning and Teaching		
Week 2: Language Teaching in the Classroom		
Section 1: Welcome to Week 2		
2.1	Introduction to Week 2	Video (00:59)
Section 2: Classrooms as a Community of Practice		
2.2	Classrooms as Communities of Practice	Video (03:56)
2.3	Classroom Culture	Video (04:36)
2.4	Classroom Culture	Article
2.5	Task: Classroom Culture	Article
2.6	What's your Classroom Culture Like?	Discussion
2.7	Naturalistic vs Classroom Learning	Video (05:21)
Section 3: Task Based Language Teaching (TBLT)		
2.8	Task Based Language Teaching (TBLT)	Video (04:17)
2.9	What is a Task?	Article
2.1	Task: TBLT in Action	Video (01:24)
2.11	Review: Task TBLT in Action	Video (02:49)
Section 4: Content and language Integrated Learning (CLIL)		
2.12	Content and Language Integrated Learning (CLIL)	Video (04:47)
2.13	Task: CLIL	Discussion
2.14	Applying TBLT/CLIL and the Challenge of Innovation in Teaching	Discussion
Section 5: Summary Activities		
2.15	Video Update on the Week's Activities	Article

2.16	Reflection	Discussion
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FutureLearn MOOC: Understanding Language: Learning and Teaching		
Week 3: Technology in Language Learning and Teaching: A New Environment		
Section 1: Welcome to Week 3		
3.1	Introduction to Week 3	Video (00:47)
Section 2: Difference between Online Learning and F2F Learning		
3.2	Differences between Online Learning and F2F Learning	Video (03:28)
3.3	Is it Possible to Learn Languages Well Online or is F2F Essential?	Discussion
3.4	Online Learning and languages	Video (03:45)
Section 3: Teaching in a new environment		
3.5	Engaging with Online Learning	Video (04:58)
3.6	Teaching in a New Environment	Video (02:18)
3.7	Task: Identifying the Roles of an E-Tutor	Article
3.8	Task: Facebook Discussion with BC Tutors	Article
Section 4: Connectivism and Language Learning		
3.9	Connectivist Learning	Video (02:20)
3.1	Online Learning and Using Social Media in Language Learning	Discussion
Section 5: Summary Activities		
3.11	Video Update on the Week's Activities	Article
3.12	Reflection	Discussion

FutureLearn MOOC: Understanding Language: Learning and Teaching		
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Week 4: Language in Use: Global English		
Section 1: Welcome to Week 4		
4.1	Introduction to Week 4	Video (01:07)
Section 2: Global Englishes		
4.2	Introduction to Global Englishes	Video (02:17)
4.3	Historical Spread of English	Video (05:28)
4.4	Is the Spread of English a Good Thing?	Discussion
Section 3: English as a Lingua Franca		
4.5	English as a Lingua Franca	Video (04:28)
4.6	Task: Identifying Characteristics of ELF	Article
4.7	Controversies in ELF Research	Video (04:01)
4.8	Poll: What is your Attitude to ELF?	Exercise
4.9	Interview with an ELF Researcher	Video (03:13)
4.1	Feedback from Poll: Attitudes to ELF	Article
Section 4: The Future of English		
4.11	Implications of the Spread of English for Teaching	Video (03:55)
4.12	Native Speakers V Non-Native Speakers Teachers	Discussion
4.13	The Future of English	Video (04:48)
4.14	Poll: What do You Think is the Future of English?	Exercise
4.15	Responding to Questions and Controversies in ELF Research	Article
4.16	Feedback from Poll: The Future of English	Article
Section 5: Summary Activities		
4.17	Video Update on the Week's Activities	Article
4.18	Reflection	Discussion
FutureLearn MOOC: Understanding Language: Learning and Teaching		
Week 5: The Future is Now! Join a Live Research Project		

Section 1: Welcome to Week 5		
5.1	Introduction to Week 5	Video (01:22)
Section 2: What do We do all Day?		
5.2	English the 'Multilingua' Franca	Video (03:54)
5.3	English Used as a Medium of Instruction in Universities: The Growing Trend	Video (05:54)
5.4	A Year in the Life of the Centre for Global Englishes	Article
5.5	The Next Phase of ELF: What do You Think?	Discussion
Section 3: Join a Research Project		
5.6	Background to Our Current Research Project	Video (01:46)
5.7	Discussing our Results So Far	Video (06:34)
5.8	Become a Part of Our Research Community and Join a Live Research Project	Video (01:28)
Section 4: Summary Activities		
5.9	Reflection	Discussion
5.10	Goodbye!	Video (01:27)
5.11	An Invitation	Article
5.12	Post-Course Survey	Article

CALL in Context

This contribution fits into the MOOC theme and discusses a novel flipped model of MOOC integration. The FutureLearn MOOC *Understanding Language: Learning and Teaching* has been integrated into the curriculum of English Language Teaching courses at both undergraduate and postgraduate levels in three different countries as part of a British Council action research project: Blending MOOCs into Language Teacher Training (BMELTT). The project supports a blended learning reflection on both local and global language learning and teaching theory and practice in a variety of contexts. The project has a distinctive approach to both blended learning and MOOC integration, as an Online International Exchange amongst universities in the UK, China and the Netherlands has been used in parallel with the MOOC and the face-to-face teaching experience to support reflection on the themes covered.

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Transreality puzzle as an object of Augmented reality, Cubios puzzle

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Abstract

The author presents a new electronic-mechatronic device, which belongs to the author, to the category of "mixed reality", and at the same time is the Tangible User Interface. Describes the interface and mechanics of the new device. The method of classification is proposed. Each component of the device, being an electronic element, is at the same time part of a mechanical puzzle. All surfaces are screens. What allows users to use device for both educational and entertaining purposes.

Augmented reality, ambient intelligence, mixed reality, in combination with gaming technologies, it opens up huge opportunities for new educational technologies. The author believes that the device will help in the development of cognitive skills, spatial thinking.

Conference paper

Introduction

Augmented reality, ambient intelligence, mixed reality, in combination with gaming technologies, it opens up huge opportunities for new educational technologies. These technologies allow to shift the game universe with the physical world. The term itself is connected with ubiquitous games, augmented- and mixed-reality games, transreality and affective gaming, virtual reality games, smart toys, location-based or location-aware games, and crossmedia games [Nieuwdorp., 2007] [Montola, Markus et al., 2009].

Mixed- or hybrid-reality gaming is the process, which takes place in actual reality and virtual reality simultaneously [Bonsignore et al., 2012]. According to Souza de Silva and Sutko, the formal characteristic of such games is "the absence of the primary game space; such games are played simultaneously in physical, digital, or represented spaces (such as the playing field)" [de Souza e Silva, et al 2009]. Allowing for the mixed-reality concept, which was proposed by Paul Milgram and is presented in Fig. 1 [Milgram, et al, 1994], the list of such games includes the popular game Pokemon GO, where players, while traveling in physical reality, affect what is happening in virtual universe, and what happens in virtuality motivates the players to perform physical moves in the real world.

Augmented- or mixed-reality games, which are available now, are usually based on two techniques. The main technique is that the game processes the video camera signal and superimposes additional elements on the image of the real environment. (For example, the 2004 cell phone game called Mosquitos displayed the image taken by the phone camera on the screen of the phone, and overlaid images of giant mosquitoes on it, which the player had to shoot at using using the superimposed crosshairs). The second technique uses geolocation to combine virtual objects and geography of the real world. By the end of 2016, multiplayer Pokémon Go had spread widely and become extremely popular. It uses the both techniques, namely, it superimposes virtual objects on real camera images and like events and objects to the real world map using geolocation.

However, a whole class of games or gaming devices stay frequently beyond consideration. It comprises devices or sets of devices, which interact with the user physically, via positioning, slanting, or turning of their elements, thus affecting what is happening in virtual space, and this influence is often direct, since virtual objects are correlated with physical ones. The author proposes that such devices should be called “transreality puzzles”. By their nature, they belong to the Mixed Reality realm (Fig. 1), and, according to the scale proposed by Paul Milgram, are located in the Augmented Reality zone (AR). In what follows, the author reviews such devices and projects.

J. van Kokswijk considers the “interreality system” as a system of virtual reality combined with real details, where the devices and physics that comprise it exist in the both realities under consideration [Kokswijk, et al, 2003]

The authors of [Gintautas, Hübler, 2007] describe an interreality pendulum including a real physical pendulum connected with its virtual counterpart. This system has two stable states: “double reality”, where the motions of the pendulums are uncorrelated, and “mixed reality”, where the pendulums are phase-correlated.

The author believes that interaction with a computerized puzzle or a construction set falls under the category of “transreality gaming” or a similar “mixed-reality games” category, where the gameplay take place simultaneously in the virtual (computer) medium and in the real world. The both aspects of the gameplay are interrelated and affect the both sides. The term “transreality gaming” was introduced by Craig A. Lindley [Lindley, 2004] [Bonsignore, et al., 2012].

Figure 2 shows a hypothetic puzzle from the Augmented Reality category. A physical puzzle (e.g., a Rubik’s cube) can bear marks (e.g., QR codes on the cube sides in Fig. 2.1), which are perceived by the computer and replaced by animated images and/or game characters.

However, an equivalent result can be achieved by installing displays directly on the sides of the puzzle. They will show virtual objects, layers, or characters. Such an object equipped with displays will be easier to hold by hand and observe, as compared with looking at it image on a display or by means of special glassed (see Figs. 3 and 4). Such a device, though it is equivalent to the above-mentioned system, can hardly be classified as an augmented-reality object, since it contradicts the accepted notion of augmented reality, which supposes that the user observes objects on a display or using a special tool: “Augmented Reality is a form of virtual reality where the participant’s head-mounted display is transparent, allowing a clear view of the real world” [Milgram, et al., 1995]

From the taxonomy viewpoint, allowing for the fact that such devices do not fulfill the AR requirements completely, while still satisfying the conditions of a wider notion of Mixed Reality

and being specific gaming gadgets of the Transreality Gaming category [Lindley, 2005] [Montola, 2005], they can be categorized as Transreality puzzles.

At the same time, such puzzles have all characteristics of TUI (Tangible User Interface) and can be considered as "Grasp Interaction" objects.

Combining puzzles and video games with the principles underlying the development of tangible interfaces reveals a wide range of new possibilities greeting the users of such devices, in the context of both the gaming potential per se, and useful entertainment. They are fit to be used by children, adults, and seniors, and develop speculative powers and three-dimensional skills.

Puzzles and construction sets use the grasping effect brilliantly. This effect is per se a highly expressive input channel for interaction of a human being with material objects. It is always present, when we interact with small objects, and it is bidirectional, since the object provides a direct tactile feedback to a user's hands.

Grasping enhances motivation and ease of using multiple various artefacts. A good example to illustrate the grasping potential is the cell phone, which is so popular because one can grasp it, twist it, and hold it in hands. Recently, grasping has become the object of research performed by the human-computer interface community [Wimmer, 2015] [Johnson-Frey, 2003].

TR-puzzle Cubios

The author has designed and made a prototype of an entirely "transreal" puzzle: a set called "Cubios". The main purpose of this puzzle is to join physical representation and virtual gaming environment in a common indivisible gameplay scenario.

According to Paul Milgram's concept of mixed reality, which is illustrated in Fig. 1, the proposed puzzle will fit in the middle of the scale, between augmented reality (AR) and augmented virtuality (AV), since the gameplay will require elements of the physical and virtual world equally.

The gameplay lies at the boundary of the two media. Comparing it with the Siftables/Sifteo project [Merrill, et al. 2011] [Hunter, 2010], one can state that the latter is closer to augmented virtuality, since all Sifteo cubes can move around on a plane freely, and during the game, players focus mainly on what is happening in virtuality (see Fig. 1).

Thus, Sifteo is closer to classical computer games, where 99% (nominally) of the gameplay take place in the virtual environment, and only 1% is left for the controls, such as a joystick, a mouse, a Kinect, etc. An assembled Cubios is supposed to be played as a twisty puzzle, where sides are to be moved according to specific rules, in order to arrive at the result required (e.g., gather all the tiles of the same color on one side in Rubik's Cube). In this case, the logic of the virtual game requires that parts of the puzzle should be moved and connected in a certain way, in order to achieve the result or advance in the gameplay. Thus, a significant part of the gameplay takes place in the physical world, and the other, not less significant, in virtuality.

The author proposes a special magnet-operated puzzle designed for a gameplay in physical reality with an associated game taking place on built-in displays or LED matrices, in virtuality. Cubios, being equipped with microprocessors and displays, can be regarded as a variety of the Tangible User Interface, a transreality puzzle, and a gaming platform (i.e., a platform-specific combination of electronic components or computer hardware which, in conjunction with software, allows a video game to operate).

To make a cubio satisfy the requirements of a transreality puzzle, it should be equipped with a microprocessor, and each of its external side should be a display (or LED matrix). All the microprocessors working together ensure cooperation of all elements as an integral Cubios device.

Along with the standard configuration using eight cubios (2x2x2, as in Larry D. Nichols's patent) [Nichols, 1972], cubio tiles can be assembled to obtain other shaped shown in Fig. 5

Technically, many puzzles can be turned in transreality games. For example, if each tile in the well-known 15-Puzzle is a display or a screen, to which images are projected or superimposed for displaying by means of computer processing, then one obtains a similar device and gaming platform, where part of the gameplay resides in the real world, and the other part, in virtuality. It can also be assembled on the basis of Cubios elements, by using 15 cubios-elrmets (with displays on one side and connectors on four sides) and a box to house all these elements. Other shapes are also possible, e.g., a pyramid (requiring elements with triangular displays), a cube (3x3x3, 4x4x4, etc.), an octahedron, a hexagonal prism, a cylinder, a sphere, and so on.

The sides/displays of Cubios as a whole form a common gaming space, where game characters or elements interact with each other. The gameplay is controlled mainly, but not exclusively, by turning sides, similarly to Rubik's Cube gameplay, and/or mounting or dismounting individual cubios (even from a different set) and moving them afterwards. Additionally, the player can use the accelerometer, or display sensors, or any other sensor to control the gameplay. However, the author believes that the main gameplay control method should be turning the sides of the assembled Cubios around their axes. This is the way to achieve balance between augmented reality and augmented virtuality, which makes Cubios a device allowing one to play a true mixed reality game.

The basis of a challenge to play the verge of moving to participate in an exciting game based on the characters, the puzzles, the selection of words, or just a "meditating" on a beautiful iridescent and interacting with each moving pictures on faces.

A lot of educational games can be implemented. For example: A variant of Scrabble. Each of the 24 tiles is labeled with a letter (less frequent letters, e.g., q and z, are omitted). The game purpose is to turn Cubios sides and put letters together in such a way, as to make adjacent letters form a noun (or any word). The computer highlights the formed letter with a color, awards several points to the player, and suggests going on with the game. The player, who assembles more words than the other players out of random combinations during a specified period of time, wins. (Fig 3)

The author has developed a prototype of the Cubios set. The software was written in the C Programming Language, electronics was assembled on the basis of an ATmega328 microprocessor, and cubio bodies and electromagnetic connectors were printed on a 3D printer (see Figs. 6).

An operable Cubios prototype is shown in Fig. 3. In future versions, displays will occupy all possible space on side surfaces, and the frames around them, as well as the gaps between them will be minimized.

Patents

In the process of working on the device 2 patents were submitted:

The first patent describes the operation of magnetic compounds whose main property is the neutrality of male / female connectors, as well as rotating self-orienting magnets, which allow to eliminate the problem of mutual repulsion of identical poles of N-N or S-S;

EFS ID 27279988, US Application Number 62410786, Title of Invention: Magnetic electrical

connector integrated in the flat surface of the product, with a spring effect and the possibility of rolling. 20OCT2016

The second patent describes the design of the device as a whole:
EFS ID 28446467, US Application Number 62462715, Title of Invention: Electronic Device With Display Surround Transformability. 23FEB2017

Discussion and plans:

The main question for such projects is how potential users will receive it. To find this out, it is planned to manufacture several full-scale prototypes, develop several educational games, and offer them to participants of test groups, who will play and study the device.

The test methods will be questionnaire surveys, test games, and contests. Test groups will include pre-school kids, schoolchildren, teenagers, as well as pensioners. Testing by representatives of puzzle fan communities would be most welcome, as well as running tests on random adults in the places, where people have to wait for a long times and would not object to being offered an interesting pastime, e.g., in airports.

In addition, the author plans to conduct research, whether the device can be useful for the treatment of mental illness. There is a preliminary agreement with the Department of Psychiatry at UCSF (San Francisco), on the development of a trial game whose goal will be to stabilize the psyche of patients with schizophrenia.

The author is planning to publish the results in a separate paper.

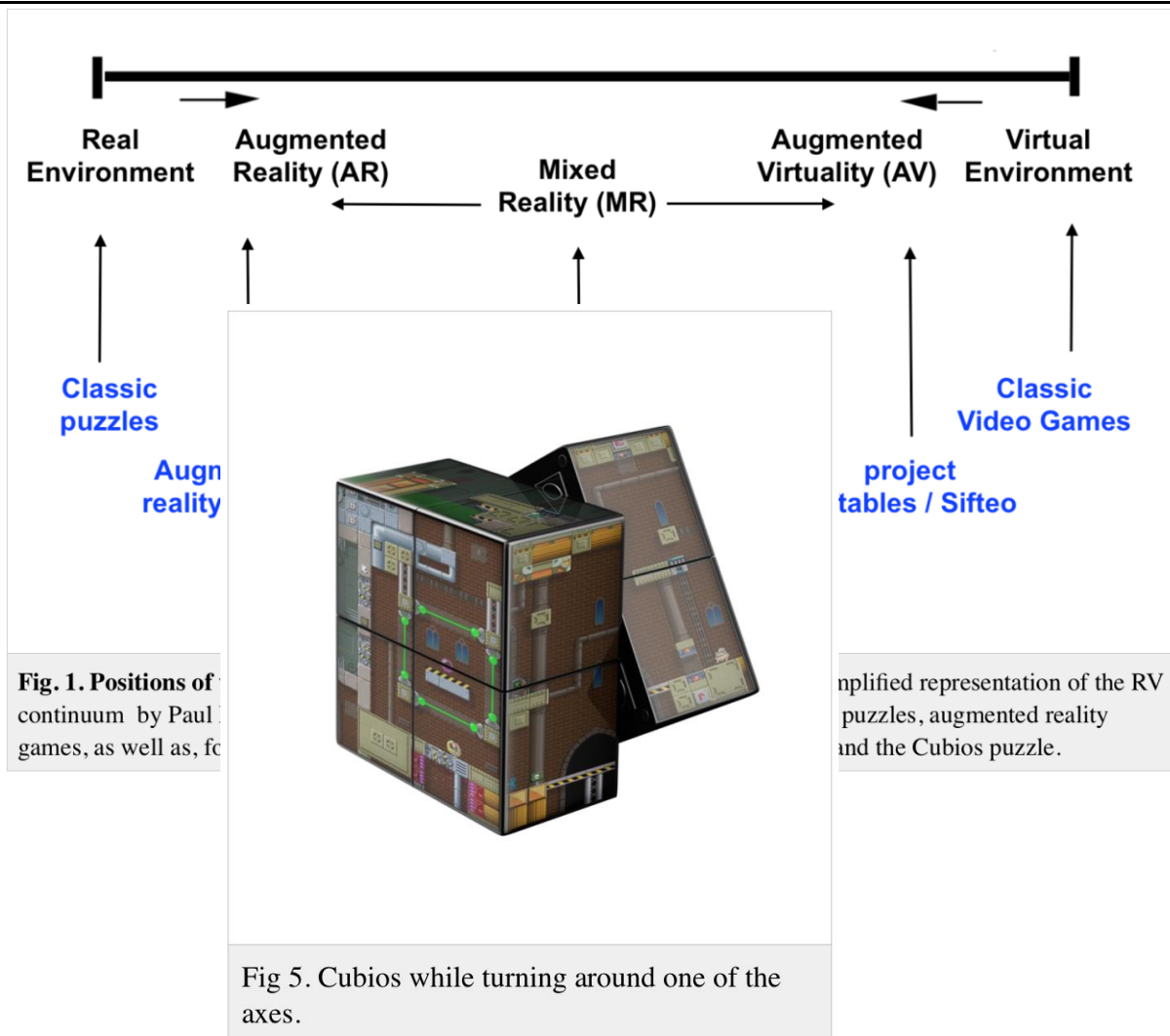


Fig. 1. Positions of continuum by Paul games, as well as, fc

nplified representation of the RV puzzles, augmented reality and the Cubios puzzle.

Fig 5. Cubios while turning around one of the axes.

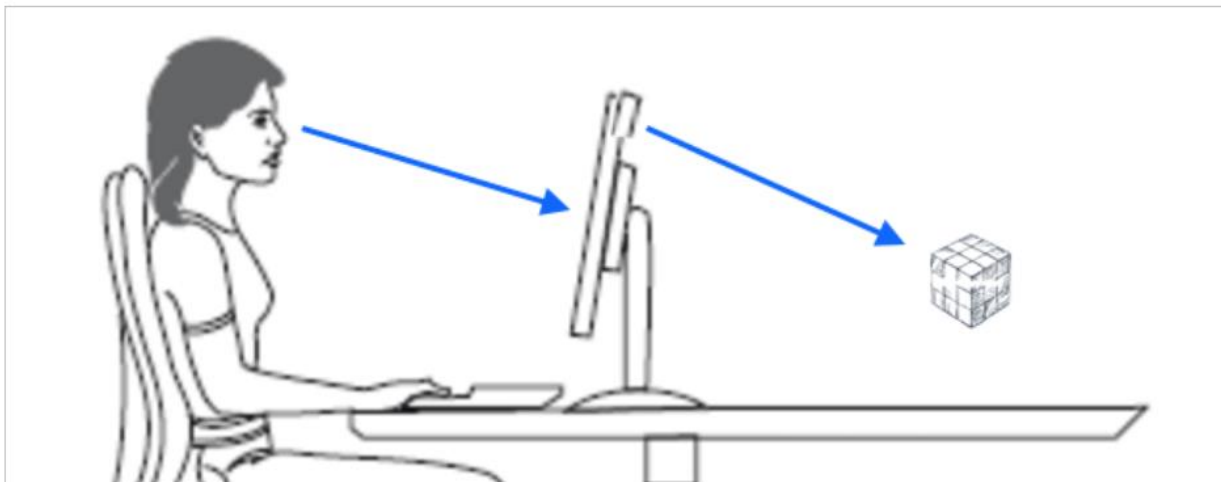


Fig. 2. AR Puzzle. Scheme of working with a hypothetical puzzle in augmented reality. The user observes a physically existing puzzle (a Rubik's cube with additional icons on its sides) on a computer monitor.

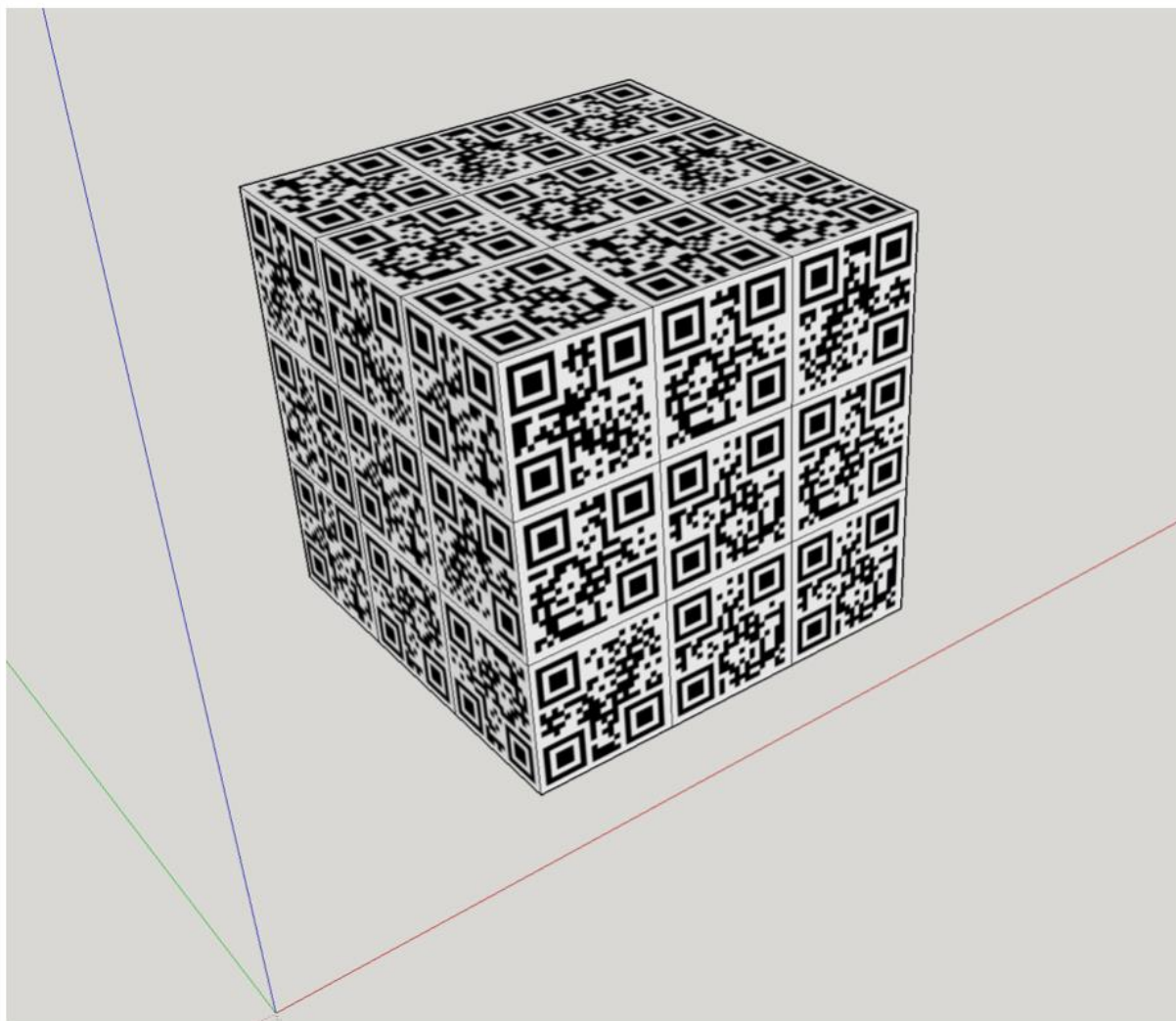


Рис 2.1. QR-Code on each side of the AR puzzle.



Fig. 3. Cubios with the gameplay in process on all external displays forming common gaming space.

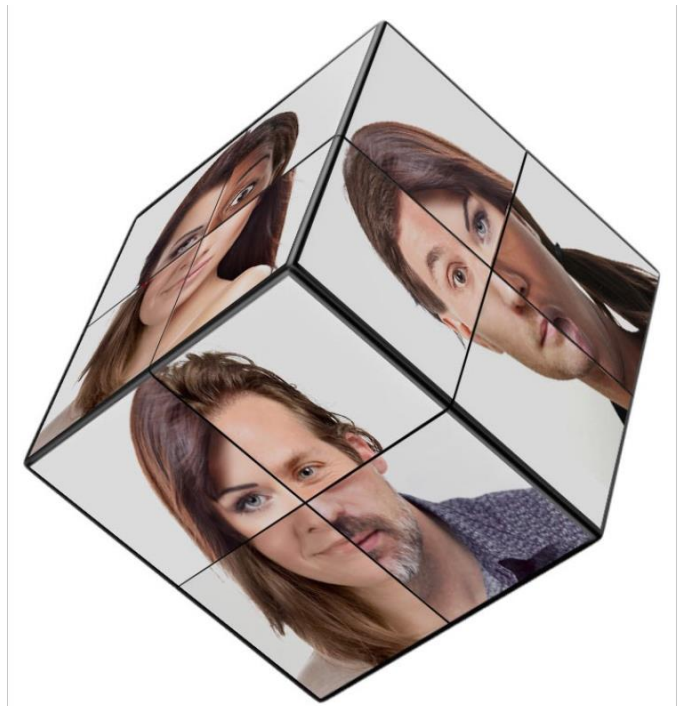


Fig 4. Cubios with the gameplay in process on all external displays forming common gaming space.



Figure 6. The assembled and functional prototype Cubios of 8-elements

CALL in Context

Augmented reality, ambient intelligence, mixed reality, in combination with gaming technologies, it opens up huge opportunities for new educational technologies. These technologies allow to shift the game universe with the physical world.

The author considers a class of mechatronic puzzles falling in the "mixed-reality" category, present examples of such devices, and propose a way to categorize them. Close relationships of such devices with the Tangible User Interface, in the context of educational goals, are described. The device designed and was built by the author as an illustration of a mixed reality puzzle is presented

J. van Kokswijk considers the "interreality system" as a system of virtual reality combined with real details, where the devices and physics that comprise it exist in the both realities under consideration. The authors of [Gintautas, Hübler, 2007] describe an interreality pendulum including a real physical pendulum connected with its virtual counterpart. This system has two stable states: "double reality", where the motions of the pendulums are uncorrelated, and "mixed reality", where the pendulums are phase-correlated.

The author believes that interaction with a computerized puzzle or a construction set falls under the category of "transreality gaming" or a similar "mixed-reality games" category, where the gameplay take place simultaneously in the virtual (computer) medium and in the real world. The both aspects of the gameplay are interrelated and affect the both sides. The term "transreality gaming" was introduced by Craig A. Lindley

The author believes that interaction with a computerized puzzle or a construction set falls under the category of "transreality gaming" or a similar "mixed-reality games" category, where the gameplay take place simultaneously in the virtual (computer) medium and in the real world. The both aspects of the gameplay are interrelated and affect the both sides. The term "transreality gaming" was introduced by Craig A. Lindley [Lindley, 2004]

From the taxonomy viewpoint, allowing for the fact that such devices do not fulfill the AR requirements completely, while still satisfying the conditions of a wider notion of Mixed Reality and being specific gaming gadgets of the Transreality Gaming category [Lindley, 2005] [Montola, 2005], they can be categorized as Transreality puzzles.

The author has designed and made a prototype of an entirely "transreal" puzzle: a set called "Cubios". The main purpose of this puzzle is to join physical representation and virtual gaming environment in a common indivisible gameplay scenario.

The main question for such projects is how potential users will receive it. To find this out, it is planned to manufacture several full-scale prototypes, develop several educational games, and offer them to participants of test groups, who will play and study the device.

The test methods will be questionnaire surveys, test games, and contests. Test groups will include pre-school kids, schoolchildren, teenagers, as well as pensioners. Testing by representatives of puzzle fan communities would be most welcome, as well as running tests on random adults in the places, where people have to wait for a long times and would not object to being offered an interesting pastime, e.g., in airports.

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Learning English at a distance: Exploring the effects of local context on the design, implementation and the learning outcomes of a local experience of learning English.

Bio data



Jorge Eduardo Pineda is a PhD student at the Open University of Catalunya in Barcelona, Spain and a full time English instructor at Universidad de Antioquia in Medellín, Colombia. His academic interests are the blend between technology and teaching in general and language teaching and learning in particular. He is also interested in the effects of the use of technology in both language teachers and learners.

Abstract

The use of ready-made, fits-all and success-granted language learning platforms seems to be a plausible option for English language learning due to the proliferation of synchronous and asynchronous technologies as well as all the advantages they claim they have. However, these platforms seem to ignore the importance of the local context when designing learning content and the effect it has on the success of students. This presentation seeks to explore how the local context shapes the design of a local experience of English learning online and its effects on language accuracy. This presentation includes a discussion on how the analysis of the local context contributed to the selection of the type of technologies employed and the design of each learning object. The results of this study show a positive effect of the tools employed in the course on language accuracy because there is an increase in the production of error-free clauses along the course as well as a decrease in the production of clauses containing errors. A qualitative analysis of the results reveals that the informants from this study identify problems with basic sentence structure, the use of verbs in the synchronous tools and problems with the use of the third person as well as they point out that the synchronous tools push them to seek more complex grammar structures. The participants in the study describe the effects of synchronous and asynchronous communication tools on language accuracy as favorable because they originate instances to make errors and instances where the teacher highlights and corrects those errors. The study concludes that by taking into consideration the particularities of the local context, the singularities of the learners and the teachers, the technological tools, the topic of the lessons, and the learning objectives to be achieved when designing online learning environments and learning objects increases the possibilities to engage learners and therefore learning is more likely to take place.

Conference paper

Introduction

Latin America is a region where speaking English is viewed as an advantage and an attribute that helps people stand out and provides different opportunities by making people more competitive and Colombia is not an exception. Colombian Ministry of Education has established different strategic projects for competitiveness and one of those projects is bilingualism that seeks to "improve the communicative competence in English as a foreign language at all educational levels." (Ministerio de Educación Nacional, 2006). These policies have stimulated the proliferation of language learning options that include different approaches, modalities and technologies, but all have in common that they fit the students' busy schedules and low linguistic levels and they all guarantee success very effortlessly. However, these fits-all, success-granted language learning options are not always useful because they do not take into consideration the specificities of learning contexts and specific students' needs. Nationwide policies translate into institutional initiatives that are context-dependent. For example, the institution where this experience takes place has designed an online course of English that focuses on the development of oral skills and that includes synchronous and asynchronous communication tools and takes into account the students' need, their claim of lack of time and low linguistic levels in English.

The course and the tools employed

The Development of Oral Skills (DOS) course aims at expressing opinions and thoughts meeting a variety of qualitative aspects of the spoken language use (range, accuracy, fluency, interaction and coherence) as established by the CEFR (Council of Europe, 2001). I designed the course for students who have a basic command of English (A2, B1 according to the CEFR). DOS runs on three propositions. First, it is a content-based course in which "language is acquired through the study of a series of topics, each topic is exploited in systematic ways and from different angles, so the role of grammar structures is incidental" (Jalilzadeh & Tahmasebi, 2014). Second, it is a task-based course because the activities that the students carry out have particular goals and their focus is communication (Hismanoglu & Hismanoglu, 2011; Rosell-Aguilar, 2005). And third, DOS uses synchronous (online lessons and online interviews) and asynchronous (audio forums, video forums and podcasts) communication tools. DOS runs on an institutional Moodle platform.

Online lessons

Online lessons are synchronous sessions that employ a video conference tool. Based on the task cycle proposed by (Ellis, 2003), they have: (1) a pre-task stage that aims at activating background knowledge and helping participants become familiar with possible unknown words or expressions. (2) a while-task or during-task stage in which participants have to work with information in the target language. (3) a post-task stage in which participants have to create a final learning product with the information and language learned in the previous stages.

Online interviews

The online interviews are synchronous meetings that use a video conference tool. They take place between the teacher and each student at a time. The online interview seeks to assess the development of oral skills in the middle of the course and at the end.

Audio forums and video forums

The audio forums and the video forums are recordings that the students post on a forum discussion. The participants use an external-to-Moodle tool to record their tasks and include them in a Moodle forum discussion thread.

Podcasts

They are audio files that the participants create using their computers, a microphone and software in a tool embedded in the course. The objectives of the podcasts are to use the language, content and information explored during the online lessons, including the audio or

the video forums, thus providing an opportunity to improve students' oral skills in general and pronunciation in particular. (Ducate & Lomicka, 2009)

Type of study

This study is a case study with a mix-methods approach that combines both quantitative and qualitative research methods. (Androutsopoulos, 2008; Creswell, 2013; Yin, 2004)

Research questions

- What are the effects of synchronous and asynchronous communication tools on language accuracy evidenced in the number of errors that students produce?
- What are the participants' perspectives on the production of errors in the synchronous and asynchronous tools, which can lead to identify their level of language awareness?

Results

Synchronous communication tools and error production

An analysis of the production of clauses containing errors in the online lessons and the online interviews shows that there are 610 clauses that contain grammar errors in the online lessons and 238 clauses in the online interviews. 70% of the clauses produced in the online lessons (428) contain article errors and 74% of the clauses in the online interviews (177) contain the same type of error. 136 clauses (22%) contain pronoun errors in the online lessons and 52 clauses (21%) in the online interviews, 27 clauses (4.4%) present verb errors in the online lessons and 9 clauses (3.7%) in the online interviews, 1 clause (0.16%) has preposition errors in the online lessons and this type of error does not take place in the online interviews. Finally, the online lessons have 18 clauses (2.9%) that contain auxiliary inaccuracies and these errors do not occur in the online interviews.

Further analysis of the clauses produced in the online lessons and online interviews shows that there are 1022 clauses that contain lexical errors in the online lessons and 403 clauses in the online interviews. From those, the online lessons present 569 clauses (56%) that contain word order errors and 237 (59%) in the online interviews. The online lessons show 309 clauses (30%) that engulf word omission errors and the online interviews show 119 clauses (30%). The online interviews have 44 clauses (11%) that contain inappropriate word choices and the online lessons have 116 clauses (11%). The online lessons have 14 (1.3%) clauses that contain inappropriate uses of affixes and the online interviews have only 3 clauses (0.7%) and unsolicited uses of L1 appears in 14 clauses in the online lessons which represent 1.3% and this error does not emerge in the online interviews

Finally, the clauses containing phonetic errors in the synchronous tools show that the students produced 940 clauses in the online lessons and 263 clauses in the online interviews. The online lessons have 648 clauses (69%) that contain mispronunciation of vowel or consonant sounds, 239 clauses (25%) present addition or omission of sounds, 36 clauses (3.8%) present absence of linking, 3 clauses (less than 1%) have inappropriate uses of stress and intonation and 14 clauses (1.4%) contain incomprehensible words. The online interviews show that 83% of the clauses contain mispronunciation of vowel or consonant sounds (219 clauses), 40 clauses (15%) present problems with addition or omission of sounds, and 1.5% of the clauses produced in the online interviews (4 clauses) show absence of linking and inappropriate uses of stress and intonation and inaccuracies with incomprehensible words do not appear.

Asynchronous communication tools and errors

An analysis of the production of errors in the audio forums, video forums and podcasts shows that the students produced 145 clauses containing grammar errors in the audio

forums, 134 in the video forums and 163 clauses in the podcasts. From those, 111 clauses (76%) in the audio forums, 97 clauses (72%) in the video forums and 128 clauses (78%) in the podcasts contain article errors. Pronoun errors are equally frequent in the audio forums and the podcasts with 29 clauses (20% and 18%) and 30 clauses (22%) in the video forums. The production of clauses containing verb errors is not very frequent; there are 4, 4 and 6 clauses (2.7%, 2.9% and 3.6%) in the audio forums, the video forums and the podcasts respectively. Finally, there are only 1 and 3 clauses containing preposition errors in the audio forums and the video forums respectively which correspond to less than 1% and 2.2% and auxiliary errors do not appear in the asynchronous communication tools employed in the course.

A further analysis of the clauses containing lexical errors in the asynchronous communication tools reveals that the participants produce 288 clauses that contain lexical errors in the audio forums, 192 in the video forums and 267 in the podcasts. From those, the podcasts engulf the majority of clauses that have word order errors with 170 clauses that represent 64%, followed by the audio forums and the video forums with 51% (146 clauses) and 59% (112 clauses) respectively. Clauses containing word omission errors are more frequent in the audio forums with 39% of the clauses (112 clauses), followed by the podcasts with 31% of the clauses (84 clauses) and finally the video forums with 35% of the clauses (66 clauses). The audio forums show the majority of clauses that have inappropriate word choices with 27 clauses (9%), followed by the podcast with 11 clauses and the video forums with 10 clauses, which represent 4.1% and 5.2% respectively. Clauses containing inappropriate uses of affixes are not very frequent in the asynchronous tasks with 1%, 2% and less than 1% of the clauses with only 3 clauses in the audio forums, 4 clauses in the video forums and 2 clauses in the podcasts. The asynchronous tools do not show clauses containing unsolicited uses of L1.

The results obtained from the analysis of the production of phonetic errors in the asynchronous tools show that the students produce 338 clauses in the audio forums, 203 clauses in the video forums and 318 clauses in the podcasts. The audio forums present 55% of the clauses containing mispronunciation of vowel or consonant sounds (185 clauses), 37% of the clauses contain problems with addition or omission of sounds (124 clauses), 8% of the clauses have absence of linking (27 clauses) and inappropriate uses of stress and intonation and incomprehensible words count with 1 clause each (less than 1%). There are 111 clauses (55%) that contain mispronunciations of vowel and consonant sounds in the video forums and 211 clauses (66%) in the podcasts. 76 clauses (37%) have problems with addition or omission of sounds in the video forums whereas there are 91 clauses (29%) in the podcasts. There are 15 clauses representing 7.3% that have absence of linking and only 1 clause (less than 1%) that contains inappropriate uses of stress and intonation and there are not clauses associated with incomprehensible words in the video forums.

A qualitative analysis of error production in the synchronous and asynchronous tools

An analysis of the in-depth interviews and the focus groups reveals that the participants identify that they produce several types of errors in both synchronous and asynchronous tools. For example, the following student reflects upon the type of errors she made during the online lessons and she identifies pronunciation inaccuracies, grammar difficulties and she goes deeper into identifying the basic sentence structure as problematic.

"I am sure I made a lot of errors. For example, I know I have problems with pronunciation or grammar and the subject, verb, complement structure during the online lessons." Focus group to students.

Another student identifies grammar aspects and specifically the use of verbs as problematic when asked about the errors that he committed in the online lessons and the online interviews.

"I think the problems that I have found in the online lessons and sometimes in the online interviews have to do with grammar structures and more specifically the use of verbs." In-depth interview with students.

Another student highlights that pronunciation problems were present in the synchronous and asynchronous communication tools employed in the course and he provides an example of the kind of pronunciation inaccuracy he identifies.

"I know that I made many errors in the online lessons, the online interviews, the video forums and the podcasts. I had problems with grammar and pronunciation. For example, I had problems with the word learn, I said something like /lɜ:n/ and sometimes I say something like /lənd/ because I don't pronounce the /r/ sound. I think I make a bigger effort in the /d/, I kind of place my tongue on the palate." focus group to students

Participants also identify that they produce grammar errors in the synchronous tools. A student pinpoints that when performing in the online lessons, he had problems with the use of pronouns.

"During the online lessons, I made a lot of grammar errors. For example, I started a sentence talking about student 1 or student 3 and I ended up talking about me as the subject of the sentence." Focus group to students.

Another student notes how the online lessons promote learning new structures as he identifies the need to master structures that are more complex.

"I have always had an interest for linguistic topics and the online lessons have helped me realize the need for complex structures. For example, the other day, I was wondering how to build a sentence in past perfect progressive." Focus group to students

The students in the course identify the inaccuracies that appear in the video forums and the audio forums. This student explains that he has problems with the use of the third person singular in the audio forums and pronunciation problems in the video forums.

"We all made errors in the video forums, especially pronunciation errors and I can say that I made many errors with the use of the third person in the audio forums." In-depth interview with the teacher.

The participants in the course identify different types of inaccuracies whether they take place in the synchronous or the asynchronous communication tools as they single out pronunciation errors in the online lessons and grammar errors in podcasts.

"I think that in the online lessons, they [the students] mispronounced several words. They were also very inaccurate with grammar structures, but in the podcasts, not in the online lessons." In-depth interview with the teacher.

Discussion and conclusions

The findings from the present study indicate that the online lessons and the online interviews (synchronous tools) engulf the majority of clauses that contain errors and the use of articles and pronouns, word order errors, word omission errors, the mispronunciation of vowel and consonant sounds and the omission of sounds appear to be problematic. (MacDonald, Garcia-Carbonell, & Carot-Sierra, 2013) provide an explanation that can also explain the results from the present study. They claim that "there [are] certain constraints placed on participants when online [performing synchronous tasks]. The speed of interaction, the need to be able to understand the messages, then plan the reply in the shortest interval of time." They add that "participants probably [pay] more attention to getting the meaning across than to the formal aspects of their message." (p. 42). A second possible explanation of the results from the present study is that the synchronous tools offer more opportunities to use the language and to communicate authentically. Synchronous

tools (online lessons and online interviews) offer the potential to develop students' speaking skills and to test whether their communicative competence is sufficient to interact successfully. (Camino & Alastuey, 2010) Besides, synchronous tools resemble closely face-to-face communication. (Jepson, 2005 as cited by Camino & Alastuey, 2010). The results from this study suggest that synchronous tools are more prolific to produce inaccuracies "because [students] feel more engaged in the online experience." (Falloon, 2011; Hrastinki, 2008; Stain et al., 2009; Strang, 2013 as cited by Watts, 2016).

These findings reveal that the participants in the present study are aware of the types of errors that they produce. Other studies demonstrate that pronunciation inaccuracies occur because interaction with speakers with the same L1 show a tendency to pronounce English with a greater number of deviations than speakers with different L1 and in situations of processing overload non-native speakers are liable to make more pronunciation errors. (Jenkins, 2000 as cited by Camino & Alastuey, 2010). The participants in this study also highlight that even if their performance in synchronous and asynchronous tools is plenty of errors; these errors also lead to correction and as consequence to learning. These results are in good agreement with other studies, which have shown that the participants in asynchronous oral computer-mediated communication tools report improvement in L2 pronunciation, oral proficiency and speaking skills. (Gleason & Suvorov, 2011) Other studies have revealed that "students appreciate synchronous interaction of online learning and feel a connection to peers and instructors" (Watts, 2016, p. 28). Besides, as the interaction in the present study was unavoidably among non-native speakers who share the same L1 this may have produced "a reduction of anxiety levels and thus a lowering of the affective filter." (Satar & Ozdener, 2008 as cited by Camino & Alastuey, 2010) which at the end facilitates learning. The results of the study reveal that the participants highlight vocabulary errors as one of the errors they make. They suggest that synchronous and asynchronous tools can help repair inaccuracies and built up vocabulary. These results are in line with a study reported by (Yanguas, 2012) in which he found that although there was not a significant difference in the production of the target words, there was a significant difference in the three groups to recognize the target words. He concludes that "interacting orally using [synchronous] computer-mediated communication appeared to have an effect on learners' ability to understand the target vocabulary words."

CALL in Context

This presentation attempts to show how institutions react to nationwide policies that seek to regulate the learning, teaching and use of foreign languages and how issuing those policies stimulate the proliferation of fits-all, success-granted language learning options that do not consider the specificities of learners and institutions. This presentation shows how an institution designs and implements an online course of English to respond to those policies. It also shows how the institution selects an approach to teach languages, how it makes a selection of the tools to employ and how it operates the course. This presentation shows how at an institutional level context is defined as a relationship between a focal event and the field of action within which the event is embedded. (Shin, 2006) and as consequence the online course has been especially designed taking into consideration the particularities of the technological tools employed, the learning management system (Moodle), the topic of the lessons, the material utilized and the learning objective to be achieved as well as the institutional and national regulation of language and the needs of students. (Hampel and Stickler, 2012; Hampel, 2006; Rosell-Aguilar, 2005) This presentation seeks to provide elements to deepen the discussion of how the local context shapes the design of learning environments that include the selection of tools, materials and approaches to learning and teaching. At the end, this presentation tries to demonstrate that the combination of all

these factors increases the likelihood of improving the command of a language by exploring the production of clauses that contain errors in the synchronous and asynchronous communication tools employed in the course. This presentation also seeks to explore the opinions of the participants that give account of the level of language awareness developed throughout the course.

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Using blended learning activities to help NCS (Non-Chinese Speaking) students build learner autonomy and improve communication skills in the real-life context – a case in Hong Kong

Bio data



My name is **LI Rong**, I am currently working as an instructor in Chinese at the Hong Kong Polytechnic University and I am also a Doctor of Education candidate at the Chinese University of Hong Kong. I have studied and worked in Mainland China, Hong Kong, England, and The United States. My research interests includes teaching Chinese as a foreign/second language, language teacher identity studies, language policy implementation.

Abstract

At the Hong Kong Polytechnic University, NCS (Non-Chinese Speaking) students are required to take at least one 3-credit Mandarin Chinese course with 3 contact hours per week for 13 weeks, including exams. In Hong Kong, since commonly used Cantonese is very different from Mandarin, students do not have enough opportunity to practice Mandarin outside of class. Because time of classroom teaching is limited, students need to get more language input through self-learning outside of the class. For helping students to have more language input and do more practice by themselves, we need to create an environment, where they can use the language, both inside and outside of the class. Apart from textbooks and handouts, tailor-made self-learning material comes with creative format and content that relates to students' life can help them to practice better. To make sure every student can follow the pace of classroom teaching and content of the subject, it is necessary to offer a clear guideline for the students about both language learning and time management. Once students can achieve higher level of self-study, the focus of classroom learning can be switched from simple drill practice to more interactive activities. With Bloom's Taxonomy as the basis, our 24-month project is aiming to combine the advantages of online learning resource and face-to-face teaching to improve NCS students' learning autonomy and language competence by providing clear guided learning activities. Students are asked to spend time at home focusing on remembering and understanding the content, and in-class activities will be focusing on higher level cognitive activities, and after class students will be given coursework that related to content that is more creative.

Conference paper

This report explains the background, concept of project design and practice of an on-going teaching and learning project for Non-Chinese speaking students at the Hong Kong

Polytechnic University. And a summary of findings from students' feedback will be given at the end of report.

Background

The intermediate level Chinese course offered by Polyu aims to improve students' oral communication skill in Chinese by expanding the vocabulary and mastering more sentence structures. Most of students who take this course have more than 2 years learning experience of Chinese but have poor performance in both reading and writing.

Originally, the course is designed with traditional learning activities, such as dictation, lecture, grammar drill, presentation, discussion etc. For homework after class, students will be given exercises about the material covered in class, both in written and spoken form. Since this course is a requirement enforced by university and many students have already learnt similar content in their previous Chinese class at secondary school, the students are not very motivated in preparing the class and improving their language competence. When we collected the feedback from students through questionnaires and consultation meetings, we found out that students would like to have more contents covered during the class; more opportunities to practice during the class and learning more conversational vocabularies; a learning pace that fits students with different backgrounds and a well-balanced workload covering listening, speaking, reading and writing.

The goal of language teaching is to have learners can use the language in the real life, however it requires the deep understanding and a lot of practice. Time of classroom teaching is limited, to help the learner to have more language input, it is necessary to offer a clear guideline for the students about both language learning and time management. We think blended learning activities that combine the advantages of both digital learning and traditional teaching methods will help.

Concept of project design

eaching effectiveness and efficiency can be improved by using new technologies, and the blended learning allows the enhancement of face-to-face interaction between teachers and students, using internet or computer based tools. New technics can offer better help to students than before (Zhao 2014). Teachers lead, inspire and monitor the learning process, and students can work on their own with new concepts and with their own pace. This can free teachers up to circulate and support individual students who may need individualized attention (Guo 2012) .

However, in order to make the best use of resources, students' learning autonomy is very important, which means students need to learn how to study by themselves. Recent studies suggest that self-regulated process, including how to lead, adjust and reflect, is very important for learners to improve their performance. Zimmerman (2011) founds that Self-Regulated Learning is a process model, which has three stages: forethought, performance, self-reflection, teacher should design their teaching plan following these stages. For the forethought stage, teachers may offer activities that can increase the curiosity of students, help students to organize the new knowledge and assess their self-learning. Regarding the performance, continuous feedback and reinforcement from teachers are very important. After class assessment should be able to asset students for their reflection. Self-Regulated Learning is about helping learner to understand "what is it" and "why should we do it". Albero (2003) points out that Self-Regulated Learning is not just any learning activities that without teacher's involvement (translated by Guo 2012). It is also confirmed by researches that in order to achieve better in-class learning goals, pre-view plays a key role in the students' learning process(Zhao 2014).

By using the new blended learning approach for teaching, we want to have students to share more responsibility of their own learning, we want to improve the learning effectiveness of students and efficiency of our teaching. Then we want to ask ourselves what is the best use of face-to-face class time? As a response to students' feedback, we want to make students have more in-class interaction and focus on higher level cognitive activities, in both written and oral form. We believe that instead of following the textbook closely, tasks that related to the real-life situation can motivate students and help them to improve the communication skills.

Practice

Using blended learning activities for teaching is not simply putting resources on line and let students do when they feel like, and keep using traditional teaching approach in class. It needs a good planning, in order to have a smooth transition between online self-learning exercise and in-class teaching. We want to give students well-balanced assignments, have them to work everyday without too much workload. With the Bloom's Taxonomy updated by Anderson and Krathwohl in 2001 as the basis, we arranged three type of activities for students.

1) Pre-class activities:

Pre-class activities for "forethought" (first stage of Self-Regulated Learning) matching the first two tiers of Bloom's Taxonomy, mainly for remembering and understanding, and "providing an opportunity for students to gain first exposure prior to class, an incentive for students to prepare for class, a mechanism to assess student understanding"(Brame 2013). With pre-class activities, we hope to help students understand the content of each lesson better and also help them to get to know how to use the new words and patters in the real life situations.

We prepared the videos that explained the usage of the new words and new grammar patterns from each lesson. Words and sample sentences are read loud in target language, necessary explanations and notes are presented in English. Before come to class, students need to complete the self-test about the content in the videos, and they will be given the feedbacks once they finish. With the support of e-learning platform blackboard, students can access the learning resources any time and do the exercise as many times as they want. Teachers also can check the result of the self-test of each students and have a clear idea of in which part students have problem with.

The asynchronous online sessions create a self-paced learning environment. Because the material is delivered in a non-threatening manner, since they are allowed with more time and multiple attempts for doing the assessments, it can lower students' anxiety, maximize their motivation, and build their confidence as a result of watching and responding to the video lessons. Students will have more time to make use of the material they are learning in a reinforced setting and will share the responsibility of their own learning.

2) In-class activities

In class activities for "performance" (second stage of Self-Regulated Learning) matching the second two tiers of Bloom's Taxonomy, mainly for applying and analyzing. With in-class activities, we hope students will have more opportunities to use the target languages. More communicative style classroom activities close to the topics of each lesson are designed to match the change of the arrangement of teaching. Below are some activities we tried in class and we would like to try more:

- Change the dictation from writing down the sentences teacher read to answering question teacher asked about the video they watched;

- Replace the sentence drill to having students to share their own experience in their daily school life with the new words and new patterns they learnt;
- Use kahoot to check if students understand the content of the lesson and usage of the new grammar;
- Ask students discuss the communication strategies in different situation in group and then have them do role plays to check how they apply their strategies in target language;
- Play games such as 20 questions to train students how to make the questions for collecting more information...

We want students to be more active in class and motivated them to use the target language to communicate.

3) After-class activities

After class activities for “self-reflection” (third stage of Self-Regulated Learning) matching the last two tiers of Bloom's Taxonomy, mainly for evaluating and creating. We assign listening, reading, grammar and writing exercise to students as the review of what they practiced in class. We also ask student to interview native speaker, to visit local business to get information. We hope with after-class activities, not only will students have to do the reflective coursework about what they have learnt, they will also have opportunities to explore how to use the language for expressing their own ideas.

4) Assessment

For the assessment part, students will be given context and topics close to their life, and they will need to use the language they learn to solve the problems or give an individual presentation.

Over all, we want to give students more space for using the language instead of just “learning” the language. This project would like to have the classroom teaching arrangement changed by adding the new materials and activities. We expect students master the language better orally and be able to do more tasks than with traditional approach.

Findings

After 2 round of practice, we collected some feedback from students by doing survey and face-to-face interviews. Below are some findings:

- 1) Students generally spend 2-3 hours each week preparing for the class, they felt the workload is heavier than other language classes.
- 2) Students found the videos useful and they watch the video before come to class. However they feel studying with the video is time-consuming.
- 3) Students found the dictation is the hardest the part of the class.
- 4) Students liked the language game more than other types of the classroom activities.
- 5) Students appreciated the opportunities to work with their classmates in target language.

CALL in Context

In our project, we see context in different levels:

Firstly, CALL is the fundamental context of this project, we believe that teachers need to understand the role of new technologies in the teaching and learning process and be able to use it wisely. As Garrett (2009) points out, the three major components of CALL – pedagogy, theory and technology are equally important in language teaching. It is so true

that technology expanded the classroom. Teachers and students can communicate not only in class, but also in many different ways without limited by the time or space. We were urged to change our teaching approach at PolyU due to the limited contact hours with students and their needs for more practice. It was the new technologies that allow us to rearrange our class, and to make the Self-Regulated Learning possible for our students.

Secondly, we understand using more technologies can help to personalize the learning process of our students. No one will deny that technologies make language learning more accessible than ever. Nowadays, it is getting more and more common for teachers to have a class full of students with different learning experience. Especially with the language like Chinese, speaking and writing are two separate systems. Students who can talk freely but barely read any characters have to stay in the class with those who can read and write well but unable to manage to pronounce the word with correct tones. When we have to deal with a class of 20 students, it is nearly impossible for teachers to respond to the individual need of each students. With the help of the technology, we give the students enough time and space to decide the pace and style of their learning. And they can seek for help from teachers via different channel.

Thirdly, for the content of the activities, technologies allow us to develop materials that can link to local cultural context and students' daily life. Textbook and exercises no longer dominant the classroom, students can learn from each other by sharing their self-made materials. And it helps to deepen their understanding of the target language, as well as the culture.

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3D Printing with Critical Thinking and Systems Design: An Innovative Approach to Task-based Language Teaching in Technical Communication

Bio data



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Abstract

3D Printing is commonly referred to as a third industrial revolution in manufacturing (Council et al., 2014; Anderson, 2012; Blikstein, 2013), offering a dynamic alternative to traditional manufacturing with its capacity for design innovation, digital fabrication, and data management. Educators who employ 3D Printing initiatives in their language teaching have the opportunity to academically explore new and innovative teaching and learning strategies. This paper discusses 3D Printing as a platform that provides educators with multiple opportunities to explore, invent and implement language teaching ideas while teaching technical communication in an English as a foreign language (EFL) context. The paper takes an instructional approach to explaining how 3D Printing initiatives - including 3D scanning, computer-aided designing, sketchboarding, concept mapping, prototyping with LEGO and maintaining online design feeds - could be successfully included in technical communication pedagogy alongside more traditional genres of document production.

The authors' recent experience at a technical university in Japan suggests that using 3D Printing to teach technical communication in an EFL context is, at graduate level or equivalent, both realistic and feasible if a project-based learning (PBL) approach is taken.

Keywords: Design, Technical Communication, 3D Printing, 3D Scanning, Project-Based Learning (PBL)

Conference paper

Introduction

Technical communication is a method for conveying scientific, engineering or other technical information (Richard, 2005). University educators often approach technical communication pedagogy within a traditional technical writing-based curriculum in a humanities division, where language construction and presentation skills such as document planning, design, organization, translation and editing are the primary focus of instruction. These are, of course, highly important skills for technical communication majors to have.

However, in an English as a foreign language (EFL) context, these skills can be difficult to teach as the students often lack the basic linguistic skills necessary for a typical technical writing-based curriculum. Furthermore, our EFL classroom experience in Japan has shown us that students tend to process linguistic structures in their native language, and then use translation software, online dictionaries and other online language tools to then re-process the linguistic structures in English. Educators in Japanese higher education institutes can and do utilise these electronic language tools in the classroom to try and encourage their students' language acquisition. However, this problem can be further compounded if the students are not highly motivated to use a foreign language and the electronic language tools in themselves do not provide an educational, motivational or skill-building platform from which the students' language acquisition can take off.

One approach to teaching and learning that we have successfully trialled in a Japanese higher education context to address the linguistic and motivational needs of EFL students in a technical communication classroom is project-based learning (PBL). However, our experience has shown us that taking a PBL-based approach necessitates providing the students with engaging 'hook' tasks or activities to grab and sustain their attention. This means the students get involved in *actual* physical and/or online procedural tasks, and learn about technical communication and develop their target language skills while completing the tasks.

The importance of providing *actual* physical and/or online procedural tasks cannot be overemphasised as second and foreign language speakers in Japan are often, in our experience, even more unmotivated to undertake physical or online tasks when given an imaginary scenario rather than a real one. Furthermore, their levels of target language proficiency are frequently low, to the extent that constructing linguistic structures in order to satisfy the requirements of technical documents becomes difficult, unless a practical real-life application context is built around the language writing scenario.

Universities traditionally provide single-disciplinary contexts for studies, whereas modern workplaces can be, and often are, multidisciplinary. This understanding led us to the realization that there was a gap between what we had been teaching our students, and what they often practiced in the workplace after graduation. One way for universities to address this gap is, as we have done, through the use of a PBL pedagogical framework to build partnerships between disciplines, and thus blur the boundaries between technical communication, as taught in traditional humanities divisions, and engineering and computer science divisions (Wojahn et al., 2001).

A potential strategy towards building this partnership is the use of design thinking projects within a PBL framework (Renard, 2014). A PBL framework, both in terms of language acquisition and task completion, ideally includes both convergent thinking (logical and rational) and divergent thinking (imagination and intuition), and also incorporates framing and evolving problems along with solutions that come through iterative practices (Schon,

1983; Steen, 2013). These kinds of problem-solving skills are also typical of design thinking projects.

In the technical communication course discussed in this paper, the group of students tasked with the design thinking project had to brainstorm ideas; discuss potential problems and issues; prototype, revise, and finally deliver physical and digital artifacts; write recommendation and feasibility reports and make online English user manuals.

In developing this task-based language teaching, we drew from Carbonaro et al. (2004) who indicate that problem solving in an EFL-based technical communication course within a PBL framework should be based on processes such as (a) engagement, (b) exploration, (c) investigation, (d) creation, and (e) sharing (Carbonaro et al., 2004). We also drew from Kafai & Resnick's 1996 study on the importance of constructivist learning in today's digital world and students producing artifacts (both physical and digital) that can be shared with a larger audience. Our students worked together toward a shared goal of producing artifacts, following a model of collaborative learning (Laal & Laal, 2012).

It is interesting to note that employing 3D Printing initiatives in language teaching has not yet been explored in the context of teaching technical communication to EFL students. This paper thus discusses an innovative graduate-level technical communication course offered at a technical university in Japan.

Purpose and Research Questions

The graduate-level technical communication course was designed for computer science students who are predominantly second and foreign language users of English.

The course engages the students in active language learning situations (Robinson, 2011) to meet their educational needs through teaching them about 3D Printing and associated procedural instructions design, planning, analysis and implementation. Taking inspiration from Thornburg et al. (2014), it provides the students with hands-on experience in using state-of-the-art software, making oral presentations in English, design writing, workflow scheduling, data management and social organization. The adoption of digital fabrication as an approach to language teaching and learning in the course, while relatively new and still uncommon, is supported by research carried out by Blikstein (2013) into the potentials of digital fabrication in education.

In our study, which was embedded in the course, we addressed the following research questions:

- (1) How do we develop a technical communication course based on project-based and active learning methodology in an EFL context (Dym et al., 2005)?
- (2) How can the course content be designed to focus on design and systems thinking and analysis (Dym et al., 2005; McAdams and Dym, 2004)?
- (3) In an EFL technical communication classroom situation, are students capable of working in a multi-literacy and distributed work environment? (Cole and Pullen, 2010)
- (4) Do the students' choices and performance in the assessment reflect critical thinking, planning, design and implementation as per the assessment mechanism for the course.

The Course

The title of the course is "Technical Writing in Software Engineering". The structure and flow of the course is based on the principles of thinking, teaching and learning in engineering design as outlined by Dym et al., (2005).

This course focuses on the technical documentation of processes leading up to 3D Printing (additive manufacturing) and is offered at the Centre for Language Research in the Department of Computer Science and Engineering at a Japanese technical university. It is a graduate level course offered to a diverse student body made up primarily of second and foreign language users of English. Five students took the course this academic year. They all had an early advanced level of English language proficiency. In addition, they were all proficient and comfortable with system-level operations, which contributed towards their understanding of and engagement with the course tools. However, they had little to no prior experience of writing technical documents in a professional context, and no prior experience with any technical communication or technical writing coursework. Furthermore, the tools explored during the course (e.g., 3D scanners, 3D Printers, CAD design software) were all new to them.

The five students were not only participants in the course, but were also tasked with evaluating it. They thus not only undertook the course assessment, but also provided us with feedback on how the course content, classroom interaction and instructor feedback could be improved, and if a modified version of the course with comparatively less-demanding course goals and assessment could be offered to undergraduate computer science majors at the same technical university in Japan. This “to be designed” undergraduate course was being considered as another course at the university focusing on CAD design and physical LEGO prototyping had been successful at both undergraduate and graduate levels.

The course is carried out in a computer laboratory because the students spend a lot of time using 3D scanners, 3D Printers and CAD design software. It is run on a quarter system: the students meet for eight weeks with approximately 3.5 hours of contact time per week. For the first two weeks, the students are given lectures on technically documenting the processes leading up to 3D Printing. For the remaining six weeks, the classes are run as workshops with the students working together as a group using the supplied tools.

Assignments and Assessment

Table 1 on the following page provides a comprehensive overview of the course goals, tools and assessment mechanism.

Table 1: Goals, Tools and Assessment Mechanism for the Course

Assignments	Grade	Goal	Tools	Assessment
Introduction to technical communication and technical writing	10	<ol style="list-style-type: none"> 1. Understand basic concepts 2. Technical writing in groups 3. How to design tables and graphs from audio-visual information 4. Be able to narrate the broader purpose of the course, and creatively think about the course and the broad understanding of topics in the field. 5. Understand why technical writing is important? 6. Reflect on why 3D Printing is important in computer science? 	<ul style="list-style-type: none"> Free writing Instructional videos. 	<ol style="list-style-type: none"> 1. Ability to write freely 2. Construct grammatically correct sentences 3. Ability to think creatively. 4. Reasonable logic in the arguments.
Designing a user manual for a 3D design app	10	<ol style="list-style-type: none"> 1. Understand how to write procedural information in a systematic way 2. Research and understand how a system or interface functions. 3. Ability to understand the structure and function of a software using Sketch board and concept mapping software 	<ul style="list-style-type: none"> Manual templates and examples Google Sites IHMC Concept Mapping software Sketchboard software 	<ol style="list-style-type: none"> 1. Identify the most important structures and functions that defines the software 2. Write clear sequential steps based on the actual procedure or online action. 3. Be able to use the concept mapping and sketchboarding software successfully. 4. Ability to design a reasonably acceptable Google Sites online user manual.
Designing an online user manual outlining all the procedures for 3D Printing	50	<ol style="list-style-type: none"> 1. Be able to research all the basics about 3D Printing, 3D scanning, web and product design. 2. Be able to complete all the processes leading up to the 3D Printing, including scanning, 3D Design, LEGO prototyping using 3D software, besides concept mapping. 3. Be able to document the procedures in the online user manual and design a technical presentation explaining the process and outcome. 	<ul style="list-style-type: none"> 3D scanners (iSense and Sense) Autodesk 123D Design and Make Tinkercad BuildwithChrome Google Drive LEGO Toolkit IHMC Concept Map Sketchboarding Cubify Print 123D Catch iSense app Google Sites 	<ol style="list-style-type: none"> 1. Understand the steps and sequences leading up to 3D Printing 2. Understand the basics of web design 3. Ability to use the tools such as 3D scanners, 3D Printers, and the CAD software. 4. Class observation showing adequate group discussion 5. Ability to write logically and grammatically correct sentences.
Write about the concepts in Interaction and Experience design	15	<ol style="list-style-type: none"> 1. Understand what is interaction design, and standard design processes. 2. Apply the concepts in relation to 3D Printing 	<ul style="list-style-type: none"> Lecture notes and references journal articles on interaction design and experience design 	<ol style="list-style-type: none"> 1. Answer the open-ended questions with critical reasoning. 2. Be able to connect the general design principles to the processes leading up to 3D Printing.
Understand how usability techniques could be used for researching 3D Printing	15	<ol style="list-style-type: none"> 1. Understand the basics of website analysis with usability techniques 2. How to research 3D Printing as a topic with survey design? 	<ul style="list-style-type: none"> 3D Printing and Design websites Lecture notes on usability testing methods SurveyMonkey website 	<ol style="list-style-type: none"> 1. Answer website analysis questions with reasonable efficiency. <ul style="list-style-type: none"> - Answers show critical reasoning, knowledge about web design, and awareness of 3D Printing topics and design issues. 2. Grammatically accurate responses.

Results and Discussion

The five graduate students who participated in the course, and acted as course evaluators, had the maturity and interpersonal skills to be able to work in a learner-centered PBL environment. They used mutual consultation mechanisms such as the brainstorming of concepts, and the questioning of other group members and the instructor, about possible ways forward, how to apply the tools, the design processes, the documentation processes, the design iterations and the prototyping of ideas. Their Google Sites webpage also revealed that they implemented their ideas into practice with reasonable efficiency.

This is not to suggest that there was not room for improvement, particularly in the collaborative Google Docs-based writing process. During this process, the group members participated randomly, and the changes and updates (logs) made by one group member were not always consulted by the other group members before subsequent inputs and updates.

In addition, some students took the lead when the group was designing the virtual and physical prototypes, using the 3D scanners and 3D Printers and during the web design process, while the others simply observed and encouraged their partners' work by providing ideas. This was despite each student being allocated specific responsibility for (1) Design research (2) Using the apps (3) Using the 3D scanner (4) Using the CAD software or (5) Using the 3D Printer.

The students practiced designing and upgrading multiple products following their 3D scanning in the computer laboratory. They spent a lot of time recalibrating the 3D scanner for objects with different shapes and sizes. However, their performance and efficiency with the 3D scanner did improve over time.

The documentation process in Google Sites was also revealing as the students had to make notes of all the procedures related to the 3D printing in advance of performing them, and then take associated screenshots of the procedures as they were being performed. Their performance showed that they were able to do the following: (1) construct logical arguments and (2) write about a sequence of activities in a way that was understandable and usable. At the sentence level the text made sense, and the navigation links were appropriate and represented the logical sequence of task completion. However, the students lacked the necessary skills to put up a website that was visually appealing. For example, the organization of the text, the use of free space, the layout of the website and the text-graphics coordination all needed improvement. Also, the group did not seem to fully grasp the importance of proofreading and attention to detail before sharing the website with a larger audience.

Conclusion

Classroom interaction and observation showed that the students' competence at technical writing improved through writing practice, and that their ability to argue and reason improved through group discussions and exposure to different online and offline tools. The students reported enjoying the opportunity to explore new tools, particularly without the pressure of being in a typical classroom environment (the course took place in a computer laboratory rather than a traditional classroom with rows of desks facing the instructor and the students were allowed to consume food and drink).

As earlier mentioned, it is hoped that a modified version of the course might be offered to undergraduate computer science majors at the same technical university in Japan. However, instructor observation and feedback from the students suggests that this will be challenging as the undergraduate students' English language proficiency, and ability to think and write logically and clearly, are generally comparatively lower.

In conclusion, this study suggests that university instructors who are considering employing 3D Printing with critical thinking and systems design in their language

teaching have to be realistic about their students' English language proficiency. In addition, in a technical university instructors can expect computer science students at graduate level to have some basic competence in technical writing, and understand about procedural design. However, this might not be the case at undergraduate level or in the liberal arts division of a non-technical university.

Further research is thus needed, particularly on how liberal arts divisions and engineering/computer science divisions could coordinate and build interdependency to offer EFL courses employing 3D Printing-based initiatives within a PBL framework. The use of 3D Printing with critical thinking and systems design in EFL courses at higher education level is still underutilized. However, the authors hope that this paper might encourage educators to consider how they might embed it into their learning programs.

CALL in Context

This paper outlines how 3D printing as a platform provides us with numerous opportunities to explore, invent and implement project-based learning (PBL) as part of technical communication coursework offered in an English as foreign language (EFL) context. In doing this, it highlights, first, context topics such as digital literacies and multiliteracies and, second, specialized domains such 3D Printing-related documentation, design and manufacturing processes for EFL learners.

IMPACT OF CONTEXT:

1. The paper addresses the impact of the local context of the learner, with discussion of an assessment in a technical communication classroom that offers a context-dependent enrichment and personalization of the learning process.

In this context, we discuss a variety of concepts and related pedagogical models. 3D Printing is widely referred to as a new or third industrial revolution (Council et al., 2014; Anderson, 2012; Blikstein, 2013). And, 3D Printing initiatives using PBL in the classroom afford new opportunities for educators to engage students in active language learning situations utilising technological applications and document production.

The paper presents an outline of how a technical communication course adopted the constructivist principles of active learning, and critical and systems thinking (Bean, 2011; Dym et al., 2005), using pedagogical tools such as 3D printers (Thornburg et al., 2014) in a PBL environment. The study suggests how 3D printing-based practices, including 3D scanning, computer-aided design, sketch boarding and concept mapping, prototyping with LEGO, maintaining online design feeds, slicing and online design for 3D printing and documentation can be successfully included in technical communication pedagogy.

2. The study further considers the role of the local context of the learner using classroom observation and assessment data about the extent to which 3D printing technology contributes to contextualization of the learning process. The study highlights an innovative learning environment where language learning is embedded in the local action context.

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Elements that foster teacher educators' engagement in technology learning in an online networked community: An explorative study

Bio data

Maurice Schols works as a teacher educator and researcher at a teacher education institution in the Netherlands. He has an MA degree in English language, literature and culture, an MSc in eLearning, multimedia and consultancy and holds a doctorate degree in education (EdD). His research interests include teacher educators' technology professionalization, ICT competency frameworks and self-regulated learning in the workplace.

Abstract

This paper reports on an explorative study that sought to identify elements that foster teacher educators' engagement in technology learning in an online networked community. The study is located within the broader context of social constructionism, particularly drawing from the works of Burr (2015) and Gergen (2015). In this research, nine language teacher educators from five different departments collaborated in a virtual community in order to improve their technology-related knowledge and skills. The online networked community provided several tools that supported online engagement in synchronous and asynchronous ways. As the study was based on the qualitative research approach, data were collected via semi-structured interviews, self-reflective reports, and field notes. The results of the research indicate that teacher educators' engagement in technology learning is influenced by three main elements: a) *reflective dialogues*, which enable teacher educators to critically reflect on their learning; b) *ownership of learning*, which focuses on educators' self-directed learning opportunities; and c) *meaningful learning*, which is perceived as learning that is related to the teacher educators' teaching practices.

Conference paper
Introduction

Over the past two decades, technological changes have transformed society and allowed many new actions: interaction and communication via the web, information retrieval, analysis of complex problems, and the use of sophisticated digital tools. These advances in information and communication technologies (ICTs) and new pedagogical perspectives have created new possibilities for facilitating and supporting learning in higher education (HE). Despite these new opportunities for teaching and learning, schools and colleges are still stuck using twentieth-century technology and pedagogical approaches, and little has changed regardless of their efforts to introduce ICTs effectively in the classroom. As a result, the use of emerging technologies in HE and in society is becoming more out of sync. This argument is in line with that of Fisher et al. (2007) and Richardson and Dixon (2017), who state that little has changed "below the shiny surface" (p.1) in education. Teacher educators' use of emerging technologies effectively in their classrooms is not common practice, and the effective use of emerging technologies and pedagogical methods in education requires a substantial change in teachers' practices (Coto &

Dirckinck-Holmfeld, 2008). That is, a qualitative change is necessary in teacher educators' technology professionalization trajectories in traditional professionalization programs (Darling-Hammond et al., 2009; Collins & Halverson, 2009; Tezci, 2011).

Fortunately, teacher educators and teacher education institutions recognize the importance of adequate technology professionalization opportunities. Within the Dutch HE system, increasing attention is therefore being paid to facilitating adequate technology learning and encouraging the uptake of ICTs in educational contexts (Schols, 2015). As professional development is a prerequisite for a rethinking of education, teacher educators are more and more willing to integrate emerging technologies into their teaching practice as a means of shifting away from a traditional teaching approach toward a twenty-first-century pedagogy that caters to individual learning preferences.

The rethinking of education aims at providing rich learning environments that grant access to sources that are meaningful to the learner. HE has therefore come to focus on moving to new forms such as online networked communities in order to provide technology learning that is situated in meaningful contexts and that is not limited to traditional modes of learning. Given that online networked communities can facilitate professional learning, this study will explore the elements that foster teacher educators' engagement in technology learning within a virtual community.

Networked learning

The notion of networked learning has captured both popular as well as scholarly attention. However, there are many competing terms, such as virtual communities, online learning forums, and communities of practice that have wide currency in education. Based on a review of the literature, in which commonalities and differences are discussed in regard to what constitutes networked learning, we define "networked learning" in this research as:

[L]earning in which information and communications technology (ICT) is used to promote connections: between one learner and other learners; between learners and tutors; between a learning community and its learning resources (Goodyear et al., 2004, p.1).

Goodyear (2004) states that an essential aspect of networked learning is the possibility to connect with other learners in synchronous or asynchronous ways. Moreover, he emphasizes that ICT should be regarded as a means to facilitate novel learning arrangements in which teacher educators can communicate and collaborate with each other in flexible ways.

The potential pedagogical benefits of networked learning communities are that, through collaborative working, enquiry-based activities, and problem-solving activities, learning can be considered as a social process of knowledge construction. This argument is in line with that of Jonassen et al. (2003), who state that technologies such as virtual communities can be used as "engagers and facilitators of thinking and knowledge construction" (p.12), thereby contributing to teacher educators' professional growth. However, research to date on networked learning in HE with regard to teacher educators' technology professionalization is scarce. There is little research on the factors or elements of online communities that encourage educators to engage in technology learning. This study attempts to fill that gap.

Theoretical framework

As this explorative study aimed at gaining insight into elements of learning that foster teacher educators' engagement in technology learning in a networked learning community, the research has been embedded in the epistemology of social constructionism (Talja et al., 2005; Burr, 2015; Gergen, 2015). Social constructionism focuses on social interaction as a means of constructing knowledge, and it sees the

learner as the agent who constructs new information and knowledge "based on the interplay with the direct social environment" (Schols, 2015, p. 45). According to Crotty (1998), new knowledge or meaning "comes into existence in and out of engagement with the realities in [our] world" (p. 8). In other words, social interplay is key to knowledge construction.

Social constructionism stands in contrast to cognitive and psychological theories, in which the construction of knowledge or meaning is predominantly considered as an internal mental process that takes the individual mind of the learner as the starting point. This difference is crucial when examining elements of learning in a networked learning community. In the context of this research, learning in the social constructionist tradition is therefore "achieved socially using mediating tools and artefacts to support the socially and physically embodied individual's internalization and co-construction of knowledge" (Saljö, 1999, as cited in Jones & Dirckinck-Holmfeld, 2009, p. 8).

Since social constructionism suggests that communal participation is a prerequisite for individual growth, this pilot study will seek to explore elements that support educators' engagement in technology learning while collaborating with others in a virtual community. The following research question is the focus of this research: What elements are key to teacher educators' engagement in technology learning while collaborating in an online networked community?

Methods

Online networked community

Given the investigative nature of the research question, the study adopted a qualitative approach to gathering and analyzing data in an explorative way. Data collection occurred while providing research participants with an online networked community that was designed to enable them to exchange views, ideas, and experiences concerning the use of emerging technologies in their practice. The online networked community provided the teacher educators with opportunities to engage in synchronous and asynchronous ways. The rationale for choosing this collaborative approach was to shift from a more formal learning approach to a more open and flexible way of professionalization.

Participants

Data collection was restricted to language teacher educators of a teacher education institution in the southern part of the Netherlands (Table 1). A purposeful sampling strategy (Creswell & Plano-Clark, 2011) was followed to select five female educators and four male educators. To ensure that the selected group of participants was a well-represented sample, the researcher considered a few factors, including years of teaching experience, subject language, and frequency of use of online networked learning communities.

Table 1. Overview of research participants (N=9) and factors considered

Participant	Years of experience	Subject language	Frequency
Educator EB	23	English	Sometimes
Educator FJ	25	French	Rarely
Educator GT	27	German	Rarely
Educator SV	15	Spanish	Rarely
Educator EG	15	English	Sometimes
Educator DB	34	Dutch	Sometimes
Educator JT	30	German	Sometimes
Educator EF	24	French	Rarely
Educator NB	20	Dutch	Rarely

Procedure

During the study, data was collected from several sources in order to enhance data triangulation. First, self-reflective reports were gathered from the nine teacher educators. Second, as the pilot study sought to identify elements of a networked learning community that caters to participants' individual technology learning needs and wishes, the questions in the semi-structured interviews and the self-reflective reports focused on elements that foster teacher educators' engagement in technology learning.

Data analysis

Data analysis was based on an interpretive process for organizing, categorizing, and coding the data from the semi-structured interviews, self-reflective reports, and field notes. The collected data from the interviews and the self-reflective reports were first organized according to topic or phenomenon and were then further analyzed based on the research participants' particular ways of understanding the phenomena in question. During this process, the focus was on identifying similarities and dissimilarities between the ways in which participants interpreted the phenomena.

During the first stage of data analysis, which was based on a grounded theory approach (Thornberg, 2012; Charmaz, 2014), open coding was used to identify initial phenomena concerning elements of learning that foster teacher educators' engagement in technology professionalization. Codes were assigned to participants' interview statements as well as to the sequences from the self-reflective reports. During the second stage, focused coding process, the emphasis was on "pooling" specific codes that emerged as those representing the participants' voice. During the third phase, known as the theoretical coding phase (Charmaz, 2006; Thornberg, 2012), codes that were identified during the focused coding process were closely examined for possible relationships that addressed the research question of the explorative study.

Results and discussion

An analysis of the participants' statements in the reflective reports, semi-structured interviews, and field notes revealed three main elements that foster teacher educators' engagement in technology learning (Figure 1).

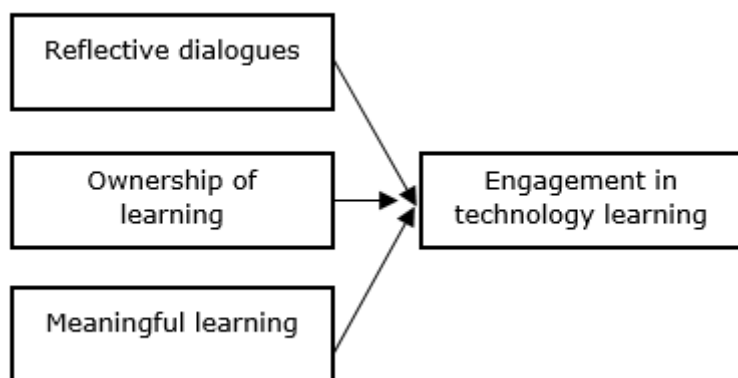


Figure 1. Main elements that foster teacher educators' engagement in technology learning

The first element that emerged from coding the data could be described as *reflective dialogues*. Participants indicated in the semi-structured interviews that informal collegial interaction had a catalytic function with regard to creating critical reflective dialogues about technology use in educational contexts. This was evident in a participant's statement:

In the online sessions, we talked about particular new pedagogical activities that we used in our own classrooms. As I got to know my colleagues better, I found it easier to provide them with feedback that they

could use to improve their pedagogical activities. In the beginning, giving feedback was not easy, but I gradually noticed that we were able to get out of our comfort zones and reflect in a critical way. I really appreciated it when colleagues were critical, as it helped me to facilitate teaching and using ICT when and where appropriate.

(Semi-structured interview, Educator SV)

In this example, the research participant clearly states that the informal collegial interaction contributed to his or her technology professionalization process. The research participant regarded the informal collegial interaction as valuable, as it helped him or her in the uptake of ICT in the classroom.

The second element that emerged during the analysis of the data was *ownership of learning*. As research participants in the networked community were free to choose when to participate in either the synchronous or asynchronous forms of learning, a feeling of being in control of one's own learning was felt by most educators. An example from the data supports this finding:

I really appreciated the tools that were available within the networked community to communicate with other members whenever and wherever. I remember a moment of despair when I encountered a specific ICT problem that I could not solve on my own. Posting a message and receiving an answer within a couple of minutes was helpful, and it gave me the feeling that I could direct my own learning.

(Reflective report, Educator GT)

Another research participant confirmed that the online networked community created a sense of self-discovery. Participating in the group created an opportunity to explore what to learn and how to learn, which encouraged self-directed learning, as shown in this example:

Listening to my colleagues' comments and reading their postings about the ICT tools and pedagogical approaches they use in their teaching..., as well as talking and writing about my mistakes and failures made it possible to discover what works for me and what I still need to learn in order to become a more ICT skilled teacher.

(Semi-structured interview, Educator EB)

The third element that emerged can be described as *meaningful learning*. Teacher educators indicated that aspects of meaningful learning are essential to being engaged in an online networked community. One aspect of meaningful learning that was frequently mentioned in the semi-structured interviews as well as in the reflective reports was authentic contexts. Research participants mentioned that learning that is connected to real teaching issues is a prerequisite for being engaged in online professionalization programs, as this example shows:

What I experienced as being essential for my personal learning process was the fact that we all worked together on multifaceted challenges..., [or] problems that we encountered in our classrooms. For me it was very important that the discussions were connected to my teaching context, as it helped me to improve.

(Reflective report, Educator DB)

Another teacher educator described his/her meaningful learning as follows:

I was very pleased by the fact that we had online conversations that were content focused. What I mean to say is that we shared ideas, views, and experiences that are connected to our daily practice. Working together...even if it was not all the colleagues at the same time...created a certain synergy that challenged me to explore the possibilities of using ICT in my own teaching.

(Reflective report, Educator EF)

This example shows how collaborative work is essential to meaningful learning. Having conversations about and exchanging different teaching perspectives challenges learners to develop new knowledge and skills, all of which contribute, in the context of this research, to the individual's technological professional development.

The social system within the online networked community assisted the individual learner in exchanging and interpreting new knowledge and information in authentic ways that made learning meaningful. This argument is in line with several studies (Scardamalia & Bereiter, 1994; Bielaczyc & Collins, 1999; Schniedewind & Davidson, 2000), which state that the goal in a learning community is to advance the knowledge within the group, which will in turn contribute to the individual's learning process.

Conclusions and further research

This paper discussed and examined the results of an explorative study concerning elements that foster teacher educators' engagement in technology learning while collaborating in an online networked community. Virtual communities that contribute to professionalization have been considered in response to the increasing demand on educators to use and incorporate emerging technologies and adequate pedagogies in their teaching practices.

The study showed that teacher educators perceived online networked communities as a means to facilitate professionalization programs. During the data analysis, three key elements of learning emerged that were shown to be crucial in fostering individual engagement in technology professionalization. Although the study employed an explorative research approach, the results open up areas for further study that may contribute to a better understanding of teacher educators' technology learning in online networked communities. Quantitative research, in particular, would be helpful in examining the extent to which the elements that emerged are generalizable to and relevant in other contexts.

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I would like to thank all teacher educators for their willingness to participate in this pilot study that took place at Fontys University of Applied Sciences in Tilburg, the Netherlands.

CALL in Context

In the education sector, virtual networks seem to offer novel ways of making learning more accessible, providing learners with opportunities to share knowledge, experiences, and skills in a way that would have previously been impossible. Advocates of networked learning communities share the view that collaboration with others in a networked learning community will foster professional learning, but it is not clear what elements support learners' engagement in technology learning when they collaborate in a networked learning community.

As the study aimed to gain more insight into teacher educators' engagement in technology learning, embedding the research in social constructionism (Burr, 2015; Gergen, 2015) was appropriate for two reasons: a) Social constructionism focuses on social interaction as a means of constructing knowledge. In the context of this research, the teacher educators were able to construct new information or knowledge based on their interaction with the direct social environment within the online networked community. The construction of new technology knowledge or meaning was a dynamic, continuous process, since the teacher educators were not passive recipients of knowledge but were actively involved in the construction of knowledge. b) Social constructionism appeared to be helpful to the researcher as well. Interpreting and understanding the research participants' ideas, views, and experiences enabled the researcher to construct knowledge about what elements were crucial in fostering teacher educators' engagement in online professional development communities.

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Cultural Differences: Technology and the Design of EFL Learning Environment in the Japanese Context**Bio data**



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Abstract

This paper examines how the local context shapes the design of the learning environment of writing English as a foreign language (EFL) in Japan. The paper reports on an ongoing investigation of how learner autonomy and EFL writing competency could be developed in the Japanese context through the integration of online system and traditional face-to-face English writing class.

The English writing course ran once a week for one 90-minute class over a fifteen-week semester. A self-disclosure technique was designed and implemented in two dimensions online in the form of weekly speech writing and discussion forum assignments given to 116 of Japanese University students. Participants were divided into an experimental group and a control group. Self-report questionnaires were administered for both the control group and the experimental group before and after the intervention to measure changes in their autonomous attitudes and English writing competency. Students showed a dramatic improvement in both their English writing and critical thinking abilities. Furthermore, the results suggest that the intervention brought about positive changes in the students' perception and practice in terms of their autonomous learning. The paper then discusses how technology can contribute to the contextualization of the learning process in English writing courses in Japan.

Keywaords: Self-disclosure,English writing,Learner autonomy,Computer technology

Conference paper

Introduction

Autonomy, which is defined as the extent to which learners demonstrate the ability to take control of their learning, has been investigated by learner autonomy researchers during the past decades on the grounds that it can increase motivation to learn and consequently increases learning effectiveness. In a normal educational context, as Little (2002) points out, learners do not automatically accept responsibility for their learning and they will not necessarily find it easy to reflect critically on the learning process. Ryan (1991) defines autonomy as a process of "self-determination" or "self-regulation". He also links autonomy to "relatedness needs", which are the needs for contact, support, and community with others. According to Ryan, this results in "autonomous

interdependence" (p. 210). There is therefore a need for an intervention in ongoing classroom practice to promote learner autonomy.

Autonomy and self-disclosure

Self-disclosure can be defined as communication that relates to one's self (Canary & Cody, 1994). One feature of self-disclosure is its reciprocity; meaning that a person's disclosure increases the likelihood that the other party will also disclose. Numerous authors suggest that self-disclosure plays a critical role in student participation (Goldstein & Benassi, 1994), facilitating student-teacher interaction (Fusani, 1994) and achieving learning objectives (Cayanus, 2004; Downs, Javidi, & Nussbaum, 1988; Sorenson, 1989).

Morton (1978) classified self-disclosure in three dimensions: descriptive, evaluative, and topical. Descriptive intimacy was explained as "presenting very private, otherwise unavailable facts about oneself" (p. 73). To illustrate, an individual's presence provides a variety of easily observable characteristics (height, weight, etc.). So, as one reveals personal information that is not apparent, but nonetheless descriptive (marital status, place of birth, siblings, etc.), the intimacy and probability of reciprocity between the interactants increases. Of the three types of self-disclosure mentioned in the literature, descriptive intimacy presents the least amount of risk for the interactant because it is explanatory in nature. In contrast, the evaluative dimension pertains to disclosures that judge phenomena (Monsour, 1992). For example, a statement of like or dislike for a particular television program provides a deeper level of insight into one's cognitive schemata, and includes considerably more risk than does descriptive intimacy. Lastly, topical intimacy refers to disclosures regarding sensitive topics (Canary & Cody, 1994; Siegman & Reynolds, 1983). For example, the ability to talk about topics such as abortion, sexual orientation, and political affiliation and tell opinions signifies a significant bond with another individual. Similar to evaluative intimacy, the interactant assumes more risk when engaging in communication over sensitive topics.

McCarthy and Schmeck (1982) examined the relation between teacher self-disclosure and measures of student affective, behavioral, and cognitive learning. Furthermore, studies have shown the role of emotional factors in second language learning and language teaching methodologies to specifically address emotional and psychological issues in the field of foreign language learning (e.g. Suggestopedia), some of which were motivated by Krashen's (1981) claims in the Monitor Model, specifically the part about the affective filter. Learning a foreign language is a potential cause of stress and anxiety, especially for adults in Japan. The aim of these methods is to eliminate the psychological barriers and to empower the learners to express themselves freely, overcoming their stress and anxiety. In addition, to be an autonomous learner, according to Dam (1990)," one is characterized by a readiness to take charge of one's own learning in the services of one's needs and purposes" (p. 17).

This paper describes how online self-disclosure can require Japanese students to take charge of their own learning in order to appear knowledgeable and competent in English writing. The online-published assignments of the English course provide a context where students need to practice their autonomous learning and participate in the reciprocal self-disclosure process with their classmates by searching for information to support their views and arguments. In addition, the paper explores the notions of learner and teacher responsibility and learner interaction in order to best understand how computer technology integrated with classroom activities can support EFL university students in Japan to take autonomous learning approaches.

The local context

A number of studies have compared the communicative behavior of Japanese with those of other cultures. Ishii (1984) argues that Japanese are relatively quiet and reserved, and expect listeners to read their minds. Japanese speak less compared with Americans

(Ishii, 1984) and show less self-disclosure (Barnlund, 1975, 1989). The assertiveness of Japanese was the lowest when compared with Malaysians, Filipinos, and Americans (Niikura, 1999). Japanese are more introverted than British people are (Iwawaki & Eysenck, 1977). In classrooms, Japanese students are sometimes characterized as passive, introverted, unmotivated, inactive, and unresponsive (Hadley & Evans, 2001). Japanese students tend to be self-critical, blaming themselves for their failures more than they admire themselves for their successes (Kurman, Tanaka, & Elkoshi, 2003). A self-effacing attributional style in turn is known to be negatively related to a number of personality traits, such as self-esteem, and positively related to others, including trait social anxiety (Leary & Kowalski, 1995). Furthermore, some students will accept the certainty of negative evaluation in the form of bad grades for poor attendance or class participation rather than risk the possibility of being negatively evaluated or laughed at by their peers for making a mistake in public. Students are also concerned about standing out and appearing to show off their abilities. Kurmann (2001) states that one who displays one's knowledge is regarded in Japan as immodest, and immodesty is a negative behavior in Japan. Students' self-presentation is apparently internalized between the second and fifth years of primary school (Kurman, 2001). Students are caught in a double bind: if they make a mistake, they may face the embarrassment and if they answer correctly, they become intentionally prevented from taking part in the activities of their group. This also indicates a significant degree of discomfort at judging peers being common in the group as a whole in Japan. Such discomfort may be a result of lack of confidence or experience in rating peers, or the stress caused by fear of hurting, or being hurt by, classmates (Wen & Tsai, 2006). Some studies (e.g., Sengupta, 1998) even found that because the traditional role of a teacher has been deeply rooted in students' minds, students do not trust peers' comments and think peer review is "a waste of time" (p. 22).

Power relations are also a factor, as students often dislike having power over their classmates or peers exercising power over them (Liu & Carless, 2006). As a result, many students prefer to remain silent in the English classroom, where oral productive communication is the central concern and learners are expected to participate actively. Accordingly, writing allows Japanese people to release real emotions and feelings because there are no immediate repercussions if their words or feelings are not well received. Writing allows them to put more thought into what they say as opposed to letting powerful feelings and self-disclosure influence speech when faced with an emotionally charged situation of any kind.

Study objective

The aim of this research is to show how self-disclosure can help students become more autonomous in their learning and achieve a higher level of engagement in EFL writing classes and activities through computers, along with face-to-face instruction. In particular, the research identifies changes in the students' attitudes as autonomous learners, and in their autonomous learning practices.

Participants and learning activities

This study was conducted at a public university in Nagoya city, Japan. The research was conducted with two groups of university students who had enrolled in the same English language writing course. Both groups were gender heterogeneous. One group served as an experimental group and the other as a control group. The participants were university intermediate learners of English with a TOEIC score range from 450 to 550 enrolled in a compulsory English writing course. In this course, students were expected to acquire the basics of composing written passages in English, the ability to write organized passages related to everyday topics, and the ability to give appropriate advice to others about their writing. The targeted online learning activities for this study were discussion forum assignments and weekly paragraph writing.

Figure 1. Log in using username and password

Home - 20511

- No new personal messages have been sent to you.
[[View Messages](#) | [Send a Message](#)]

Conferencing

- New message(s) in: [Homework 8](#).
 - New message(s) in: [Homework 7](#).
 - New message(s) in: [Homework 10](#).
 - New message(s) in: [Homework 6](#).
 - New message(s) in: [Homework 5](#).
 - New message(s) in: [Homework 4](#).
 - New message(s) in: [Homework 3](#).
 - New message(s) in: [Homework 1](#).
 - New message(s) in: [Homework 9](#).
 - New message(s) in: [QUESTION and ANSWER](#).
 - New message(s) in: [Homework 2](#).
- [[View Topics](#) | [New Topic](#) | [New Message](#)]

Figure 2. Writing course home page

The experimental group could log into the online system using usernames and passwords as shown in Figure 1 and thereafter access further pages via the course homepage shown in Figure 2. This provided them with a certain degree of learner control over postings, content, and time. The control group received the same learning materials as the experimental group, but the delivery method differed. For example, when a document was uploaded onto the homepage for the experimental group, the same material was printed and given to the control group.

Peer-to-peer evaluation using a rubric tool

A rubric is a scoring tool for subjective assessments. It is a set of criteria and standards linked to learning objectives that is used to assess a student's performance on papers, projects, essays, and other assignments. Rubrics allow for standardised evaluation according to specified criteria, making grading simpler and more transparent. Rubrics are a practical and widely used evaluative structure throughout the writing process. In this research, a rubric was created by studying the extensive collection by Crawford (2001) and adapting it with special consideration for the unique Japanese context. In the rubric, paragraph-writing format, topic sentence, supporting sentences, supporting details, concluding sentences, unity, and accuracy were assessed.

Both the experimental and control groups started writing their first drafts as homework using pencils and papers. Students were then involved with reading each other's written paragraphs in class as they were being developed, checked, and proofread, for which pens or pencils were used for problematic grammatical, syntactical, lexical, organizational, and mechanical problems such as spelling and punctuation. The instructor was responsible for proofreading the final drafts. The whole process was carried out face to face for the control group and electronically, using a projector to view the web pages in class, for the experimental group.

All students and the instructor used the scoring rubric which was manually scored. During this process, along with the work mentioned above, the instructor monitored students' work as it developed and vetted student peer evaluations, which makes it different from other notions of peer evaluation. In addition, the instructor made sure that peer reviews were handled smoothly, and ensured that tasks were carried out as they were planned in the course syllabus. Furthermore, there weren't any examination-driven or accuracy-oriented requirements. As a result, peer evaluation was successful in this particular environment.

Self-monitoring and proofreading

The online assignments included writing ten paragraphs in ten weeks throughout the semester. As the course proceeded and students gained greater confidence in their English writing and grammar skills, they were required to also start a self-proofreading loop in their homework for their ten postings. Students were advised to use spelling and grammar checkers, cover the screen (for the experimental group) and read one sentence at a time, use their fingers to point at and read one word at a time, and keep a list of their most common errors to clarify with the instructor.

A rational explanation for learning activities

In the field of Second Language Acquisition (SLA), researchers such as Schmidt (1990, 1995, 2001), Tomlin and Villa (1994), Robinson (1995, 2003), and Doughty (2001) have taken several concepts from the fields of psycholinguistics and cognitive psychology in formulating their ideas. In particular, the cognitive processes of attention and memory pertain to SLA in general. Attention has been subdivided by Robinson (1995, 2003) into three subprocesses: attention as selection, attention as capacity, and attention as effort.

The self-disclosure technique implemented in two dimensions online, in the form of weekly paragraph writing and discussion forum assignments, combined with peer-to-peer evaluation using an online rubric tool, as well as self-monitoring and proofreading activities, are all pertinent to enhancing the input given to the student. This is because of using the technique of task variation with links between teacher-guided learning and learner-initiated activities outside class, which require the student to pay attention to details and develop the ability to work independently with motivation triggered by his/her self-disclosure and the desire to appear to others in the classroom as intelligent, knowledgeable, and capable. In other words, the goal was to encourage the student to say to him/herself: "I am grateful because my teacher and classmates read and appreciate my comments and postings. They make it possible for me to express myself and my views. I'm going to give them the very best I possibly can." In addition, students were aware of the necessity to develop their computer skills for their future employment after graduation. Japanese society is so reliant on technology that kids are often using technology at home at younger ages. Therefore, when the students are also able to use their technological skills in the classroom they will be able to continue to sharpen these skills. When students are able to have access to technology in the classroom, they are not only opening the doors of the classroom, but they are also helping to develop the technological skills that future employers will demand in the workplace. Bringing technology into the classroom is a giant motivator for students because it allows them to step away from traditional learning methods, and allows them to have a more hands-on approach to learning.

Methodology

A questionnaire containing 36 self-reporting items was used to assess each group's level of autonomy before and after the intervention. A modified questionnaire based on Cotterall's questionnaire (1995) to measure change in learners' attitudes and perception of themselves as autonomous learners was administered twice to 57 students in the control group and 59 students in the experimental group. The first questionnaire was administered during the first English class in the semester, and the second during the last class in the semester, approximately four months afterwards, in order to determine

the extent that changes had occurred in students' perception towards themselves as autonomous learners, as has been engendered by using self-disclosure as a part of the English teaching strategy in writing.

Cotterall (1995) argues that before any intervention occurs, it is necessary to gauge a learners' readiness for the change in behavior and beliefs which autonomy implies, after which a teacher can then determine the appropriate support for each learner. Her questionnaire was created using six dimensional factor analysis, and the dimensions used were: (1) role of teacher, (2) role of feedback, (3) learner independence, (4) learner confidence in study ability, (5) experience of language learning, (6) approach to studying. However, Cotterall (1995) concludes that the sixth factor, approach to studying, is not specific to language learning and may or may not be linked to beliefs underlying autonomy. Accordingly, the two questions under this factor were replaced with questions to investigate how computer technology can affect student self-disclosure. There were 36 items which were incorporated into a five-point Likert-type rating scale ranging from strong agreement to strong disagreement with each item (see Appendix A).

Online implementation with gradual self-disclosure

Students submitted their English writing assignments with gradual cognitive exposure to their classmates. Each stage of self-disclosure was given a duration of 3-4 weeks.

Stage 1: In the first four weeks, random peer-to-peer assessments were used for assessing student performance using the rubric.

Stage 2: Students were asked to post their writing online on the class network web pages either by using anonymous names or their student ID numbers (descriptive self-disclosure) as shown in Figure 3.

• **FROM:** 9105008z (10/24/09 3:21 AM PST) [[Send a personal message to 9105008z](#)]
SUBJECT: RE: Your Home Town
[\[Edit\]](#) [\[Delete\]](#)

.....My hometown Kure is a city in Hiroshima. I think it is a very important city in Japan. First, we can learn much from history in my hometown. There was a naval port in the old days. So, we can see a famous battleship, YAMATO's model. In addition, there is a marine museum. Second, we can enjoy the beauty of nature all year long. In the spring, mountains are verdurous, and again in the fall, leaves turn color. Above all, I like thickly forested mountains in the summer. Last, Kure has many delicious specialties. One of the specialties is "fry cake". It is like a spherical donut. Freshly-fried fry cake is very delicious. I like Kure very much.

• **FROM:** 9105091z (10/25/09 7:18 AM PST) [[Send a personal message to 9105091z](#)]
SUBJECT: RE: Your Home Town
[\[Edit\]](#) [\[Delete\]](#)

.....My hometown Hiroshima is very convenient and beautiful. For example, my hometown has a very big shopping mall. This shopping mall has a theater, some restaurants, a big book store, and many shops. Also, there are many beautiful parks in my hometown. Especially, the cherry blossoms and colored leaves are nice. I like taking a walk there. Finally, my hometown has a very beautiful river. Every summer, the fireflies fly this river. This view is very beautiful and moving so I like my hometown very much.

• **FROM:** 9105088k (10/25/09 11:43 PM PST) [[Send a personal message to 9105088k](#)]
SUBJECT: RE: Your Home Town
[\[Edit\]](#) [\[Delete\]](#)

.....My hometown is very nice. First, my hometown's people are very kind. Everybody greets me with a smile. Second, they help me when I am in trouble. For example, when my dog was missing, some neighborhood helped me. Third, my hometown's view is beautiful. There are some mountains, sea and bridge. There are many fields of oranges too. So, if you come to my hometown, you may be able to see beautiful oranges field. It's oranges very fresh and delicious. So, I enjoy going back there.

• **FROM:** 9105121z (10/27/09 1:26 AM PST) [[Send a personal message to 9105121z](#)]
SUBJECT: RE: Your Home Town
[\[Edit\]](#) [\[Delete\]](#)

Figure 3. Using anonymous names or their student ID numbers

Stage 3: Students were given the choice of identifying themselves to other classmates by writing their real names at the top of their posted paragraphs as shown in Figure 4. Sample paragraph topics are shown in Figure 5. Paragraph assignments started with daily life topics including hometowns and hobbies, then gradually shifted towards developing student personal depth and autonomy to one degree or another. Personal depth stands as the way to add richness to their thoughts and values. In addition, defining happiness or writing about one's personal life goal requires substantial

autonomous learning efforts.

- **FROM:** Sarii Kuramoto (11/29/09 2:57 PM PST) [[Send a personal message to Sarii Kuramoto](#)]
SUBJECT: Homework 4
[\[Edit\]](#) | [\[Delete\]](#)

.....When I was in America, I was surprised at how they greet each other. First, In Japan, though we hag sometimes, we never kiss each other. I knew the customs that they hag and make a kiss on the cheeks but when I was given kisses I was really surprised. Second, it is common among the teenagers. In Japan, teenagers are shy and never do like that kind of thing. Third, it gives me a happy feeling. I have never thought body language give me happiness. While I was there, people gave me a lot of hags and kisses. At first, I was surprised but loved the way to show their love.

- **FROM:** Haruki Ohtsubo (11/29/09 5:02 PM PST) [[Send a personal message to Haruki Ohtsubo](#)]
SUBJECT: RE: Homework 4
[\[Edit\]](#) | [\[Delete\]](#)

.....Japan has many interesting culture. First, for example, Japanese use the words, "I'm sorry", very frequently. We use the words when we want to say "Thank you". Of course, we say "I'm sorry" when we really want to apologize. Second, Japanese love the sliced raw fish, which called 'sashimi'. In other countries, people don't eat raw fish. Third, Japanese celebrate Christmas on a large scale, while Japan is Buddhism nation. Japanese are not interested in the religion. There are any other interesting culture in Japan. Japan is interesting country.

- **FROM:** Natsumi Kuwahara (11/29/09 5:08 PM PST) [[Send a personal message to Natsumi Kuwahara](#)]
SUBJECT: RE: Homework 4
[\[Edit\]](#) | [\[Delete\]](#)

.....About my culture, or Japanese culture, I think very interesting that most people are very punctual. This unique aspect can especially be seen in transportations. For example, when you go to a station, you can catch trains on time, and train crews make apologize if the train late even for a few minutes. In addition, in Japan, it is a manner to arrive few minutes before the appointment.

Figure 4. Using real names

- Write a paragraph that describes:
 1. Your hometown
 2. Your house
 3. Your culture
 4. People from other countries
 5. Hobbies in Japan
 6. Your hobbies
- How do young people in your culture behave differently from older people?
- What was the happiest event in your life? Why?
- What is the most difficult thing about English?
- What is happiness for you?
- What is your biggest goal in life?
- What is a "genius"?

Figure 5. Sample paragraph topics

Stage 4: Students were asked to participate in a discussion forum (evaluative self-disclosure) concurrently with the weekly paragraph writing assignment, by reading posted statements which they needed to decide if they agreed or disagreed with, along with posting original comments and responses to other student comments (one substantive original comment and two responses to other student comments) as shown in Figure 6. Sample discussion forum topics are shown in Figure 7. The class discussion forum provided opportunities for students to write their personal view on topics including university classes, future employment, etc.

- **FROM:** toshitaka mochizuki (01/24/10 6:45 PM PST) [[Send a personal message to toshitaka mochizuki](#)]
SUBJECT: RE:
[\[Edit\]](#) [\[Delete\]](#)

.....I agree to this opinion. In my opinion, there are some lectures unnecessary for me for future like physics. Students should decide which lecture they attend because they do not have to attend unnecessary lectures.
- **FROM:** kazuma isitani (01/24/10 6:48 PM PST) [[Send a personal message to kazuma isitani](#)]
SUBJECT: RE:
[\[Edit\]](#) [\[Delete\]](#)

.....I nearly agree to this opinion. This is because if students are allowed to choice what to study freely, mostly they will chose subjects they like. It's OK. However, there are other things they need for the future. Personally I think people should study not only what they like but also what they need for the future.
- **FROM:** Toshiya Matsuda (01/24/10 6:49 PM PST) [[Send a personal message to Toshiya Matsuda](#)]
SUBJECT: RE:
[\[Edit\]](#) [\[Delete\]](#)

.....I strongly disagree with this idea. If the idea is allowed, more and more students select subjects only they are interested in. The attitude seems to be a child who doesn't eat vegetables. It is true that people say what one likes one will do well, but there is no discovery, no progress.
- **FROM:** Yuki Hiramatsu (01/24/10 6:53 PM PST) [[Send a personal message to Yuki Hiramatsu](#)]
SUBJECT: RE:
[\[Edit\]](#) [\[Delete\]](#)

I think necessary subjects should be given by adults in young age. Students should be allowed to design their own curriculum after they learned a general education.

Figure 6. Discussion forum

Read the statement and decide if you agree or disagree. Please post original comments and responses to other student comments (one substantive original comment by mid-week and two responses to other student comments by the end of the week.

- University classes should start early in the morning.
- People must use helmets when riding their bikes
- Good education brings good jobs
- Students should be allowed to design their own curriculum

Figure 7. Sample discussion forum topics

Weekly assignment topics were written specifically for Japanese students aged 18 to 20 years old, and designed to encourage them to exchange opinions and share information about themselves and their lives. As for the experimental group, the instructor and students could access their online postings and give comments and feedback. Students worked in their peer groups then posted their writing online within at least the last thirty minutes of each ninety minutes class, in which they shared their evolving work, exchanged ideas, and developed each other's writing with the instructor in a computer environment as shown in Figure 8.



Figure 9. Computer-mediated communication (CMC) environment

For the control group, their postings were paper-based and only the teacher could read and give feedback on the final drafts. It is important to note here that the control group knew that the experimental group had access to an online system, but they did not feel they were disadvantaged because they received the same learning materials as the experimental group. As for HTML links that the instructor posted online, they were written down on the whiteboard for the control group at the end of each class.

Results

Pre-intervention questionnaire

As shown in Table 1, there were no significant differences between the experimental group and the control group on any of the factors investigated based on the F-test and the t-test ($p > .05$).

Table 1. Pre-intervention questionnaire

Factors underlying the construct of autonomy	Experimental group	Control group	p value
Factor 1 role of the teacher	3.66+.66	3.64+.84	.661*
Factor 2 role of feedback	3.73+.81	3.91+.74	.144*
Factor 3 learner independence	3.59+.79	3.43+.85	.911*
Factor 4 learner confidence	3.13+.74	3.12+.88	.542*
Factor 5 experience of language learning	3.01+.85	2.79+.73	.734*
Factor 6 Self-disclosure	3.14+.87	2.12+.84	.431*

Note: values expressed as mean + SD.* p value by unpaired t-test for differences between the experimental group and the control group; significance level $p < 0.05$.

Post-intervention questionnaire

Significant group differences were found on all measures ($p < .05$) except the teacher's role as shown in Table 2.

Table 2. Post-intervention questionnaire

Factors underlying the construct of autonomy	Experimental group	Control group	p value
Factor 1 role of the teacher	3.71+.83	3.56+.74	.611*
Factor 2 role of feedback	4.31+.76	4.04+.89	.014*
Factor 3 learner independence	4.14+.62	3.85+.83	.004*
Factor 4 learner confidence	3.81+.71	3.07+.75	.001*
Factor 5 experience of language learning	3.92+.75	3.09+.85	.004*
Factor 6 Self-disclosure	4.32+.75	3.39+.61	.014*

Note: values expressed as mean + SD.* p value by unpaired t-test for differences between the experimental group and the control group; significance level $p < 0.05$.

Comparison between pre and post test

A t-test found a significant difference within the experimental group between the pre- and the post-intervention in terms of students' perceptions towards the role of feedback, their independence, their confidence, and their experience of language learning and self-disclosure as shown in Figure 9. There is no significance in terms of students' perceptions towards the role of teacher. Asterisks indicate a significant difference between pre- and post-test within the experimental group ($p < 0.05$; unpaired t-test).

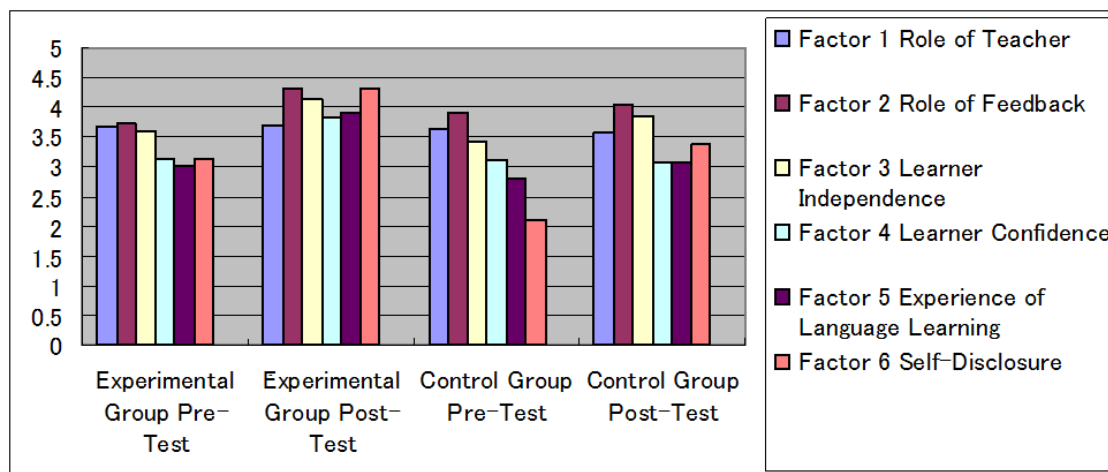


Figure 9. Comparison between pre-test and post-test results.

In addition, the realization of autonomy and self-disclosure was grounded in reflective comments from students including Taiga, who stated, "In my opinion, success from learning through online tools depends on the student. I think we cannot learn from only being taught in class", Miki, who stated "I am now practicing my writing skills. It's good for me to do this homework every week. I am gaining confidence in writing what's on my mind and I enjoy reading other postings. I will do my best to do exercises and show my classmates what I can do", and Koji, who stated, "I always checked the website to see other classmates' postings and compared them with mine. I could see how the others did their homework and know more about my classmates' hobbies and personal views. This helped me improve my English writing skills and make friends".

Discussion

The findings from the questionnaire administered before the intervention show that, prior to the instructor integrating the online system into the course, the students in the experimental and control groups were not significantly different in terms of their attitudes towards (1) the role of the teacher; (2) the role of feedback; (3) themselves as independent learners; (4) themselves as confident learners; (5) themselves as experienced and successful language learners; or (6) their ability and willingness to self disclose information about themselves and their lives. The students reported that they perceived themselves as reasonably autonomous, as evidenced by the moderate scores collected for all of the five factors indicating perceptions of autonomy in addition to the sixth factor of self-disclosure. The results of the questionnaire after the intervention show that the experience of using the online system as a supplement in their course changed the way the students viewed feedback and the ways in which they viewed themselves as autonomous learners. To be more specific, they became more aware of the importance of feedback and claimed to have become more independent, more confident, and more experienced in language learning with willingness to share information about themselves with their classmates in English. Thus, contextualisation of the learning process was achieved by putting language items into a meaningful and real context rather than being isolated items for traditional linguistic practice. However, their perception of the teacher's role was not significantly changed. This implies that the learners saw the teacher's role in language learning as central, no matter whether an online system was integrated into the course or not. This is because learners are still unwilling to challenge the traditional authority figure of the teacher in the Japanese context.

Conclusions

Contextual learning is a reality based, outside of class experience, within a specific context which serves as a catalyst for Japanese students to utilize their target language learning, and which presents a forum for further formation of learner autonomy, personal values, faith and linguistic practice. This shift can be attributed to the rise of

computer technologies in education.

This paper introduced effective strategies to incorporate autonomy into the EFL writing classroom. The findings show that after the intervention, the learners became more independent and increased their confidence. Moreover, they developed their own personal styles of autonomous behavior: for instance, making contributions to the course materials online, setting their own learning goals and planning for more practice outside class, and developing the skills to monitor and evaluate the progress of their learning. Factors that influence students' positive attitude toward computers include the benefits of reciprocated self-disclosure, which is indispensable to building solid learning autonomy and motivation in EFL writing in Japan. As a result, teachers can promote student learning autonomy by including gradual self-disclosure, enabled by carefully integrating computer activities into their regular course structure.

CALL in Context

This paper discussed how technology can contribute to the contextualization of the learning process in English writing courses. Furthermore, the paper demonstrated how the local context shapes the design of autonomous learning environment in Japan. Computer technology allows Japanese students to release real emotions and feelings because there are no immediate repercussions if their words or feelings are not well received. Writing allows them to put more thought into what they say as opposed to letting powerful feelings and self-disclosure influence speech when faced with an emotionally charged situation of any kind. The online-published assignments of the English course provide a context where students need to practice their autonomous learning and participate in the reciprocal self-disclosure process with their classmates by searching for information to support their views and arguments.

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Appendix A**The modified version of Cotterall's questionnaire (1995) to investigate learners' autonomous perception and self-disclosure**

What do you think about learning languages?

Please indicate how much you agree or disagree with each of these statements about your foreign language learning. For each of the questions, please circle a number (1-5):

1=strongly agree, 2=agree, 3= neutral, 4= disagree, 5=strongly disagree

Questionnaire Items	strongly agree	agree	neutral	disagree	strongly disagree
1. I avoid difficult things when I am studying	1	2	3	4	5
2. I know how to study languages well	1	2	3	4	5
3. I know how to study other subjects well	1	2	3	4	5
4. To learn successfully I need a good teacher	1	2	3	4	5
circle a, b or c					
5. I am					
a. better than average at language learning.					
b. average at language learning.					
c. worse than average at language learning.					
	strongly agree	agree	neutral	disagree	strongly disagree
6. It is important for me to be able to check the progress I make	1	2	3	4	5
7. I need the teacher to tell me about my progress	1	2	3	4	5
8. I usually know myself what progress I make without asking the teacher	1	2	3	4	5
9. I find it helpful for the teacher to give me regular tests	1	2	3	4	5
10. I have my own ways of testing how much I learn	1	2	3	4	5
11. I like studying alone	1	2	3	4	5
circle a, b or c					
12. I ask the teacher questions					
a. often					
b. sometimes					
c. never					
	strongly agree	agree	neutral	disagree	strongly disagree
13. I like trying new things out by myself	1	2	3	4	5
circle a, b or c					
14. I know which aspects of my English I want to improve					
a. often					
b. sometimes					

c. never					
	strongly agree	agree	neutral	disagree	strongly disagree
15. I have been successful in language learning in the past	1	2	3	4	5
16. I expect to be successful in my language learning in the future	1	2	3	4	5
17. I have a clear idea of what I need English for	1	2	3	4	5
18. I like to look for solutions to my problems by myself	1	2	3	4	5
19. I know when I make an error in English	1	2	3	4	5
circle a, b or c					
20. I check my own writing for errors a. often b. sometimes c. never					
	strongly agree	agree	neutral	disagree	strongly disagree
21. Learning a language is very different from learning other subjects	1	2	3	4	5
circle a, b or c					
22. Learning a language is like learning a. Mathematics b. History c. to play the piano d. to ride a bicycle e. none of the above.					
23. Using English outside the classroom is a. very important b. important c. unimportant d. very unimportant					
24. Studying grammar is a. very important b. important c. unimportant d. very unimportant					
	strongly agree	agree	neutral	disagree	strongly disagree
25. I want the teacher to set my learning goals	1	2	3	4	5
26. I want the teacher to tell me what my difficulties are	1	2	3	4	5
27. I want the teacher to tell me what to do	1	2	3	4	5

28. The teacher should make me work hard	1	2	3	4	5
29. I want the teacher to tell me how long I should spend on an activity	1	2	3	4	5
30. I want the teacher to help me	1	2	3	4	5
31. The teacher should always explain why we are doing an activity in class	1	2	3	4	5
circle a, b or c					
I ask the teacher for help					
a. often					
b. sometimes					
c. never					
	strongly agree	agree	neutral	disagree	strongly disagree
32. I like sharing information about myself and my life with other classmates in writing	1	2	3	4	5
33. I like writing and sharing information about my likes and dislikes in English	1	2	3	4	5
34. I like sharing information about the things that make me especially proud of myself	1	2	3	4	5
35. I like sharing and discussing my personal views on various issues in writing	1	2	3	4	5
36. I like writing and sharing information about my favorite ways of spending spare time	1	2	3	4	5
Comments or suggestions					

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Writing Collaboratively Online: The Impact of a Bilingual Programme Context

Bio data



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Abstract

At the University of Murcia (Spain) two different university degrees are taught under the so-called "Bilingual Programme". In those study programmes over 60% credits must be taught in English. One of those programmes is the 4-year Degree in Primary Education. Nowadays the number of credits taught in English in that degree is over 80%. As well as been trained in English, students are placed in bilingual-schools during their school placements and, when choosing the specialization in Year 4, they are preferred over the rest of the students for the specialization in "EFL Primary Teacher". In Year 1, both bilingual and non-bilingual students doing the Degree in Primary Education have to take the same compulsory course in English language. For this study, carried out at the end of the first term in the compulsory course "Oral and Written Communication in the English Primary Classroom", two different groups from Year 1 doing the Degree in Primary Education were selected: the bilingual group (n=57) and a non-bilingual one (n=48). The participants were grouped into groups of up to 5 people to do a writing task online collaboratively. The task was divided into three different stages: 1) Students in groups of up to 5 people had to write a wiki about the tourist destination they would like to visit or had already visited, explaining why they had chosen that destination; 2) Each group had to revise and correct one composition written by a different group, assigned randomly by the teacher; and 3) All the texts, after being revised once, were revised one more time by a different group. At the end of the task all the students could read all the compositions written in English by all the students. For the same English course, those students enrolled in a bilingual context showed the following benefits over those enrolled in the non-bilingual one, while doing the same degree at the same University: given the same amount of time to perform the task, the bilingual students were able to write longer compositions; they committed fewer mistakes than the cohorts in the non-

bilingual group; and, they were able to identify more mistakes than the students in the non-bilingual group. To sum up, four months after starting their bilingual programme, those students showed a higher quality of the compositions they had to write collaboratively online.

Conference paper

1. Introduction

In recent years, new trends have appeared that have tried to re-focus the way a foreign language is taught. In its origins, as a general concern, many experts shed the light on the fact that the process of teaching a foreign language is undergoing a fossilization in terms of quality, that is, making use of recurrent methodologies that show no proof of long term progression in learners. Likewise, this process becomes a static one in which any change is not allowed, this assumption must be avoided even though.

Not only the attention is centered on the way a foreign language is taught but on the way and the mechanisms students use to learn a foreign language. Regarding students' role, their work shifted from individual to pair and then to collaborative, therefore, a great change on how to learn a foreign language is observed. Individual students' work has been the usual one during many years since teachers wanted to promote autonomous learning as well as autonomous feedback in students but as years passed by, teachers realized there may be other work mechanisms that could be tested in learners and why not, they could prove to be better than the older ones, furthermore, those mechanisms could show learners' skills in dealing with a foreign language to a greater extent.

In today's modern world, the new vibe in teaching a foreign language is collaborative work among students as a wide variety of collaborative work is frequently used to develop oral skills in the FL classroom (Elola & Eskoz, 2010). Besides promoting oral skills, collaborative work in writing fosters the development of second language writing through increasing engagement, confidence, and responsibility on the parts of the learners (Strasma & Foster, cited in Li, 2000, cited in Sajedi, 2014).

Within the frame of collaborative work, a special attention is paid to wikis as an effective method of showing the benefits of it. Wikis are dynamic and constantly changing web-based environments where readers are both authors and editors, and the format allows multiple users to upload, build, and create content and global communities (Parker & Chao, 2007, cited in Aydin, 2014). In this sense, users can collaborate to create knowledge, rather than simply absorbing knowledge (Farabaugh, 2007, cited in Aydin, 2014). Thus, wikis combine personalization, interactivity and collaboratively content building (Millard & Ross, 2006, cited in Aydin, 2014).

By means of wikis, learners are able to interact in order to construct a well-defined body of language with mutual help. Most students perceive that wikis are fun and interesting tools to share knowledge (Chao & Lo, 2009; Ducate et al., 2011; Lee, 2010; Lund, 2008; Zorko, 2009, cited in Li, 2013). Also, students state that collaborative writing and peer feedback in wikis help them to develop better essays in terms of content, structures and grammar (Chao & Lo, 2009; Elola & Oskoz, 2010; Lee, 2010; Woo et al., 2011, cited in Li, 2013). Moreover, wiki-based collaborative writing enables students to scaffold each other in content development, and gain more perspectives of a certain topic (Kost, 2011; Li & Zhu, 2011; Lund, 2008, cited in Li, 2013).

Certainly, it is clear that the advantages of using wikis at any stage in the process of teaching-learning a foreign language make learners engage with the language itself and be more mature in dealing with grammatical, lexical and syntactical aspects of the language, since Kuteeva stated (cited in Kedziora, 2012), writing on a wiki make students pay close attention to grammatical accuracy and structural coherence.

In the present study the main aim was to compare the outcomes of students of a bilingual programme, by comparing them with students doing the same university degree in a non-bilingual programme, while doing an online task. Regarding this aim, the following research questions were intended to be answered:

- Do the bilingual students give more information?
- Do the bilingual students commit more mistakes?
- Do the bilingual students notice more mistakes?

2. Methodology

In the following sections the methodology used to collect, analyze and interpret the data for the present study will be shown.

2.1 Sample

The study was carried out with Year-1 undergraduate students doing a Degree in Primary Education in a public Spanish university. At that university students can choose among a bilingual training or the mainstream one. Students doing the bilingual programme will have taken over 80% credits in a foreign language, English, by the end of their study programme. The study programme consists of four years, but in the last one they have to apply for a specific module. Those doing the bilingual training are supposed to enrol in the EFL module.

For the purpose of the present study, two cohorts of students participated. One group is formed by the bilingual students (n=57) and the other group by the mainstream ones (n=48). The aim of the study was to analyze the performance of both groups by using an online collaborative tool, in order to check their outcomes and the influence of belonging to a bilingual programme.

2.2 Procedure

The online collaborative tool chosen for the study was *Wikispaces*, as it permits to work in groups, to revise what other students do and to compare the different outcomes of the students before finishing the final product.

The study was carried out inside the classroom space. Regarding the task, the students had to write a composition on their favourite tourist destination. For that task the students had to agree which destination to choose, explain why and what the advantages of that place were, and they also had to integrate their hobbies in that tourist destination. This topic was chosen as the students were working on the vocabulary related to it in the corresponding teaching unit in the compulsory course "Oral and Written Communication in the English Primary Classroom". The study took place at the end of the first term.

Two groups were formed to work in every classroom. One with the bilingual students and another one with the mainstream ones. Each group was sub-divided into groups of four people as well. The total number of groups was of 13 for the bilingual one and 12 for the mainstream one.

The students were told not to use any online or written resource to write their compositions, except for the help of the members of the groups they belong to. They had to agree on the vocabulary and expressions they wanted to use only by working with their classmates.

The study consisted of three stages:

1. Stage 1: The students, in 30 minutes, had to write collaboratively their compositions with the instructions given above.

2. Stage 2: Each group had to revise the composition written by a different group, looking for mistakes and rewriting what they considered necessary. The students had 10 minutes for this revision.
3. Stage 3: All the compositions were revised by another different group. So, it means that every text was revised twice before the final outcomes were published for all the students. This second revision had to be done in 10 minutes maximum.

2.3 Data collection

The data analyzed in this study were the compositions made by the students, both the original ones and the final ones. The *Wikispace* tool allows to keep a record of all the compositions and changes made by the students. This tool also allows to analyze the students' performance by highlighting in different colours the information that has been modified.

2.4 Data analysis

To assess the compositions, all of them were analyzed. Data were coded according to the number of mistakes found in every composition. Those mistakes were classified into the following three categories: lexical, grammar/syntax and punctuation. Once all the mistakes were identified and coded, they were collected and stored on an Excel file for further quantitative analysis.

3 Findings

In the following paragraphs the main findings of this study will be discussed, by answering the three research questions stated above.

RQ1, *Do the bilingual students give more information?*. The amount of information given was measured taking into account the number of words written in every composition. As can be shown in Table 1, students who belong to the bilingual group wrote longer compositions. In the table, the number of total words is included for each group, as well as the average number of words written in each composition. The length of the compositions in the bilingual group almost doubled that of the traditional one.

	Original Compositions	Final compositions	Average number of words per text
Bilingual	2746	2757	212
Non-bilingual	1471	1470	124

Table 1. Length.

RQ2, *Do the bilingual students commit more mistakes?*. Table 2 shows that those students who belong to the traditional group committed more mistakes, in spite of writing shorter compositions, either in the original or in the final compositions. The quality of the final compositions improved more in the bilingual group as the decrease in the number of mistakes was higher than in the other group.

	Original mistakes	Final mistakes
Bilingual	157	94
Non-bilingual	164	108

Table 2. Number of mistakes.

RQ3, *Do the bilingual students notice more mistakes?*. According to Table 3, apparently those students who belong to the traditional group could identify more mistakes in the original compositions (n=90), as opposed to the bilingual group (n=85). However, as the number of original mistakes was higher in the original compositions, they could not identify 74 of them, a higher number than that of the bilingual group (n=69). Another category was created to attend an unexpected event: the number of new mistakes which were not present in the previous original compositions. Table 3 also shows that the number of new mistakes was higher in the traditional group than in the bilingual one.

	Total mistakes	Noticed mistakes	Non-noticed mistakes	New mistakes
Bilingual	94	85	69	25
Non-bilingual	108	90	74	34

Table 3. Identification of mistakes.

4. Conclusion

The aim of this study was to analyze the performance of a group of bilingual students doing a Degree in Primary Education with respect to a non-bilingual one doing the same study programme, by using the digital tool *Wikispaces*. The study has shown that the students of the bilingual programme, after just one term since they began their university programme, were able to transmit more information, commit fewer mistakes, and to identify more mistakes in the original compositions, taking into account the number of words provided. Moreover, the quality of the final outcomes was higher, as the number of mistakes decreased after working collaboratively through the digital tool.

CALL in Context

The students' context is a bilingual programme at university level. Those students take most of the courses, around 80%, in a non-native language, English. Likewise, they are studying a Degree in Primary Education and thanks to the level of English they will acquire before finishing the degree, most of them will opt for the specialty "English as a Foreign Language". The focus of the study was on students who are in their first year. Therefore, they had started the degree at the university four months before this study was carried out. Nevertheless, it was intended to show how the first semester had determined students' level of English, specially their written production with the use of an online and collaborative writing tool. These students' results could be compared with other students that are not under a bilingual programme, but they are studying the same degree at the university. The course, in which the study was developed, was English as a Foreign Language. The study intended to prove how students that are studying the same degree but in different linguistic programmes could show certain advantages and benefits due to the fact of studying under the bilingual programme, even though only four months had passed by since they started to study that degree.

In our study, a technological and pedagogical tool such as the wiki was used for the creation, in a collaborative way, of a written text on an interesting topic for students. This tool allows, besides constructing a text in a collaborative way no matter the place students are, to check the modifications underwent by students. That means that the teacher could see the changes that the students had made. Students, in this context, could not use any external resource, except the own knowledge of any of the members of their groups.

A bilingual context programme, as well as the classroom context in which the activity was implemented, has shown that the bilingual students compose longer texts given the same amount of time. The use of this tool has demonstrated that students, under this kind of programmes, are more fluent in communicating ideas, in spite of still committing a high number of lexical, grammar/syntax and punctuation mistakes. This means that those students focus more on communicating ideas and content than on form.

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Design for CALL - Possible Synergies between CALL and Design-for-Learning

Bio data



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Abstract

This exploratory review brings together research that investigates computer-assisted language learning (CALL), and research in the field of learning design, paying particular attention to the theoretical frameworks and approaches of *design for learning*. The attempts of connecting the two fields stem from two critical focuses and commitments of *design for learning*: 1) on the contemporary *learning context* which has become increasingly learner-centred and technology-rich; 2) on the *learning process* which is, now widely recognised and accepted, constantly evolving, configurative, dynamic and complex. *Design for learning* asserts that technology-enhanced learning (TEL) could only be partly designed; the other part - the learning process - is emerging, created through the actions of participants in the learning networks. Therefore, the ecology and architecture of a learning network become the focus of investigation. This author argues that *design for learning*, which is firmly grounded in the contemporary theories of learning, merits to be seriously looked at by CALL. A preliminarily synthesis of the two fields is presented, which signals potential synergies. The synergies could broaden the understanding of and strengthen CALL design.

Conference paper

Introduction

Amid the increasingly technology-rich and learner-centred learning context, the new millennium saw a wave of *re-thinking* and *re-designing* pedagogies among researchers, professional designers and teachers. As a result, a new theoretical approach for educational design, i.e., *design for learning*, has emerged and been rapidly gaining momentum (see Sun, 2016 for more details). It calls for a "sustainable and systematic focus - configuring and improving existing designs for embedment, enactment, customisation and re-design in new contexts. The aim is to open up the educational processes through capturing current successful designs for re-use and representing envisaged pedagogical practices for further sharing and discussing" (Sun, 2016, p. 351).

Design for learning asserts that learning cannot be designed, but can be designed for (Beetham & Sharpe, 2013; Ellis & Goodyear, 2010; Goodyear & Dimitriadis, 2013). The argument is that teachers can design learning tasks, e.g., an essay, a lab report, which are transformed and turned into activities by learners, which in turn become the keys to

bringing out the desired learning outcomes. However, teachers cannot design a learner's experiences, i.e. his or her learning; teachers can only design things that help students learn. The focus of design should therefore be on what the student does: an activity-centred design (Goodyear & Dimitriadis, 2013). However, activity is *situated*, shaped subtly and powerfully by individual learners' physical/digital settings (tools and resources that come to hand) and the social setting/organization they are in (Goodyear & Carvalho, 2014a). Adding to the complexity, yet again, is the fact that learners' circumstances are also constantly evolving (Luckin, 2010) – activity is also *emergent*. Educational design is, therefore, not only a project-based innovation on what students are expected to do, but also, most importantly, on the learning process – on what students, teachers or other agents might do after the original design goes live – a context-focused and forward-oriented design.

Design for learning is a theory of learning grounded firmly in the contemporary understanding of how people come to learn what they need to know to thrive in modern life (Goodyear & Dimitriadis, 2013). CALL design may take advantage of this body of emerging work, extending its focus to the ecologies and architecture of a learning environment, and most importantly to the learning process (learn-place and learn-time).

After briefly reviewing *design for learning* and CALL, a preliminary synthesis of the two fields is presented, which signals potential synergies. It is hoped that this review will contribute to the initiation of a productive dialogue between the two fields. The implications will be far-reaching and possibly radical for CALL research and practice. It could potentially revolutionise language teachers' day-to-day approaches to teaching, and the way they design courses.

CALL research and significant synergies

CALL has been both interdisciplinary and multidisciplinary. The last 20 years has witnessed several synergies between CALL and other fields, resulting in the establishment of new subfields, e.g., task-based language teaching (TBLT) and Distance CALL (DCALL).

Driven by the rapid and intensive developments and innovations in new technologies over the past 20-30 years, CALL pedagogies have changed from those based on behaviourist principles to those supporting highly interactive and collaborative learning environments. They embrace a wide array of stakeholders, from designers, practitioners, researchers, commercial material developers, to more recently the learners (Thomas, Reinders & Warschauer, 2012). This development of CALL has been accompanied by a rigorous research culture grounded in an evidence-based approach (Levy & Stockwell, 2006), offering an increasingly rich range of research approaches, progressing through various stages including *restricted CALL*, *open CALL*, *integrated CALL*, *social CALL*, and *atomised CALL*. Between 2014 and 2015, the international CALL research community had yet another major reflection and exploration which resulted in a new and bold directional call: *Task design and CALL*.

On the other hand, task-based language teaching (TBLT) research, emerged in the early to mid-1980s, has been established as one of the main approaches to language learning and teaching worldwide (Müller-Hartmann & Ditzfurth, 2010). The interest in the use of technology for TBLT has only intensified in recent years. Teachers and researchers are moving beyond simply digital translation of face-to-face or paper-and pencil tasks to what they have come to call *technology-mediated TBLT*. The potential synergies between TBLT and CALL was finally formally put into CALL's agenda (González-Lloret & Ortega, 2014). *Task design* was voted by 97 international researchers at the 2014 International CALL conference as one of the top two priority research topics (pedagogy and design). As a result, *Task design and CALL* became the theme of the CALL 2015 conference, and almost 100 CALL experts from over 20 countries submitted papers focusing on the theme

(Colpaert, 2015; Levy, Hubbard, Stockwell & Colpaert, 2015). The conference was a significant milestone exploring synergies between TBLT and CALL.

Task design has become indeed a huge challenge in CALL. Over the past two decades, we have seen ongoing exploration and a burgeoning amount of investigation and discussion on how task-based pedagogical approach has been adopted for designing online courses, and how *technology-mediated* TBLT could optimise effective technology-enhanced language learning. These investigations include not only theoretical and pedagogical studies, but also empirical ones.

There has been growing awareness that learning does not occur by accident. Designers and teachers could create specific artefacts, language learning apps, websites, etc. in the construction of CALL learning environment; but ultimately, the most critical thing is to understand the key factors or variables that impact upon learning and to design with systematic approaches (Levy et al. 2015). Investigating the *process of design* and *designing systematically* seem to be the most important challenges in the new era of CALL. Almost 100 CALL experts who participated at CALL 2014 felt strongly and agreed that design is a priority research topic in CALL.

The work of Samuda (2015), *Tasks, design, and the architecture of pedagogical spaces* (pp. 271-301) provides us with an exciting picture of the domains and directions in the latest development of TBLT. She discusses the *inevitable* changes or gaps between task-as-workplan and task-in-action (or task-in-process), how tasks are open to mediation by teachers and learners carrying it, and how the strengths and limitations of a teacher in relation to a specific learning context. She reflects that the *practice* of design and the *scope* of design are more complex than is generally acknowledged, i.e., it involves the creation of the original tasks, the major or minor adjustments during teaching, the re-design by learners to meet their own needs, etc. She emphasises that design is an *emergent* phenomenon, “less amenable to prior manipulation, less likely to be predictable in the effect it may have, and more liable to flux and variation” (p. 280). She clearly sees task design as a process - “looking at a task as a succession of workplans that come into play in different ways at different points across a lesson or teaching cycle” (p. 281). That led to her proposal of a multidimensional workplan (see Figure 1).

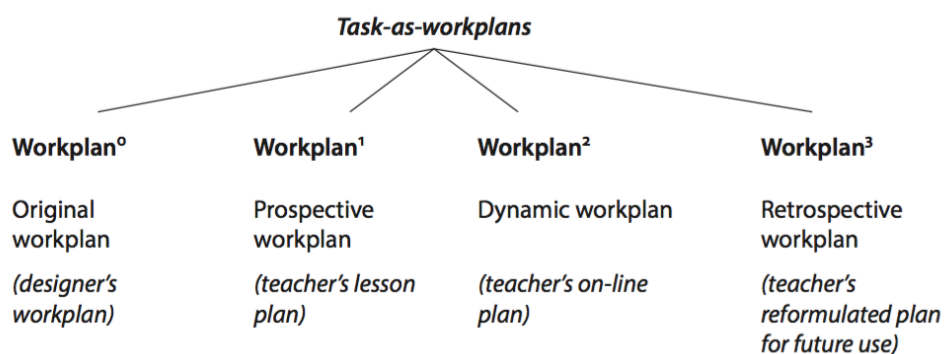


Figure 1. The multidimensional workplan of a pedagogical task (Samuda, 2015, p. 281)

Design as a process, learning environment as an ecology, learning environment as an architecture, etc. are interesting “new” thinking or perspectives emerging recently from CALL research (see e.g., Samuda, 2015; Levy et al. 2015). However, they come as no surprise if we have a look at the development of *learning design* in the past decade, which I will review below.

Design for learning

Design for learning grows out of a deep understanding of the contemporary learning context, which is increasingly learner-centred, technology-rich and ever-evolving. Learners, aided by a variety of digital tools and resources, constantly re-configure and co-configure their learning environments; teachers in turn constantly apply learning technologies and coordinate activities, orchestrating learning (see, e.g., Ellis & Goodyear, 2010; Luckin et al., 2013; Roschelle, Dimitriadis, & Hoppe, 2013; Sun, 2016). There is a gap, however, between TEL project-based innovations and the realities of the real-life classroom. Project-based designs focus on what students are expected to do but not enough attention is given to anticipating and designing for educational realities (see e.g. McKenney, 2013). *Design for learning*, on the other hand, concentrates on what students, teachers and other agents might do after the original design goes live. Its emphasis and the challenges, are on designing proactively for educational interventions after courses go live. *Design for learning* also pays great attention to the ecology of the learning environment and the complex architectural structure and its building blocks in networked learning.

Forward-oriented design for learning

Design for learning is adamant that educational design must be future-oriented. This is because, in a contemporary technology-rich and learner-centred learning environment, participants are constantly engaged in configuration, learning activities are emerging, and the learning network is ever-evolving. Educational design is therefore required to:

- 1) *Design for configuration* – anticipating what students and other agents might configure to suit their specific needs, and preparing or equipping the design for such possible customisation or modification.
- 2) *Design for orchestration* – providing support for the teacher’s work at learntime.
- 3) *Design for reflection* – ensuring that actionable data is gathered at learntime, to inform system evaluation.
- 4) *Design for re-design* – designing originally with re-design in mind – with built-in support and flexibility so that re-design may be performed as easily and fluently as possible.

(Dimitriadis & Goodyear, 2013, summarised by Sun, 2016, p. 350)

An ecology of learning

The reality is that the education landscape of the 21st century has become increasingly rich in digital technologies, and “learners are no longer seen as passive recipients of knowledge and skills but as active participants in the learning process” (Beetham & Sharpe, 2013, p. 43). Calls have been made in the educational research community to re-focus educational planning and design, and to have the individual learners at the centre. With the learners at the heart of the learning system, Ellis and Goodyear (2010) proposed the *ecology of learning* framework. It was their attempt to frame the connections between the learners, teaching design and campus planning (at university) in a learning system. The system is complex and dynamic, with human and non-human actors and a variety of possible connections between the material/digital elements of the system and human/learner activity (Goodyear & Carvalho, 2013).

In a similar vein, Luckin (e.g., Luckin *et al.*, 2006; Luckin du Boulay, 2001) also studied the context of a learner. She models the learner and his/her interactions, and investigates how technology could be used to support his/her interactions with other people and other resources across a range of locations. Her charting of a learner’s context consists of the learner, the other participants (e.g., the teachers), technologies, buildings, books, tools, knowledge and skills, social environment, and so on. Together they make up the resource elements of a learner’s ecology, which lead to her proposal (2010) of *an ecology of resources model*.

The idea of *an ecology of learning* represents the attempts to re-focus educational thinking in the areas of design and management of learning environments, i.e., shifting the focus of analysis to an individualised learner and his/her learning environment, and moving from individual elements of an educational innovation to the system level – the ecologies and networks (Goodyear & Carvalho, 2013).

An architecture of learning

Another important perspective in *design for learning* is *an architecture of learning* – an emerging and alternative framework for capturing, designing and analysing learning networks, developed by Goodyear and Carvalho (Goodyear & Carvalho, 2013; Carvalho & Goodyear, 2014a) and others over the past two decades (Goodyear 1993, 1997, 2000, 2005; Goodyear & Retalis, 2010; Goodyear & Markauskaite, 2012; Kali *et al.* 2011). The significant characteristics of the framework include:

1. the appreciation of the increasing complexity of modern learning situations, e.g. learning networks
2. the growing awareness of the composition, in a learning environment/network, of the *big* agents (e.g. teachers, learners) and the myriad things (e.g. voice tools, headset), the material and non-material (e.g. digital files), the physical settings and the sociocultural contexts, etc.
3. an expansive conception of design for learning – not just the design of learning materials, instructional sequencing, etc., but “anything that can be designed with the goal of supporting somebody’s learning comes to our remit” (Goodyear & Carvalho, 2014b, p. 131)
4. the emphasis on the connections, between the agents and the range of things (such as those mentioned above), implicated in learning networks
5. the recognition that the relationships/interactions between the agents and the range of things are complex, entangled, and evolving; all things are constantly influencing, shaping and being shaped by each other
6. the belief that for design purpose or a comprehensive and sophisticated analysis, the entire learning ecology can be *torn apart* architecturally into building blocks – design elements, just as they were *assembled* to form a learning environment in the first place
7. a three-dimension architectural structuring of the building blocks (assemblages) - the *epistemic*, the *set* and the *social* - within which an activity or activities are unfolding. *Epistemic*: the tasks, the knowledge-building blocks, the knowledge-oriented structures of a network; *set*: the structure of place; *social*: the social structure.
8. the differentiation of tasks (things that can be designed) and activities (things that cannot be designed)
9. focusing on the learners and the ecologies (resources) surrounding them
10. focusing on the learning process
11. placing activities in the centre – an activity-centred design approach
12. a strong wish to improve design
13. a strong commitment to generating knowledge for design

Possible synergies between CALL and design-for-learning

Before the discussion of possible synergies between CALL and *design for learning*, it will be useful to sketch what approaches and frameworks we have reviewed so far in the two fields:

Table 1. Review of CALL and Design for Learning

CALL	Design for Learning
1. CALL <ol style="list-style-type: none"> 1) Restricted CALL 2) Open CALL 3) Integrated CALL 4) Social CALL 5) Atomised CALL 6) Task design and CALL 	1. Forward-oriented design for learning <ol style="list-style-type: none"> 1) Configuration 2) Orchestration 3) Reflection 4) Redesign
2. Task-based language teaching <ol style="list-style-type: none"> 1) Pedagogical and sociocultural TBLT 2) Technology-mediated TBLT 	1. An ecology of learning 2. An architecture of learning 3. Patterns-based approach
3. Distance CALL <ol style="list-style-type: none"> 1) Explicitness 2) Flexibility 	

Both CALL and *design for learning* are, as illustrated above, interdisciplinary and multidisciplinary. Drawing on sound contemporary theories from a broad landscape of research in social science, education, science, technology and so on, CALL and *design for learning* clearly have much in common. Fundamentally, both fields embrace:

1. learner-centred learning
2. activity-centred learning
3. task-based, pattern-based (the pedagogical process) learning
4. technology-integrated learning; online learning
5. sociocultural context of learning
6. constructivist principles, promoting participative and collaborative learning

Many parallels could be drawn from the two fields. For instance, TBLT in CALL resonates many things in the patterns-based approach of *design for learning*. Social CALL and the recent work on ecology and architecture of a CALL learning environment (e.g. Samuda 2015) also echoes similar positions of *an ecology of learning* and *an architecture of learning*: both attempting to explore the physical, digital, social context of learners, and the relationships and interactions between participants.

However, *design for learning* has gone significantly further and deeper in its investigation into the ecology of a learner and the complex structure of a learning network, at the system level. The two approaches – *an ecology of learning* and *an architecture of learning* – are powerful ways for capturing and analyzing learning networks at both the macro and micro levels. The complex system or ecology of a learning network is architecturally structured in three layers: the *epistemic* (e.g. learning material, instructional sequencing), the *physical*, and *social*. Inside the system, the people, the tasks, the physically situated and socially situated are all clearly laid out to be explored. The *physical* comprises material things (e.g. learning space, artefacts) and technological objects (e.g. computer files, online tools) which are believed to influence human thoughts, feeling and actions; the *social* refers to relationships and interactions between participants and elements (e.g. groups, teams, roles, divisions of labour, community, organisational forms). All these architectural building blocks, big and small, physical and social, come to the remit of the designers (Goodyear & Carvalho, 2014b).

The major difference between CALL design and *design for learning* lies, perhaps, in their design focuses – the latter places a much greater focus on the learning process where activities unfold and learning eventuates. Researchers in the field try painstakingly to illustrate the evolving nature of a learning network, which “is partly designed in advance and partly co-configured in use” (Goodyear & Carvalho, 2014a, p. 58).

CALL will also benefit from an investigation into the patterns-based approach in design-for-learning. In recent years, there have been very interesting studies in the field of learning design around topics such as epistemic features, design elements and profiles, design patterns, pattern language, epistemic forms and games, etc. (see e.g. Carvalho & Goodyear, 2014a; Goodyear, 2005; Goodyear & Zenios, 2007; Laurillard, 2012; McAndrew, Goodyear, & Dalziel, 2006; McAndrew & Goodyear, 2007). The patterns-based approach argues for formal description and representation of learning activities in order to share them across disciplines. As a result, some generalised, cross-disciplinary pedagogical patterns are beginning to emerge from these studies, and from case studies in particular. Building on the knowledge of how to implement digital technologies, these studies articulate, test and share the principles and practice of teaching. Many of these are generalizable, even though they come from a range of disciplines. There have been efforts to describe such pedagogical patterns in structured formats (see e.g. Laurillard, 2012). CALL design must take advantage of this body of emerging work, while on the other hand try to capture and articulate its own unique epistemic design patterns.

Concluding Notes

This article reviews the significant synergies CALL has had with other fields of study and introduces the theoretical framework of *design for learning*. The goal was to search the nexus between CALL, learning design and the realities of technology-enhanced language classrooms (as shown in Figure 2). While many meeting points between the two fields have been found, in-depth analysis and synthesis is, regrettably, beyond the scope of this article.

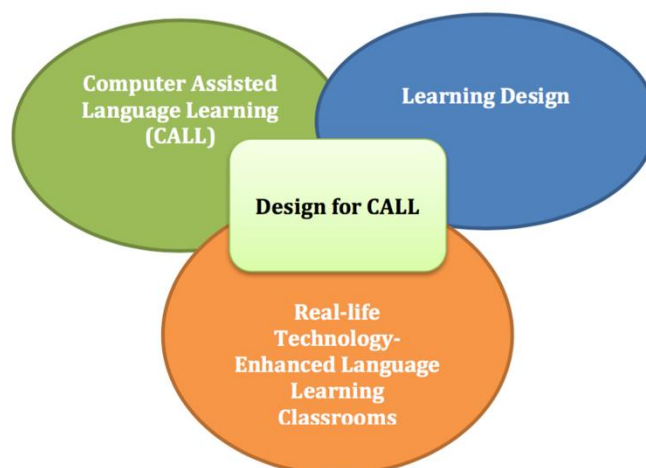


Figure 2. Nexus between CALL, learning design, and TEL language classroom

CALL in Context

This review article attempts to explore CALL design with an acute focus on CALL context – the real-life technology-enhanced language learning classroom. By bringing in the approaches and theoretical frameworks of *design for learning*, and examining the possibility of synergies between CALL and *design for learning*, this article highlights the urgent need to investigate the local context – the physical, digital, social context of learners – in order to design for the increasingly learner-centred, constantly evolving, configurative, dynamic and complex learning environment.

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An exploratory study of test-takers' cognitive states using electroencephalography (EEG) and retrospective interviews in the context of L2 testing

Bio data



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Abstract

Traditionally, learners' cognitive states and processes in the context of second language (L2) testing have been studied through concurrent and retrospective verbal reports (e.g., Phakiti, 2003; Plakans, 2009). While perceptual data elicited through these methods can provide insight into learners' cognition, their validity is oftentimes questionable due to a potential mismatch between what L2 learners report and what they actually do during specific L2 tasks (Cohen, 2014). More direct evidence can be obtained through electroencephalography (EEG) technology that can directly measure and record cognitive states and processes of L2 learners engaged in language tasks. While EEG research is relatively common in neuroscience and related fields, its application in L2 testing to study learners' cognition seems to be virtually non-existent.

We will report on the results of an exploratory study with 11 non-native speakers of English who were asked to complete six video-based academic listening tasks while wearing a 14-channel EEG headset that measured and recorded their brain signals. Conceptualized as a multiple-case study, this project investigated the relationship between EEG-derived measures of L2 learners' cognitive states of "interest" and "engagement" during these tasks and (a) the learners' self-reported perception of these states and (b) the learners' performance (i.e., scores) on questions associated with the tasks. Correlations calculated to determine these two types of relationships were supplemented with qualitative data from retrospective interviews.

The local context of this study comprised a university setting where students who are non-native speakers of English are required to meet a language proficiency requirement by passing a language proficiency test or enrolling in English language classes. Given the

diversity of the international student population in the local context, this project employed a multiple-case study design that (a) allowed a more in-depth and systematic exploration of the two cognitive states of each individual learner, and (b) identified the aspects of the data that transpire across the majority of cases and can be used to make generalizations to more global contexts. Furthermore, the local context prompted the use of video-based listening assessment tasks (rather than audio-only tasks) in this study because they more genuinely reflect the conditions of the academic environment wherein local learners are exposed to both the visual and the auditory input. Findings of this study can be generalized to all contexts of academic listening assessment, as well as the context of computer-assisted language learning in both local and distance learning scenarios.

Conference paper

Introduction

The overall purpose of this exploratory study was to investigate second language (L2) learners' cognitive processes during computer-based L2 assessment tasks and to explore how these processes relate to L2 learners' performance on such tasks.

Traditionally, learners' cognitive processes during L2 assessment have been studied through concurrent and retrospective verbal reports such as interviews (Phakiti, 2003; Plakans, 2009), questionnaires (Kashkouli & Barati, 2013), and think-aloud protocols (Anderson, Bachman, Perkins, & Cohen, 1991; Cohen & Upton, 2007; Plakans, 2009). While perceptual data elicited through these methods can provide insight into learners' cognition, the validity of such self reports is oftentimes questionable (Bowles, 2010) due to a potential mismatch between what L2 learners *report* they do and what they *actually* do during specific L2 tasks (Cohen, 2014). More direct evidence of L2 learners' mental activity can be obtained through neurophysiological measures such as electroencephalography (EEG).

EEG technology uses electrodes to non-intrusively measure and record the user's brain activity during a specific task. In the context of L2 learning and assessment, EEG data can furnish information about latent (i.e., non-observable) traits related to L2 learners' use of the target language and serve as a direct measure of L2 learners' cognitive responses to a particular stimulus. While EEG as a neurophysiological research method is relatively common in neuroscience and related interdisciplinary fields (e.g., Khushaba et al., 2013; Winslow et al., 2013), it appears to have never been utilized in research on L2 assessment to study learners' cognitive processes.

By leveraging the ability of EEG technology to measure and record L2 learners' brain signals, this study combined the use of perceptual data from retrospective interviews with EEG-derived neurophysiological data to conduct a more objective, direct, and non-invasive examination of L2 test-takers' cognitive processes during L2 assessment tasks. In particular, the study aimed to answer the following research questions:

1. What is the relationship between the EEG-derived measures of L2 learners' "engagement" and "interest" during L2 assessment tasks and L2 learners' perceptions of these cognitive states, as indicated by self-reported data from retrospective interviews?
2. What is the relationship between the EEG-derived measures of L2 learners' "engagement" and "interest" during L2 assessment tasks and their performance (i.e., scores) on these tasks?

3. To what extent do the participants' levels of "engagement" and "interest" affect their performance on these tasks, as indicated by the self-reported data from retrospective interviews?

Methodology

Conceptualized as a multiple-case study, this research project entailed the collection and analysis of three types of data: (a) performance data comprising participants' scores on L2 assessment tasks, (b) EEG-derived neurophysiological data comprising participants' cognitive states of "interest" and "engagement" while completing L2 assessment tasks, and (c) self-reported data from retrospective interviews comprising participants' perceptions of their "interest" and "engagement" during L2 assessment tasks.

Participants were 11 non-native speakers of English (eight female, three male) who were graduate students from various disciplines at the University of Hawai'i at Mānoa. Their age varied from 27 to 35 ($M = 31$, $SD = 3.07$). They were native speakers of Mandarin Chinese ($n = 4$), Indonesian ($n = 2$), Turkish ($n = 2$), Japanese ($n = 1$), Sinhalese ($n = 1$), and Nsei ($n = 1$), and had studied English between 10 and 28 years ($M = 18$, $SD = 5.71$).

All the data were gathered during individual 2-hour sessions in the Learner & User Xperience (LUX) Lab equipped with Emotiv EPOC+, which is a wireless EEG headset that utilizes 14 channels to record EEG data and is capable of recording six cognitive states, including interest and engagement. Each individual data collection session comprised the following steps: (a) providing instructions to the participant and setting up the EEG headset (15-20 minutes), (b) participant's completion of six computer-based L2 assessment tasks while wearing the EEG headset (40-50 minutes), and (c) a retrospective interview with the participant after each task (40-50 minutes total). Assessment tasks were taken from the Video-based Academic Listening Test (Suvorov, 2015). Each of the six tasks entailed watching a 2-3-minute video clip from an academic lecture and answering five multiple-choice questions about the lecture. Each retrospective interview was audio-recorded using Audacity, which is software for audio recording and editing.

Self-reported data from the interviews were transcribed, coded, and analyzed using NVivo Pro 11, which is software for qualitative data analysis. Data coding was done using a cyclical approach that included First Cycle and Second Cycle coding (Saldaña, 2009). To ensure the quality and consistency of coding, two coders coded ten percent of the same data, which is a common practice in the field (e.g., Brown, 2001; Chandler, 2003; Lee & Winke, 2013). Intercoder reliability was calculated in NVivo using Cohen's kappa coefficient, which was $\kappa = .98$. The high value of agreement provided evidence for the validity of the developed codes and the coding procedure.

Performance data (i.e., scores for the six assessment tasks) were analyzed quantitatively by tallying the number of correctly answered items for each participant. Finally, EEG-derived data recorded via Emotiv Pure•EEG™ software comprised the percentage of "engagement" and "interest" for each assessment task, representing the average value of each metric obtained over the duration of that specific task. It is noteworthy that due to technical issues with software 19 percent of EEG data were lost or corrupted and, therefore, had to be excluded from the analysis.

To answer Research Question 1, measures of "engagement" and "interest" derived from the EEG data were correlated with each participant's perceptions of how engaged and interested he/she was during each L2 assessment task by calculating Spearman's rank-order correlation coefficient. To answer Research Question 2, EEG-derived measures of "engagement" and "interest" were correlated with the participants' scores on each task by calculating Spearman's rank-order correlation coefficient. To answer Research

Question 3, the data from retrospective interviews were analyzed qualitatively to determine how L2 learners think their level of "engagement" and "interest" in L2 listening assessment affects their performance on those tasks.

Results

Research Question 1

Spearman's rank-order correlation coefficient for the EEG-derived measure of "engagement" and participants' perceptions of "engagement" was $\rho = .16$, with the two-tailed value of $p < .26$. Consequently, the association between the two variables was not statistically significant.

Spearman's rank-order correlation coefficient for the EEG-derived measure of "interest" and participants' perceptions of "interest" was $\rho = .29$, with the two-tailed value of $p < .04$. Consequently, the association between the two variables was statistically significant.

These results indicate that while there was no relationship between the EEG-derived measure of "engagement" and participants' perceptions of "engagement," we found a small, but statistically significant, positive relationship between the EEG-derived measure of "interest" and participants' perceptions of "interest." In other words, when participants reported higher levels of interest in an L2 listening assessment task, the measure of interest recorded by the EEG also tended to be higher for that specific task.

Research Question 2

Spearman's rank-order correlation coefficient for the EEG-derived measure of "engagement" and participants' scores on each task was $\rho = .14$, with the two-tailed value of $p < .32$. Consequently, the association between the two variables was not statistically significant.

Spearman's rank-order correlation coefficient for the EEG-derived measure of "interest" and participants' scores on each task was $\rho = -.01$, with the two-tailed value of $p < .96$. Consequently, the association between the two variables was not statistically significant.

These results reveal no relationship between the EEG-derived measures of "engagement" and "interest" during the completion of individual L2 listening assessment tasks and participants' scores on those tasks.

Research Question 3

The analysis of participants' responses during the interviews demonstrated that the level of engagement appeared to have a direct impact on the participants' scores in all but one case. Specifically, participants reported that the more engaged they were in the videos, the more confident they felt about the correctness of their responses and the easier it was for them to answer the questions. Lower levels of engagement, in their opinion, always made it difficult for them to answer the questions and, consequently, led to lower scores. The only exception was Participant 5 who claimed that his level of engagement did not have any impact on his responses.

Meanwhile, the participants' opinions about the impact of their interest level on the scores were somewhat more varied. Participants 5 and 8 posited that their level of interest had not impact on their scores whatsoever, whereas for three other participants no effect was found only for individual video-based listening assessment tasks (i.e., Task 3 for Participants 9 and 11 and Task 5 for Participant 6). For other participants the degree of their interest in each video-based L2 assessment task had a direct impact on their scores associated with that task. In other words, these participants tended to perform better on the tasks that they found to be more interesting than on the tasks that did not arouse much interest.

Discussion and Conclusion

The findings revealed a statistically significant relationship between the EEG-derived measure of "interest" and participants' perceptions of "interest" ($\rho = .29, p < .04$), which indicates that those participants whose brain activity during the video-based assessment tasks generated "interest" (as measured and recorded by EEG) also perceived those tasks as being interesting. No statistically significant relationship was found between the EEG-derived measure of "engagement" and participants' perceptions of "engagement," as well as between EEG-derived measures of "interest" and "engagement" during video-based L2 assessment tasks and participants' performance on those tasks. Furthermore, while the level of "engagement" in the video-based L2 listening assessment tasks appeared to have a direct impact on the performance of all but one participant, the effect that the participants' level of "interest" in the tasks had on their scores was less pronounced and varied among participants.

These findings suggest that while L2 test-takers' perceptions of "interest" appeared to be associated with "interest" as a neurophysiological signal in the brain measured and recorded by EEG, there was no statistically significant association between the EEG-derived measure of "engagement" and participants' perceptions of "engagement." In other words, how participants perceived their level of "engagement" in the tasks differed from how "engaged" their brains appeared to be as indicated by EEG.

When interpreting these findings, it is important to keep in mind the limitations related to the data that were gathered for this exploratory study. First, EEG measurements are easily affected by non-neural sources such as participants' eye blinks, muscle movements, and nearby electronic devices (Plöchl, Ossandón, & König, 2012), which can easily contaminate EEG data. In this study, the quality of EEG data has not been verified, which undermines the strength of the conclusions that can be drawn from the results of the EEG data analysis. Second, the EEG-derived measures of "engagement" and "interest" were calculated for each entire assessment task (i.e., a stimulus followed by five multiple-choice questions) and presented by Emotiv Pure•EEG™ software as percentages, the meaningfulness of which was limited. Finally, when analyzing the self-reported ratings of "engagement" and "interest," the researchers described differences in participants' interpretations of levels on a 10-point scale (for instance, Participant 2 considered level 6 to be "low," whereas for Participant 3 this level was "moderately high").

We therefore suggest that future studies utilize EEG raw data and move from a macro-level to a micro-level analysis focusing on individual components of an L2 assessment task (i.e., a stimulus and individual test items). Combining EEG and eye tracking in L2 assessment research is another methodological venue worthy of consideration.

CALL in Context

This presentation will address two main topics: language testing and tracking and logging. The two most relevant conference questions that will be discussed in this presentation are "How to determine the role and shape of the most appropriate technologies for our context?" and "How generalizable are the findings from experimental research in our context?" In the context of this exploratory study, we aimed at exploring the relationship between L2 learners' "interest" and "engagement" and their performance on L2 listening assessment tasks. Taking into consideration that self-reported data, which comprised participants' perceptions of their "interest" and "engagement" during the tasks, were subjective and prone to veridicality and reactivity risks (Bowles, 2010),

we utilized electroencephalography (EEG) in the context of this study to complement these indirect measures of "interest" and "engagement" with direct measures from neurophysiological data that were obtained via EEG. Furthermore, because of the diverse

international student population in the local context, we employed a multiple-case study design to explore individual L2 learners' cognitive states of "interest" and "engagement" in greater detail and to uncover aspects of the data that could be used to make generalizations to more global contexts.

Finally, the listening tasks in this study utilized video rather than audio-only prompts because they not only closely simulate the typical classroom learning experience, but also represent distance-learning situations such as MOOCs and telecollaborations that rely heavily on the video rather than the audio channel. The findings from this experimental research are generalizable to all contexts of academic listening, as well as the context of technology-mediated language learning in both local and distance learning scenarios.

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Affordances of computer-simulated conversations for refining pragmatically-appropriate oral communication: The case of Fulbright scholars

Bio data



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Abstract

To address the problem of limited opportunities for practicing second language speaking in interaction (Bibauw, François, & Desmet, 2015), especially when such interactions draw on pragmatic competence in high-stakes situations (Sydorenko, 2015), computer simulations that allow for oral self-paced practice of extended pragmatic routines were designed and the affordances of such simulations for learning pragmatically-appropriate communication in an individualized fashion were examined.

Twelve highly-proficient learners of English completed six computer-simulated conversations that focused on requesting a recommendation letter from an instructor but varied in contextual details. Evidence of learning was examined via a microgenetic approach by comparing initial and subsequent production and triangulated by written reflections, surveys, and interviews. Participants adopted pragmatically-appropriate strategies, cultural notions, and linguistic forms from native speaker models (available through simulations). Participants generally liked the program, with 82% stating they would use it again. It appears that “shy” individuals valued these simulations the most as they provided a safe environment for practice and experimentation.

Conference paper

Drawing on contentions that instruction (e.g., Bardovi-Harlig 2001; Kasper & Rose, 2002), practice (Martínez-Flor & Usó-Juan, 2010), and feedback (Holden & Sykes, 2013) are needed for developing second language (L2) pragmatic competence, and yet limited course time, learners’ apprehension of or scarce opportunities for communicating with native speakers (NS) (Barron, 2003), and rarity of NS feedback on pragmatic (in)appropriateness (Kasper, 1997) are major obstacles, intelligent CALL (ICALL) programs designed for self-paced practice of pragmatics can be turned to for solutions (Bibauw, François, & Desmet, 2015). Following DeKeyser (2007) and Segalowitz (2003), it is assumed that oral practice is necessary to achieve automatized and fluent production, and therefore practice of pragmatics only via textual modality is not enough. Few technological tools focus on the oral practice of pragmatics (see Sydorenko, 2015, for a review), and the present study addresses this gap.

Within the realm of ICALL, spoken dialogue systemsⁱ (SDS) can potentially help develop oral fluency and pragmatic competence (Bibauw et al., 2015), but these systems appear to be more suitable for low-level learners than for more proficient ones. Massively multiplayer online games can also help develop L2 fluency (Vosburg, 2017) and pragmatic competence (Soares Palmer, 2010), but certain domains, such as high-stakes interactions between students and instructors in academia, are not represented in such games. To that end, computer simulations that allow for oral self-paced practice of extended pragmatic routines in high-stakes academic situations were designed and participants' learning outcomes as well as their attitudes towards such simulations were examined. Speech recognition technology was not utilized and the rationale for doing so is provided in this paper.

Literature Review

This literature review focuses on SDS for language learning to provide the context within which Simulated Conversations were designed.

SDS allow learners to have interactive spoken dialogues with "embodied conversational agents" – animated characters that are "endowed with conversational capabilities primarily through speech output generation (either synthesized or recorded speech), speech recognition software, and natural language processing" (Morton, Gunson, & Jack, 2012, p. 2). The agents can produce not only verbal output, but also non-verbal, like frowning, smiling, hand-waving, walking away, etc. Due to the limitations of automatic speech recognition (ASR) technology and natural language processing (NLP) algorithms, SDS are generally built around restricted contexts or domains, such as buying a train ticket, so that possible learner input to the system is maximally predicted and speech recognition and feedback error rates are minimized (Eskenazi, 2009; Morton et al., 2012).

SDS include DEAL (Wik & Hjalmarsson, 2009), SPELL (Morton & Jack, 2005, 2010), SCILL (Seneff, Wang, & Zhang, 2004), and ISLAND (McGraw & Seneff, 2007) (see Bibauw et al., 2015, and Eskenazi, 2009, for descriptions of these and other programs). In describing SPELL, Morton et al. (2012) illustrate how such programs generally work. "In the About Train Times scenario, the virtual character asks the learner some questions about the departure and arrival times of trains in Great Britain. To the side of the character on the screen is a timetable depicting the times" (Morton et al., 2012, p. 4). Sometimes there are text help menus to help learners overcome potential difficulties. When learners' utterances are ungrammatical, the virtual character offers implicit spoken feedback. The virtual character also summarizes the learner's responses once the scenarios have been completed.

Morton et al. (2012) examined learners' attitudes towards the SPELL program and found that learners enjoyed using it although the ASR component did not work perfectly. Challenges of the program include increasing the accuracy of ASR with non-native accented speech and collecting a variety of learner responses for cataloguing the grammatical errors that learners could make in order to provide feedback on them (Morton et al., 2012). This finding corroborates other studies on similar SDS (see Eskenazi, 2009).

Although available SDS appeal to learners, Bibauw, François, and Desmet (2016) point out two significant problems. First, such systems are typically at the prototype stage and are not available to the general public. Second, most systems have not been evaluated for learning outcomes. In my view, a third major problem is that current SDS seem to only be able to handle relatively short user responses (at a word, phrase, or sentence level). Example 1 from Morton et al. (2012, p. 5) illustrates the system-user interaction.

Example 1.

Virtual Character: Where would you like to go?

Learner: Um.

Virtual Character: I would like to go to Oxford. Where would you like to go?

It seems that in the given scenario, the expected user responses are at the most one sentence long. However, in many situations, participant responses can be quite elaborate. Example 2 illustrates what a student may say when asking an instructor for a letter of recommendation (the data comes from the present study).

Example 2.

The thing is that I found an AMAZING opportunity for applying uh for a scholarship and I was wondering if you could uh make me a recommendation letter for this application. Uh the only problem is that the deadline is due in three days so uh I will understand if you can't write the recommendation letter in these these days because it's like last minute. But for me it will be very important and and I'm very motivated with this opportunity. So if you can do it wi- will be great and I will be very uh thankful of that.

Existing SDS may not be able to handle such long oral responses and ASR error rates could potentially increase. (Some other SDS with advanced ASR capabilities, like Tactical Iraqi™ (Johnson, 2010), could potentially be able to process complex data with minimal error rates, but they are restricted to certain users, such as military training programs).

To account for the issues mentioned above, a Simulated Conversations program was designed and is described below.

Simulated Conversations

A conversation begins with a description of the scenario, such as in Figure 1.



You are a student. You have just recently learned about an opportunity (scholarship, job, something else) that requires a letter of recommendation as part of the application. **Take a minute to think and imagine what this opportunity could be.** Unfortunately, the letter of recommendation is due in **3 days**. You approach one of your instructors during their regular office hours, hoping to get a letter of recommendation. In this course, you have displayed an **excellent** academic performance and **regular** course attendance. Your instructor's name is Dan Gordon.

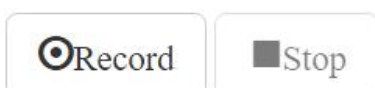


Figure 1. Screenshot of video 1.

Then learners play the first video of the simulation. In Figure 1, it is a video of a person, acting as an instructor, who is typing on the computer in their office. Next, learners record their spoken response to the video. For example, one of our participants said "Hi Dan. Can I come inside?" After this, learners are taken to the next screen, where they select one of the options that best describes the action they have just completed (see Figure 2). The utterance "Hi Dan. Can I come inside" best fits under the option "You greet the instructor and ask if you can come in."

Choose the response that best matches the audio you just recorded.

- [You greet the instructor]
- [You greet the instructor and ask how he is doing]
- [You greet the instructor and ask if you can come in]
- [You greet the instructor and ask if instructor has time to talk]
- [You greet the instructor and indicate that you need something or have a question]
- [You greet the instructor and ask for a recommendation letter, NOT saying when it is due]
- [You greet the instructor and ask for a recommendation letter, saying that it is due in 3 days]

Next

Figure 2. Screenshot of the response options after video 1.

The program then takes learners to the video that corresponds with their selection – in this case video 4 in which the instructor says “Yeah, definitely. What can I do for you?” (see Figure 3).



You are a student. You have just recently learned about an opportunity (scholarship, job, something else) that requires a letter of recommendation as part of the application. **Take a minute to think and imagine what this opportunity could be.** Unfortunately, the letter of recommendation is due in **3 days**. You approach one of your instructors during their regular office hours, hoping to get a letter of recommendation. In this course, you have displayed an **excellent** academic performance and **regular** course attendance. Your instructor’s name is Dan Gordon.

Record

Stop

Figure 3. Screenshot of video 4.

After this, learners proceed in the same stepwise fashion as described above, alternating between video watching, responding, and selecting from a list of possible options, until they reach the end of the conversation.

Comparison of Simulated Conversations and SDS

As summarized in Table 1, SDS generally include ASR. Simulated Conversations does not; instead, users select among the available text-based options the one that best matches their previous oral response. In either case, this aspect of system's adaptivity to users' responses can be error prone: ASR is not always accurate, especially with non-native speech, while in Simulated Conversations learners may incorrectly select the option that matches their response. Second, to achieve interactivity, SDS include an NLP component. In Simulated Conversations, the conversation paths are predetermined by the researcher who designed the given *branching dialogue*ⁱⁱ based on several rounds of pilot testing. However, the extensive database of possible user responses needs to be created not only for Simulated Conversations, but for SDS as well to minimize the speech recognition error rates. Both types of systems generally allow users to make certain choices using a mouse or a keyboard. In Simulated Conversations, users indicate via a mouse click what action they have attempted to accomplish in their spoken response; in some SDS, users may also have this choice if their oral response is not understood (e.g., Johnson, 2010). Both systems employ embodied conversational agents: in SDS they are usually animated characters; in Simulated Conversations, they are video-recordings of actual people. Both types of systems are adaptive; that is, embodied conversational agent's output is based on user input. Both types of systems provide immediate feedback, although in different forms. SDS often utilize the reformulation of users' grammatically or lexically incorrect utterances as recasts. Simulated Conversations provide implicit feedback in a form of lists of possible options indicating what else learners could have said, while subsequent videos are determined by the options learners choose and thus represent consequences of users' actions. That is, Simulated Conversation provide implicit feedback on pragmatics only, not lexicon or grammar. What largely distinguishes the two types of systems is that expertise in ASR and NLP is needed to create content in SDS. However, Simulated Conversations does not require technical knowledge for the creation of content. (*By contacting the author, interested researchers can gain access to the Simulated Conversations if they wish to create their own content for research and language teaching*).

Table 1

Comparison of Common Features in SDS and Simulated Conversations

Feature	SDS	Simulated Conversations
ASR	Yes	No
NLP	Yes	No
Database of possible responses	Yes	Yes
Users' oral input	Yes	Yes
Embodied conversational agent	Yes (animated characters)	Yes (video-recorded people)
Adaptive	Yes	Yes
Provision of Immediate Feedback	Yes	Yes
Technological expertise needed	Yes	No

Learning in Simulated Conversations

Theoretically, learning from Simulated Conversations can take place via the following mechanisms. First, learners can practice their responses to an interlocutor in a particular situation an unlimited number of times: structured oral practice alone, without any feedback, can lead to automatization of more accurate and fluent production (Skehan & Foster, 1999; Tavakoli & Foster, 2011). Second, roles can be reversed in that participants may act as instructors by responding to videos of students: in this case,

users of the program can witness authentic input from various target language speakers and may decide to incorporate such input into their own subsequent production (Sydorenko, 2015). This takes place when learners notice gaps in their production as compared to that of other interlocutors (Gass & Mackey, 2006). Finally, feedback in a form of positive or negative consequences available in the program may draw learners' attention to additional gaps in their knowledge.

This study addresses the following two research questions:

1. What are the learning outcomes from using the program?
2. What are the learners' attitudes towards the program?

Both general tendencies as well as individual differences are described.

Method

Participants

Twelve learners of English (Fulbright scholars in the U.S. from 10 different countries) with advanced level of proficiency participated in the study. Their first languages were Arabic (5), Burmese (1), Pashtu (1), Spanish (3), Turkish (1), and Vietnamese (1). Five were female and seven were male. They were 23 to 37 years of age, with the average age of 29. The learners were enrolled in a six-week program designed to prepare them for the academic and cultural environment of graduate school.

Procedures

The study took place over the course of two and a half hours. Participants completed a background questionnaire, questions on their prior experience with U.S. instructors, a practice simulation followed by six other simulations, and a questionnaire on what they gained from the program. Five people also participated in an interview.

The six simulations focused on the request for a letter of recommendation from an instructor, but simulations 1 and 2 varied on the timeframe of the request (letter due in three days or one week) and the characteristics of the student (average or excellent academic performance). Descriptions of scenarios in simulations 3 and 4 were similar, except participants played instructor roles: this provided participants with videos of possible student models while they were playing instructor roles. Simulations 5 and 6 were the same as 1 and 2 and thus served as a post-test.

Results

Evidence of Learning

Data from the initial and subsequent simulations indicated that participants made some changes that mirrored the models in student videos, while other changes were considered "personal" in that they did not resemble the models. Also, similar to other studies examining structured practice of pragmatics (Sydorenko, 2015; Sydorenko & Tuason, 2016), participants made changes to both the linguistic form as well as content of their responses. It is notable from the results (see Table 2) that participants adopted content from models at a much higher rate than form. Additionally, the occurrence of personal changes was much less frequent than those from models, suggesting that although participants benefit from practicing the simulations without model input, the models account for the changes in their production to a higher degree. Variability among participants was observed: for example, some adopted 5 content tokens from the model, and some only 1.

Table 2
Changes between Initial and Subsequent Simulations

	Model		Personal	
	Form	Content	Form	Content
	Three-days Simulation			
Total	7	35	0	11
Range	0-5	1-5		0-3
	One-week Simulation			
Total	7	48	2	12
Range	0-2	0-8	0-1	0-2

Descriptively, form changes generally included use of different vocabulary items, such as *thank you for your consideration*, *unfortunately*, and *relevant information*. Content changes were typically in a form of pragmatic strategies, such as disarmers (i.e., when the speaker tries to remove any potential objections the hearer might raise upon being confronted with the request), for example, "I really understand your situation and I know it's pretty short notice," and grounders (i.e., reasons for the request), such as "It's very related that the with the class that we are taking now about wildlife management" (c.f. Blum-Kulka, House, & Kasper, 1989; Sydorenko & Tuason, 2016, for definitions of strategies in cross-cultural requests).

In addition to oral data, perceived learning outcomes reported by participants on the surveys and in the interviews were also examined. Learning outcomes were divided into (1) those related to principles of polite communication with instructors in general and (2) when asking for a letter of recommendation in particular. In the former category, some participants realized that when talking to instructors in the U.S., office hours should be utilized, particular greetings should be used, and instructors seem to be non-judgmental. In the latter category, many learning outcomes can be related to pragmatic strategies that participants began to utilize more in post-model simulations, such as grounders (giving reasons) and imposition minimizers (e.g., recognizing the lateness of the request). Participants also observed the organizations of request sequences, such as providing details before making the request, and several obtained more ideas on what to say after a rejection. No participants reported particular phrases that they learned. The results from the surveys and interviews support those from the simulations in that participants mainly focused on content, and specifically on pragmatic strategies and principles of polite communication with instructors, and much less so on form.

Attitudes towards Simulated Conversations

Eleven of the 12 participants completed this part of the survey. Nine of 11 respondents (82%) liked the program and would use it again. The reason for this highly positive outcome could be that the simulations appeared authentic to learners: nine participants thought videos represented real-life interaction, and two thought that this was mostly the case. Statements such as "I felt as if I am really in a true and not virtual situation" are representative of the rest of the data. With regard to how well the program adapted to their response, ten participants felt it was easy or mostly easy to choose an option that matched their oral response, and one thought it was difficult. For nine participants, the responses and the following videos matched or mostly matched; for two participants, they often did not match, which made participants feel confused or that they said something incorrectly. Thus, getting few or no mismatches between participants' responses and following videos is important as it influences how the participants feel about their interactions.

The results of the interviews regarding participants' opinions corroborate survey results. Participants additionally provided suggestions for program's revision, most of which can be implemented (e.g., adding more possible options, more scenarios, and providing more training on how to use the program).

Conference Subthemes Represented in Results

This section describes how two of the conference's subthemes were addressed in this study. The first theme is "To what extent do technologies afford context-dependent enrichment and personalization of the learning process?"

The data provided evidence of personalized learning of pragmatic notions within the U.S. academic culture. Participants differed in their prior understanding of culturally-appropriate student-instructor interactions and drew on diverse aspects of the simulations to fill their individual gaps in knowledge. Some participants were surprised that asking for a letter of recommendation from the U.S. instructor one week in advance is a short notice and mentioned that they "learned their lesson" from simulations. Some participants noticed that U.S. instructors are approachable, while others knew this already but were able to confirm their understanding through simulations. One participant stated that while she did not learn anything new, she felt she benefited from oral practice and from getting a confirmation that her initial ideas on how to appropriately approach given situations were correct. Personalized learning process was also apparent in that some participants selected the same options as they repeated the simulations, possibly to perfect their original responses, while others chose new conversational paths to examine the consequences of different choices. Finally, there was evidence of personalized learning preferences in that majority of participants said they would like to continue practicing their pragmatic skills with this program, while two participants instead preferred to interact with individuals face-to-face in real time. Prior research indicates that personality differences affecting attitudes towards technology are to be expected (Anyaegebu, Ting, & Li, 2012; Gonzalez, 2013; Stracke, 2007).

The study also addresses the subtheme "How generalizable are the findings from experimental research in our context?" The participants were Fulbright scholars from various countries studying English in the U.S., which is an atypical group of learners in the given context. Multiple data sources suggest that participants were highly motivated. It cannot be automatically concluded that participants at lower proficiency levels and with different motivational profiles will gain similar benefits from the use of such simulations. For example, a pilot study with high-intermediate learners indicated that students can struggle with understanding the language in the videos. Likewise, since feedback is implicit, it is not clear that lower-level learners will be able to make effective use of such feedback. Self-paced learning could be appropriate for learners who have adequate instructional support (Mozzon-McPherson, 2007), but the question is how minimal can this support be with the Simulated Conversations program.

CALL in Context

The paper focuses on the conference's subtheme "To what extent do technologies afford context-dependent enrichment and personalization of the learning process?" as participants provided evidence of personalized learning of sociopragmatics and pragmalinguistics within the U.S. academic culture. Participants differed in their prior understanding of culturally-appropriate student-instructor interactions and drew on diverse aspects of the simulations to fill their individual gaps in knowledge. Personalized learning process was also apparent in that some participants selected the same options as they repeated the simulations, possibly to perfect their original responses, while others chose new conversational paths to examine the consequences of different choices. Additionally, the study addresses the subtheme "How generalizable are the findings from experimental research in our context?" The participants were Fulbright scholars from various countries studying English in the U.S., which is an atypical group of learners in the given context. Multiple data sources suggest that participants were highly motivated. The connections between these participants' characteristics and their learning outcomes as well as attitudes towards the simulations are examined.

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Exploring the Relationship between Language Teachers' Beliefs and Behavior about Technology

Bio data



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Abstract

This study examines Chinese foreign language teachers' pedagogical beliefs, technology use and the interrelationship between their beliefs and technology use. 179 university foreign language teachers completed an online survey and reported on their pedagogical beliefs, technology use along with their demographic information. Descriptive statistics indicated that their pedagogical beliefs are more constructivists, yet they use technology in both constructivist and transmissive ways. Correlation analysis showed no significant relationship between language teachers' transmissive and constructivist pedagogical beliefs, yet significant positive relationship between language teachers' transmissive and constructivist technological behavior was identified. Besides, the analyses also demonstrate significant positive relationship between teachers' constructivist pedagogical beliefs and constructivist use of technology, and between their transmissive pedagogical beliefs and transmissive use of technology.

Conference paper

Introduction

Information and Communication Technology (ICT) has played a gradually important role in language teaching and learning nowadays. Of many external and internal factors that have impact on language teachers' attitude toward and intention of using technology, pedagogical

beliefs were an essential internal factor that not only have impact on teachers' use or non-use of technology (Ertmer, 2005), but also affect their ways of using technology (constructivist or traditional) (Becker, 2000). Despite the important relationship between teachers' pedagogical beliefs and technology use, comparatively less study have examined the pedagogical beliefs and technology use among teachers from a specific subject, such as language teachers. Even less such studies have been conducted among teachers who teach in a specific context, such as China. Language classrooms in China nowadays are often equipped with technology including multimedia, projector and even mobile devices such as iPad. However, the Chinese culture of learning is prone to traditional knowledge transmission (Hu, 2002). Moreover, language teaching is thought to be at variance with constructivist teaching method (Burston, 2014). Therefore the purpose of this study is to examine Chinese foreign language teachers' pedagogical beliefs and technology use, and the relationship between their beliefs and use.

The Study

Research questions

The following research questions guided this study:

RQ1: Is Chinese foreign language teachers' pedagogical beliefs more constructivist or more traditional?

RQ2: Is Chinese foreign language teachers' technology use more constructivist or more traditional?

RQ3: What are the relationship between Chinese foreign language teachers' pedagogical beliefs and technology use?

Methodology

Participants were recruited from participants of two national conferences aimed for providing training for foreign language teachers in China. A total of 179 teachers from 102 universities agreed to participate and were sent the survey to their email address. Among the participants, 85% were females and the mean age was 32.58 years. The mean years of teaching service were 9.12 years. Most of them have a masters' degree (72%,) and the rest of them have a doctors' degree. An url for the questionnaire was sent to the participants and they needed to respond and complete the questionnaire within 10 days. On average, participants took 15 minutes to complete the questionnaire.

The questionnaire consists of three parts, demographic information, pedagogical beliefs and technology use. The demographic information includes gender, age, years of teaching experience and academic background. Additionally, participants responded to a 20 item scale comprising of items adapted from previous literature (Chan & Elliot, 2004; Becker, 2000). The 20 items measured four constructs: transmissive pedagogical beliefs (five items); constructivist pedagogical beliefs (five items); transmissive technology use (five items); constructivist pedagogical use (five items). All items were Likert-type statements and measured on five points, ranging from strongly disagree (one point) to strongly agree (five points).

Findings

RQ1: Is Chinese foreign language teachers' pedagogical beliefs more constructivist or more traditional?

The descriptive data of teachers' pedagogical beliefs (as shown in Table 1) indicated a positive attitude toward constructivist pedagogical beliefs and a negative attitude toward transmissive pedagogical beliefs. The means of the five items concerning transmissive pedagogical beliefs were ranged from 2.081 to 2.748, which shows that teachers generally choose "disagree" or "neither agree nor disagree". On the other hand, the five items for constructivist pedagogical beliefs were all rated above 4, showing that they all choose either "agree" or "strongly agree".

RQ2: Is Chinese foreign language teachers' technology use more constructivist or more traditional?

Table 2 shows the result for teachers' technological behavior. For both traditional technological behavior or constructivist pedagogical behavior, nine out of ten items in this construct were all rated above 3.6, but less than 4. Only one item were rated as 3.1, which is still between 3 and 4. Such result displays that participants generally hold a positive attitude toward both traditional transmissive and constructivist use of technology.

RQ3: Is Chinese foreign language teachers' constructivist/traditional pedagogical beliefs positively related to their constructivist/traditional technology use?

The third research question aims to identify possible relationship between teachers' pedagogical beliefs and their technological behavior. Specifically, the authors try to identify two hypotheses: there is a positive correlation between teachers' constructivist pedagogical beliefs and their constructivist use of technology, and a positive correlation between teachers' transmissive pedagogical beliefs and their traditional technological behavior. The results in Table 3 support both hypotheses, as significant correlations were found ($r = .228, p = .003$; and $r = .187, p = .014$).

However, the correlation analysis did not show a significant negative correlation between teachers' transmissive pedagogical beliefs and constructivist pedagogical beliefs ($r = .009, p = .909$). This means that teachers' who hold a negative attitude toward transmissive pedagogical beliefs may not necessary hold a positive attitude toward constructivist pedagogical beliefs and vice versa. On the other hand, the correlation analysis displayed a significant positive correlation between teachers' transmissive technological use and constructivist technological use ($r = .610, p < .001$). Such result demonstrated that teachers' who hold a positive attitude toward transmissive technological use also agrees on using technology in a constructivist way.

Table 1
Descriptive statistics on pedagogical beliefs.

Items	PBT1	PBT2	PBT3	PBT4	PBT5	PBC1	PBC2	PBC3	PBC4	PBC5
Mean	2.087	2.257	2.491	2.748	2.081	4.354	4.506	4.462	4.546	4.474
Standard Dev.	.954	.966	1.002	1.006	.812	.655	.546	.500	.533	.587
Skewness	1.284	.802	.974	.241	1.426	-1.267	-.671	.152	-.766	-.772
Kurtosis	.910	.933	1.004	1.013	.660	.429	.298	1.023	.284	.345

* PBT: Pedagogical Beliefs Transimissive; PBC: Pedagogical Beliefs Constructivist

Table 2
Descriptive statistics on technology use.

Items	TBT1	TBT2	TBT3	TBT4	TBT5	TBC1	TBC2	TBC3	TBC4	TBC5
Mean	3.912	3.680	3.767	3.919	3.639	3.168	3.826	3.725	3.884	3.959
Standard Dev.	.623	.762	.712	.587	.748	.866	.752	.695	.629	.634
Skewness	-1.996	-1.217	-.997	-.858	-.820	-.386	-1.191	-1.156	-.898	-.935
Kurtosis	.389	.581	.507	.344	.559	.749	.566	.483	.396	.402

* TBT: Technological Behavior Transimissive; TBC: Technological Behavior Constructivist

Table 3
Variables correlations.

	PBT	PBC	TBT	TBC
PBT	1			
PBC	.009 .909	1		
TBT	.228* .003	.188* .013	1	
TBC	0.097 0.206	0.187* 0.014	0.610* 0.000	1

* TBT: Technological Behavior Transmissive; TBC: Technological Behavior Constructivist; PBT: Pedagogical Beliefs Transmissive; PBC: Pedagogical Beliefs Constructivist

CALL in Context

The result and discussion of this study indicated the important cultural, social and organization influence from teachers' working context on their pedagogical beliefs and their instructional use of technology. This study mainly adopted a contextual perspective in discussing the research result. Aside from their own ability in using technology, teachers' use of technology are often closely related to the context they are working in, including subject culture, the culture of schools and the culture of societies. As for subject culture, this study compared the use of technology in language teaching with technology use in some other subjects, and suggested that more professional training in relation to subject-related technology training is in need. For culture of schools, as stated in Ajzen's Theory of Reasoned Action (Ajzen, 1980), teachers' attitude and intention of using technology are often related with their perception of others' views on such behavior. Therefore proper support from school administrators is necessary. At last, the participants were all-Chinese and were teaching foreign languages in universities in China, where Chinese culture of learning (Hu, 2002; 2005) could have a negative impact on their pedagogical beliefs and technology use as well. By discussing the interaction between Chinese culture of learning, educational informatization in China and possible influence from outside China, the study explored in detail Chinese foreign language teachers' pedagogical beliefs and technological behavior.

Theories or models have appeared to be helpful: Ecological Systems Theory and a technology adoption model, the unified theory of acceptance and use of technology (UTAUT). Both theories mentioned above included the contextual factor into consideration when discussing learners' development and technology use.

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Mobile Augmented Reality: Hyper contextualization and situated language usage events**Bio data**

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Abstract

Language use, second-language development, and technology mediated human activity are complex processes situated in, and in some cases demonstrably interwoven with, specific material and social contexts. Our presentation describes a project that focuses on the contextually embedded nature of communicative action. Building upon recent research on ethnomethodological analyses of talk-in-interaction while walking (Haddington et al., 2013), analyses of how communicative activity mediates our understanding of objects and environments (Nevile et al., 2014; Latour, 2005), principles of extended and embodied cognition (Atkinson, 2010), and existing research on the use of mobile place-based augmented reality (AR) techniques for language learning (Holden & Sykes, 2011; Thorne, 2013; Thorne et al., 2015), this paper investigates participants' contextually aware interactional practices as they carry out an AR activity. In response to the question of when and how action is explicitly situated in, or catalyzed by, particular aspects of the physical surround, we report on members' methods for making unplanned use of resources from the immediate physical context in order to co-construct actions (such as wayfinding and oral reporting) to accomplish the AR game goals.

Conference paper

Introduction

Language use, second-language development, and technology mediated human activity are complex processes situated in, and in some cases demonstrably interwoven with, specific material and social contexts. Our presentation describes a project that focuses on the contextually embedded nature of communicative action. Building on recent research on talk-in-interaction while walking (Haddington et al., 2013), analyses of how communicative activity mediates our understanding of objects and environments (Latour, 2005), principles of extended and embodied cognition (Atkinson, 2010), and existing research on the use of mobile place-based augmented reality (AR) techniques for language learning (Holden & Sykes, 2011; Thorne, 2013; Thorne et al., 2015), this paper investigates participants' contextually aware interactional practices as they carry out an AR activity. In response to the question of when and how action is explicitly situated in, or catalyzed by, particular aspects of immediate local context, we report on members' methods for making unplanned

use of resources from the physical environment in order to co-construct actions (such as wayfinding and oral reporting) in order to accomplish the AR game goals.

Context Of The Study

The focus of this research is the empirical examination of language learners engaged in playing an augmented reality (AR) place-based mobile game which presents scenarios and prompts that encourage participants to expand beyond the traditional subject positions associated with that of 'student' or 'learner' (e.g, Firth & Wagner, 1997). AR games are a more recent entry into the arena of educationally oriented game development. But similar to commercial recreational games that have been studied as learning environments (e.g., Gee 2007; Thorne, 2012; Thorne et al., 2012), AR games represent a shift away from models of learning based on information delivery and toward theories of human development rooted in experiential and situated problem solving. AR games generally involve movement through environments (cities, landscapes) using GPS-enabled devices as a guide. As Squire (2009) describes:

Although mobile media learning has mostly been framed as "anytime, anywhere" their more profound impact may be in the experience of place. Mobile media enables a multiplicity and hybridity of place that causes opportunities and challenges to learning and education. (p. 70)

Designing AR games to highlight and more fully understand and appreciate specific places is a growing phenomenon, with theoretical grounding in situated learning theory and critical pedagogy (Gruenewald, 2003). Numerous projects include scientific themes (e.g., metallurgy), urban studies, architecture, and history (for examples, see <http://arisgames.org/>). AR games are rapidly appearing in museums, community-based education projects, and more slowly, in formal educational settings. Existing AR games (e.g., Holden and Sykes 2011; Holden et al. 2015; Squire 2009; Thorne, 2013) and accompanying mobile resources for learning share certain objectives, such as to increase engagement in the language learning process by moving students and language learning experiences out of the classroom and into the world and to provide *in situ* prompts for communication and language use in situations of contextual relevance to the topical activity at hand.

Theoretical Framework

This research is informed by a number of frameworks that theoretically and empirically redefine cognition as situated, embodied, enacted, extended and distributed (e.g., Atkinson, 2010; Bucholtz & Hall, 2016; Clark, 2008; Hutchins, 1995). Distributed and enacted cognition (related terms include extended and social cognition) refer to a framework for understanding human action, such as thinking and communicating, as processes that are fundamentally supra-individual and which include, but importantly are seen to extend beyond, neuronal activity of the brain. The term 'distribution' is meant to highlight the idea that thinking and doing involve the body and coordination between human as well as non-human artifacts and environments. In this sense, neither the brain nor the individual are the exclusive loci of cognition; rather, the focus is on understanding the organization of systems, or "cognition in the wild" (Hutchins, 1995), which presumes an ecological view of cognitive activity as organized by the interplay between persons and resources that are distributed across social and material environments.

Approaches to extended and distributed cognition posit that humans are open systems that function and develop within complex, historically formed, and dynamically changing social, symbolic, and material ecologies. When viewed this way, human activity and development are seen to form an 'ensemble' process that plays out along a brain-body-world continuum (e.g., Spivey, 2007). This understanding of human cognition as distributed includes a number of entailments, one of which is a focus on mediation – that objects and other people in the environment co-produce action and thinking in unison with individual human agents. Another is that cognition, action, and communication are processes that are inherently

distributed across individuals, artifacts, environments, and through individual and collective memory, across time periods as well (e.g., Wertsch, 2002).

An important constraint is that the principle of distribution, applied to both cognition and language/communicative activity, is not meant to imply symmetry or equal division between individual humans and other people, artifacts, or environments. Instead, the suggestion is that the density of cognitive and communicative activity can shift from brains to bodies and to a range of physical and representational media in the flow of activity (e.g., Cowley, 2009; Thorne, 2016; Thorne & Lantolf, 2007). The notion of distribution suggests an additional entailment, namely that of units of analysis such as 'organism-environment systems' (e.g., Järvillehto, 2009), which describe how change within an organism is accompanied by change to the environment and a reorganization of organism-environment relations. In these ways, distributed, situated, and extended approaches to cognition suggest that human action and development are fundamentally emergent of, and enmeshed with, specific temporal, social, and material conditions.

The AR Game, Methodology And Procedures

The participants play a quest-type mobile AR game called *ChronoOps*²⁵. The game scenario emphasizes green technology and environmental sustainability projects as its core focus. The conceit of the game is that participants play the role of an agent from the future (the year 2070). The game narrative is that in the year 2070, the planet has suffered massive environmental degradation and the player-agent has been sent back in time to the year 2017 in order to learn from the "simultaneous dawn and dusk of green technology" that is in evidence on and around the university campus. The game is played by accessing instructions on a mobile phone, one per group, which instructs players to find five designated green technology sites on their university campus. Once found, students file video reports that describe the advantages and disadvantages of the green technologies they encountered in the hopes that this information can be used to help improve the environmental catastrophe that is this planet's future.

Our data include video recordings (18 hours total) of small-group interactions of players with heterogeneous language proficiencies playing versions of the *ChronoOps* AR game in English, French, German, Japanese, Spanish, and Hungarian. Video recordings were made of each group of three players, with two participants wearing head mounted cameras and a third camera capturing the entire group's interaction. The video data has been transcribed using ethnomethodological conversation analysis (EMCA) methods.

EMCA research has investigated the practices that participants use to make material and environmental objects relevant for both everyday meaning making (Goodwin, 2000) and for instructional purposes (Hutchins, 1995). This research describes how talk, gaze, gesture, and physical alignment form sequences of action that bring the environment into play in conversational organization. More specifically, our analyses describe interactional practices in which groups notice visible aspects of their immediate environment and make these noticings relevant for organizing their goal-directed actions. Sequential, multimodal analysis revealed three contexts that are particularly relevant for noticing environmental resources: (1) during wayfinding (figuring out where to go and how to navigate to the next location), (2) pre-planning talk in preface to making a report, and (3) embodied deixis and verbalized references to aspects of the immediate physical context during the report making task.

For the brief empirical examples to be included in this extended abstract, we focus on the orientation to, noticing of, and use of others' noticings of environmental objects in the pre-planning stage for making reports (#2 above). We present two excerpts that show the way noticings are accomplished in relation to the group's mobility, to the task instructions, and

²⁵ The AR game *ChronoOps* was developed at Portland State University by the 503 Design Collective, a group of faculty and students focusing on technology-oriented research and pedagogical intervention.

to the pre-planning activity. In all cases, gesture and gaze preface the verbalized mention of the noticed item and the noticed item is acknowledged by the other participants.

NOTE: We include technical EMCA descriptions and analyses in the two excerpts shared below. In an oral presentation format, we will show video of four excerpts in total and will describe the findings and salient points in more general and less technical terms since key analytic features are readily visible, and more easily explained, following a viewing of the video data.

EXCERPT ONE: *Noticing while stationary and public noticing as an accountable action*

The context for both excerpts we present is when the groups have located destination number four, which is one of the five places on the campus where the game directs them to make a report. We explore the practices for making noticed aspects of the physical surroundings relevant for their interaction.



In excerpt 1, the group (pseudonyms, Tamás, Beá, and Atilla, left to right) is using Hungarian and has located destination 4. Tamás asks about the task (line 16) and Beá responds by reading the instructions from the phone (starting in line 17: *The toilets in the academic student recreational center use rain water collected from the roof to flush. What are other possible uses of collected rain water?*). They briefly discuss whether to go inside the building and look at the toilets but decide not to because, as Tamás says in lines 65 and 67, since they know how toilets function. Beá's next action is to offer her interpretation of what is intended by the instructions (lines 66 and 68). During her turn, as she begins an adverbial on the word *mas* (other), Tamás shifts his gaze toward the nearby fountain-like water feature -- a kind of bioswale with trees and sedges set in a stream of falling water. As Beá ends her turn, Tamás overlaps the end of her turn with an agreement token and explicitly highlights his turn as offering an exemplar (*for example*) while pointing to the water feature, a gesture which Atilla orients to. He then offers the example of collected rain water being used to water plants. Beá's response treats Tamás' action in lines 70-71 as pre-emptive. In line 73, Tamás asks Atilla what he thinks about the task.

(1) HUNJune5-2016RC1.2 8:00-----

15 B: itt vagyunk.
 here be+1pl
 we are here

16 T: és mi a feladat?
 and what the task+acc
 and what is the task

17 B: "a vécék az Akadem- a vécék az Academic and
 The toilet+pl the Academ- the toilet+pl the
 the toilets the Academ- the toilets in the Academic and

18 Student Recreation Centerban, .hh a tetőről gyűjtött
 the roof+del collect+ppl
 from the roof collected

19 esővízzel vannak lehúzva:.(.)mas kép hogy lehet használni

rainwater+inst be 3pl draw+prpl other image how possible use+inf
rainwater is drawn are there other ideas to use

20 esővizet?
 rainwater+acc
rainwater

((lines missing))

62 T: nem kell megnézni mert tudjuk hogy
 neg need+3s look at (inf.) because know +1pl
we don't have to look because we know

64 B: ja
yeah

65 T: milyen a vécé és hogy
 what kind the toilet and how
what these toilets are like and how

66 B: és [én úgy értem hogy az esővíz
 and I so understand+1s how the rain water
and as I understand it rainwater

67 T: [lehozja
 flush+3s
they flush



68 B: mas |a: (.) dolgokra is lehet
 other thing+pl+sbl also possible
and other uses are also
 |((T looks toward a nearby water feature))



69 használni,
 use+inf
possible

70 T: [igen |példaul
yes for example

|((points and then surveys the area))



71 T: |locsolni lehet a növénye[t,
 water(inf) possible the plant+acc
watering plants is possible
 |((A gaze shift to water feature))



72 B: [igen azt akartam mondani
 |yes I wanted to say that
 |((Beá surveys the area))

73 T: szerinted mire lehet használni az esővizet még mire.
 Think + 2s what+sbl possible use+inf the rainwater+acc still what+sbl
What do you think what can rainwater be use for what else

What we find relevant to our thesis is the indexing of an environmental resource, the bioswale, by Tamás for use in the ongoing interaction. It may be offered by Tamás as a second part of the action trajectory and to support for Beá's candidate understanding of the task. We also note that even though the group remains in closed-group formation during this sequence, the gaze shift and deictic gestures allow them to survey the area to find relevant environmental resources to bring into the pre-planning work for their report. The gaze and gesture make the noticing of Tamás public even before the lexical affiliates for the action and referent are uttered.

EXCERPT TWO: *Adding to the ongoing list: Noticing while moving*

In the second excerpt taken from the same location as above (but a different group, this time ESL students), the fountain/water feature again becomes a salient, noticeable item when the group is in the process of pre-task list making. The group members here are Rain, Cycle, and Air and they are speaking English. One member has just completed reading the instructions aloud. At line 17, Air makes an announcement that initiates a move by the group to the location for making their report about possible uses of collected rainwater. As they walk, Air prompts a listing activity. After a few hypothetical uses are offered in lines 26-33, Cycle, gazing forward, formulates her turn similarly to the previous listed items with an *or* preface. She points toward the fountain and then names the fountain together with a distal deictic (*there*) as a method to locate the item in space. Visual realignment occurs as Rain follows the visual trajectory and Air agrees and expands on the statement in line 29 by saying *yeah heh or a water fountain exactly*.

2) ESLALMay052016RC2.2 (Air, Rail, Cycle) 1:30/00:10

2.1 29:30 34:15

01 Rai: Academic and student oh rec center,
 02 Cyc: oh
 03 Air: mm hm
 04 Rai: () hm:: "The toilets in academic and student research
 05 center:, (.) flush with rain water
 06 Cyc: oh::
 07 Rai: Collected from the roof.
 08 (2.0)
 09 Rai: What are some other ways that rain water can be used.
 10 (.)
 11 Rai: Rainwater.
 12 Cyc: Rainwater
 13 Air: Mm
 14 (.)
 15 Air: So we're supposed to write a note with this.
 16 Rai: Mm yeah.
 17 Air: I wanna go look over there and see if they have other
 18 things.
 19 (6.5) ((the group begins walking eastward))
 20 Air: the- other ways that you u- you can use
 21 rain water
 22 (3.0)
 23 Air: we can think (.) before we get there
 24 (4.0)
 25 Air: u:::[m
 26 Rai: [we we can use it for >like a drink;<
 27 Air: (↑drink [) hah hah
 28 Cyc: [()
 29 Rai: [or maybe maybe to wash like
 30 Air: wash hand[s
 31 Rai: [wash hands
 32 Air: or yeah you could boil and wash
 33 dish[es with it maybe;
 34 Rai: [yep
 35 (1.0)
 36 Cyc: or like |(.) there's a fountain;



37 Air: yea(h) heh or a water fountain exa(h)ctly
 38 Cyc: yeah
 39 Air: maybe the water fountain is just rain[water.
 40 Rai: [yeah

While the formulation of Cycle's noticing turn (*or like*) in line 36 indicates an alternative or expansion on the brainstorming that came before, the physical environment is made relevant not only by the gaze and gesture but also by the syntactic structure that Cycle uses

in her formulation. It is different from the previous formulations in the list-making. The previous listing foregrounded the actions: *use it for, wash hands, boil and wash dishes*. The noticing is made relevant and public with Cycle's gesture and a deictic, existential marker to indicate that a fountain is available to use for the list.

DISCUSSION AND CONCLUSION

EMCA methods were used to show the ways participants index and make relevant material resources in their immediate physical context. These findings support AR place-based task design as a way to foster participants' use of the immediate context and physical environment as raw material for improvisationally and collaboratively achieving the AR tasks. Additional findings in other of our AR research projects (e.g., Thorne et al. 2015; Hellermann et al., forthcoming) show that movement through the environment in small groups provides affordances for language use that illustrate the significance of context on the form and content of communication. As described recently in the enactivism literature,

"we hold that to understand phenomenal experience fully unavoidably requires attending to the original, environment-involving ways in which individuals engage with certain worldly offerings through bouts of extended sensorimotor interaction" (Hutto & Myin, 2013, p. 8).

Through micro-interactional analysis of events related to pre-planning for a report, we show how gaze, gesture, and language are used in an orderly manner to co-construct and maintain intersubjectivity in a way that is enmeshed with, and supported by, physical contexts. This research shows how problems in understanding as well as moving forward next actions are made public via talk-in-interaction, which served to coordinate virtual-digital and sensory-visual information and which eventually led to successfully completing preparation for the report-making task. AR game participants did this by looking around, pointing, reading aloud, and audibly communicating what they could see (and to lesser degrees hear, touch, and smell) around them. Such actions illustrate the integrated, distributed nature of language (Harris, 1998; Cowley, 2009). From this perspective, multi-party co-action arises out of embodied, purposeful, and coordinated languaging activity (Steffensen, 2015).

Arising from our empirical analyses, we use the terms hypercontextualization and situated usage events to describe the intentional structuring of language learning opportunities using mobile place-based AR approaches. In the conclusion to our presentation at the CALL 2017 conference, we will synthesize lessons learned from AR design interventions and make recommendations for future research and continued innovation.

CALL in Context

The focus of this research is the empirical examination of language learners engaged in playing an augmented reality (AR) place-based mobile game for foreign language learning. Designing AR games to highlight and more fully appreciate the local context of specific places is a growing phenomenon, with theoretical grounding in situated learning theory, ethnomethodology, enactivism and distributed cognition, and critical pedagogy (Gruenewald, 2003). In this sense, neither the brain nor the individual are the exclusive loci of cognition; rather, the focus is on understanding the organization of systems, or "cognition in the wild" (Hutchins, 1995), which presumes an ecological view of cognitive activity as organized by the interplay between persons and resources that are distributed across social and material environments. In these ways, distributed, situated, and extended approaches to cognition and communication suggest that human action and development are fundamentally emergent of, and enmeshed with, specific temporal, social, and material contexts. Context is not a container for human activity. Rather, building upon Latour (2005), the proposal is that digital tools and situated human experience form unified ecologies with agency distributed throughout the system. The possibility of distributed agency does not necessarily imply symmetry between humans

and artifacts (see Kaptelinin & Nardi, 2006), but it does suggest that catalysts for action can shift from brains to bodies and to a range of physical and virtual media in the flow of activity. This position contests the dichotomization of artifacts, context, and humans as distinctly independent from one another. Rather, artifacts, context, and humans together create particular morphologies of action.

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Discovery of and Solution to Chinese College Students' Translation Errors**Bio data**



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Abstract

This paper discusses the approaches to the discovery of and solution to translation errors of Chinese college students. An intelligent translation learning and assessment system is under construction. It is supported by Translation Error Corpus of Chinese College Students and Standard Translation Database. In the corpus, the translation errors of the students are analyzed and annotated manually. While in the database, the correct translations are stored. After the students submit their new translations online, the system searches for the corresponding correct translations in the Standard Translation Database and contrasts them with the translations of the students. Then the results of the contrasts are presented to the students as the personalized feedback with the aid of the Translation Error Corpus which indicates their error types. Therefore, the corpus can discover the translation errors of the students and the database can provide the students with solutions to overcoming their translation errors.

Conference paper

The role of translation in language teaching has been reassessed. Translating is not only regarded as a language skill, but also as a means of language learning (Cook, 2010). This paper discusses translation as an approach to discovery of and solution to English language deficiency of college students.

An intelligent translation learning and assessment system is under construction. This online platform is to help students learn the techniques of translating from Chinese into English and to self-test their translating abilities after class. It can score the translations of the students automatically and provide individualized feedback concerning their errors.

Two databases are built to support the system. One is the Chinese-English Translation Error Corpus of Chinese College Students, and the other is the Standard Chinese-English Translation Database.

The Chinese-English Translation Error Corpus of Chinese College Students is composed of the translation errors of students and the error coding information. All of the errors are annotated manually with the error types, error names, and the location number of the errors in a sentence.

The error types are classified as

1) Semantic Errors. These errors are further classified into Incorrect Dictions, Improper Dictions, Improper Collocations, Incorrect Translation of Proper Nouns, Incorrect Translation of Terminologies, and Incorrect Spellings.

2) Grammatical Errors. These errors include Incorrect Singular and Plural Forms, Misuses of Parts of Speeches, Incorrect Translation of Tenses, and Syntax Errors.

3) Translational Errors. These errors refer to Improper Addition of Words and Omission of Words.

The Standard Chinese-English Translation Database is composed of the standard translations in the form of sentences and multiple clusters of synonymous words, phrases, and clauses within a sentence. Each original Chinese sentence has at least the translations of six experts in English in the form of sentences with multiple clusters of synonymous words, phrases, and clauses derived from the translations of experts as well as from the correct translations of students. The reason for this is to provide the translation scoring module with more options to match the new translations of students when carrying out the task of scoring.

To discover the English language deficiency of students from the perspective of their translation errors, the frequency of all the errors occurred in the Chinese-English Translation Error Corpus is calculated. The results show that improper diction ranks the highest, followed by improper collocation, incorrect spelling, omission of meaning, incorrect singular and plural form, incorrect translation of tense, misuse of part of speech, and improper addition of meaning. It is found that semantic errors account for the largest proportion. For example, the Chinese expressions "kou gan" and "jing xin zhun bei", which should be translated into "taste" and "exquisitely prepared", were incorrectly translated into "mouth feeling" and "full-heart prepared", while the Chinese expression "you yi ge gong tong dian", which should be translated into "have something in common", was incorrectly translated into "have a common point".

To help the students avoid the errors and learn the idiomatic expressions in English, a feedback module was built into the system, which is supported by the Standard Chinese-English Translation Database. When a student submits his translations, the system first scores the translations. Then, it searches the translations with the aid of Chinese-English Translation Error Corpus to find the errors. Next, it will take the right translations in the form of sentences as well as in the form of words, phrases and clauses from the Database and give them to the student according to his errors. By referring to the results from the Database, the student can learn as many right expressions as possible. Thus, his English proficiency can be improved.

Obviously, the Translation Error Corpus is able to provide to the student the accurate error information of his/her translations which can represent their language deficiency, and the Standard Translation Database can supply a complete solution by providing the corresponding correct expressions. Therefore, the corpus approach can not only find out the language deficiency of students, but also provide the solutions.

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CALL in Context

Due to the profound differences between the English language and the Chinese language, Chinese learners of English always find that learning English is painful and time-consuming. Having learned English for more than 9 or 10 years, most college students cannot communicate well, either orally or in written form. What are the problems? Can technology play an effective role in finding out the problems and solving them?

Translation has been regarded as an effective method to teach foreign languages in China. It has also been used as a means of language testing to find out the problems of testees' understanding of the source language and their expressing of the target language. Therefore, the translation errors of students are regarded as the most effective means of discovering their language defects.

The Translation Error Corpus of Chinese College Students is a rich set of the target language deficiency of students. Based on the big data obtained from the corpus, the model of the language defects of specific students can be built and analyzed, which can help teachers to know exactly about their students' weaknesses. Thus, language learners' error corpus plays a key role in our context.

Similarly, another kind of corpus, the Standard Translation Database, can not only give the corrections to the translation errors of students, but also provide the solutions to improving their target language. Moreover, the feedback can be personalized based on the individual contrasts between the new translations of a student and the corresponding standard translations in the Database. Therefore, the Standard Translation Database of Target Language can afford context-dependent enrichment and personalization of the learning process, and the contrasting model of the translations of students with the standard translations can help to obtain the features of the target language deficiency of students.

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The application of flipped classroom to the process of teaching students at universities

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Abstract

Flipped classrooms have been applied by lots of educators and teachers all over the world to the teaching process to innovate their methods compared to the traditional ones. As for traditional classrooms, face-to-face learning has not brought the personalization of learning capacity, time, attitude, behavior and interests to learners and has not exposed them to experimental activities. Meanwhile, flipped classrooms enable students to be flexible in their learning and have more time to study lessons through the videos, lectures posted on the internet, which helps students to acquire the lessons through the online learning system and the videos again and again, creates more interaction between students and teachers and especially encourages the students who are absent to master the lessons the teachers give in class. However, teaching using the model of flipped classrooms for each student at universities in Vietnam requires: the online learning system, database, learning contents, learning methods, schedules, lectures (in PowerPoint, word, scrom, video, audio). This is a difficult matter and takes a lot of time. This paper presents the construction of an environment supporting students to take part of a lesson online before and after class and organization of experimental teaching with the process of learning in groups based on the model of flipped classrooms to make students to be active in their learning. The quantitative results at the end of the course

showed the proposed process and teaching method were superior to those in the courses using traditional methods in terms of learning attitude and behavior.

Conference paper

Traditional classrooms have appeared since the presence of the school system. They are the basic kind of learning carried out by certain units of knowledge called "lessons" and organized in a classroom with students. It creates conditions for teachers to apply their teaching methods to providing the whole class with a relative amount of knowledge in a short time. There are supporting sources from the internet such as forums, social networks, but in traditional classrooms, there is a lack of connection among learners, instant help, personalization and profound experience. With this learning form, it is hard for teachers to apply the methods enabling students to learn actively, creatively and positively and have more experiences. In addition, learners often acquire knowledge passively, so the acquired knowledge does not last long and it is difficult to develop core competences meeting the requirements of the 21st century. The appearance of flipped classrooms is a breakthrough in the learning methodology and organization. Thus, what is a flipped classroom? Why should flipped classrooms be applied?

- According to Information Technology Services at Penn State (2011), "flipping the classroom is referred to as a pedagogical concept that replaces the standard lecture – in- class format with an opportunity to find out concepts as well as to review materials from outside of class.
- Jonathan Bergmann, Aaron Sams (2012): The flipped class, in brief, is direct instruction delivered to the individual outside of class so there is more strategic use of in-class time for group work and individualized attention.
- Bishop & Verleger (2013), "flipped the classroom is: students carry out a review of the course lecture online prior to the class session, and also spend some time on problem-solving activities together with exercises in class that are traditionally given as homework assignments.

Why Flipped Learning? Jonathan Bergmann and Sams (2012) pointed out 8 reasons for applying Flipped Learning. Fulton (2012) listed 13 contents of the advantages of flipped classrooms. In 2006, Prof. Bill Brantley introduced a model of flipped classroom at the Conference on College Teaching and Learning by American Political Science Association. He described the use of the two instances for classrooms when sending materials through Learning Management System (LMS). In 2007, Jeremy Strayer published the research carried out at Ohio State University with the title "The effects of the classroom flip on the learning environment: a comparison of learning activity in a traditional classroom and a flip classroom that used an intelligent tutoring system". In 2011, two centers of Wisconsin Collaboratory for Enhanced Learning were founded for the purpose of flipped classrooms.

According to the survey by Sophia Learning and Flipped Learning Network, the number of teachers applying flipped classrooms in the teaching process in the USA increased to 78% in 2014, compared to 48% in 2012. In the USA, since the foundation in 1/2014, the total number of teachers taking part in the flipped learning network went up from 2,500 to 20,000 in 6/2014. Zappe et al. (2009) carried out the research on the engineering course at the university using the model of flipped classrooms, and the feedback showed that the students were satisfied with this model and their learning outcomes were good. Strayer (2012) and Ruddick (2012) studied and compared traditional classrooms and flipped classrooms. The feedback showed that flipped classrooms made the students more satisfied with their learning outcomes at the end of the courses, compared to the traditional classrooms.

In Vietnam, in the past years, there have been institutions applying this model such as FPT University, VATC Vietnam America English Center, Apollo English Training Center and online learning websites. In 2013-2014, the model of flipped classrooms was applied by Ngo Tu Thanh and Tran Van Hung at Hanoi University of Technology and University of Education – The University of Danang. Although the result showed that students were positive, it was found that there was difficulty in encouraging students to be self-aware of doing part of a lesson at home and participating in discussion in class.

The researches on flipped classrooms have pointed out that this model enables students to be active in learning and managing their time. However, most of the researches have faced obstacles due to the factors such as technology, time, policies on subjects, thinking, training, the process of organizing classrooms and the factors affecting flipped classrooms directly (teachers' pedagogical skills, skill at information technology, professional skill). These matters will be discussed in the next part.

1.Contents

1.1. The necessary factors ensuring the successful organization of flipped classrooms

Thinking: This is an important factor and a big obstacle that teachers have to deal with. Why? Students are accustomed to traditional classrooms at high schools, so they will have difficulty in changing their thinking with the model of flipped classrooms. Thus, before flipping classrooms, teachers have to consider their teaching methods to encourage students to get used to this model.

Time: In flipped classrooms, when is the important time to convey information to learners? The information includes instructions on students' learning, learning schedules, contents, time for testing, time for homework submission...This is also an obstacle for teachers. If teachers make a schedule with detailed time before class or at home and introduce policies on subjects, specific and clear contents for lessons, ways of assessment, requirements for each week, students will have a better preparation and be more active before class. Teachers have to find proper time to create videos and lectures for the interaction with students before class or after class.

Technology: To apply this model, teachers do not simply upload videos on Youtube or Facebook, but more importantly they have to manage the status of students' learning and interact with them. However, most teachers and students are not specialized in information technology, so using too much technology for classrooms is not an easy thing. This is a big obstacle in developing this model in Vietnam. It is also the reason why this model is hardly applied in some institutions in Vietnam. To overcome this difficulty, it is necessary to find out a comprehensive solution, which provides features that allow teachers to freely post lectures online, organize classes, interact with students, and manage students' learning efficiently.

Training: Training is also an important step in helping students to navigate the way they learn, know how to flip the classroom, how to learn through videos and lectures with Scrom format at home. Teachers have to provide videos on instructions such as instructions on logging in the learning support system, instructions on how to interact with assignments, videos or lectures after the first log-in. Thanks to them, students will get familiar with the model of flipped classrooms. It is believed that the more detailed and specific the instructions by teachers are, the more students adapt to this model. Training is useful in enabling students to change their modern thinking.

1.2. The procedure for organizing flipped classrooms

The characteristics of different flipped classrooms vary. However, it is necessary to develop a procedure for organizing flipped classrooms for teachers. The procedure is a path and a set of sequences leading teachers to the efficiency of teaching. The procedure for organizing flipped classrooms is developed as Figure1.

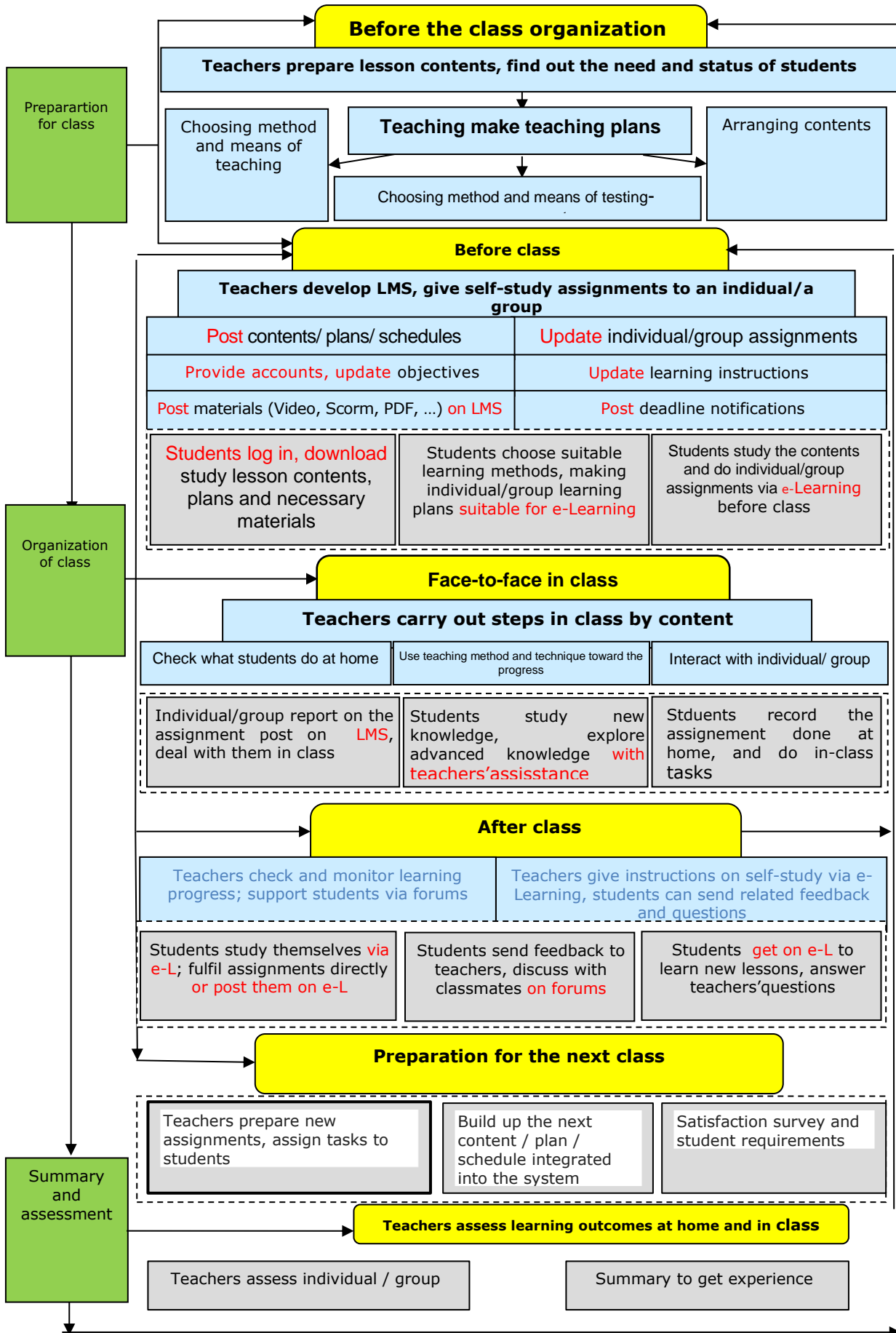


Figure1. Procedure for organizing classrooms with the model of flipped classrooms

1.3. Organizing classrooms by group for the module "Theory of Computation" with the model of flipped classrooms

The experimental teaching process was carried out for 5 classes 12CNTT, 13SPT, 14SPT, 14CNTT and 16CNTT at University of Education – The University of Danang via the module "Theory of Computation". The experiment for classes 12CNTT and 14SPT was done in the first term of the academic year 2015-2016. The experiment for classes 14CNTT and 14SPT was in the first term of the academic year 2016-2017 and the experiment for classes 14CNTT and 16CNTT in the second term of the academic year 2016-2017. The experiment was based on the proposed procedure through the lesson "PushDown Automata". The details are as follows:

Before class organization, an environment helping students to interact and study at home was created (which is called the learning support system). It provides the contents relating "PushDown Automata" including instructions on how to register and log in, schedules, the syllabus and contents of the chapter (videos on PushDown Automata, lectures in Scorm format, the textbook in PDF, open-answer questions and multiple choice questions for testing). Besides, an environment for members in a group interact online, exchange and see each other on the internet (similar to Skype for Business) was developed on <http://tuhoc.ovn.vn> and <https://blearning.vn>.

The lectures were packed in Scorm: the lectures were designed in PowerPoint and IsPring suit 7.0 by the method of introducing problems and dealing with them. The questions were put in the increasing order of cognitive levels, which enables students to be more interested in studying the lectures themselves at home. The various exercises were attached with detailed instructions and modeled specifically.

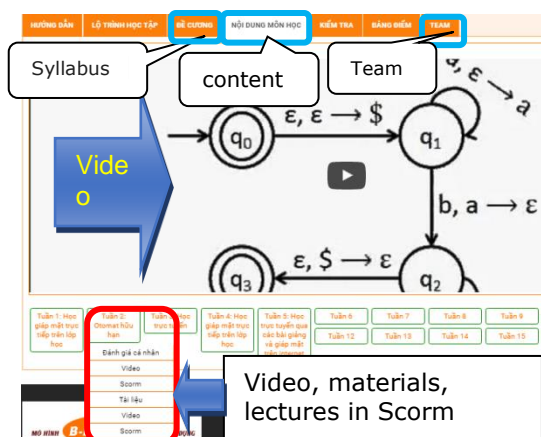


Figure 2. Interactive environment

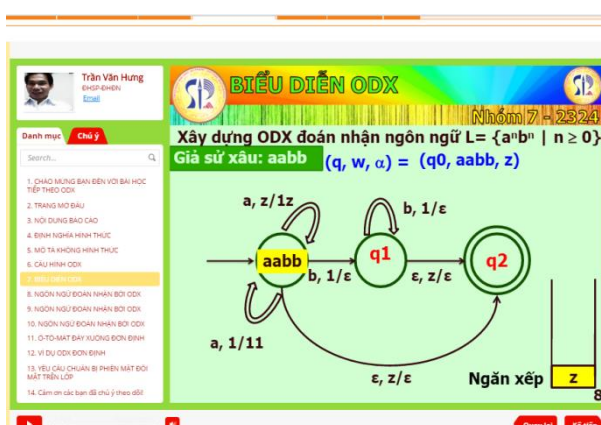


Figure 3. Modelled lecture in Scorm

Creating interactive videos: Lectures in videos were done in a way that increases the interest and interaction for students, which is introducing problems and questions to awaken students' curiosity to find out answers (regardless whether they can answer or not). Videos with situations and open-answer questions were created to enable students to give feedback in the forums or find out solutions to explain in class.

Creating an interactive environment at home: In the system, there is a feature for group interaction with teachers at home. Specially, groups and members in a group can interact with one another (like live stream on facebook or Skype for Business). Thanks to this feature, students can discuss and give feedback on lessons more conveniently and quickly.

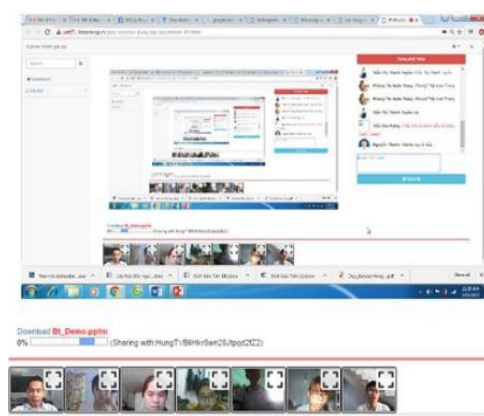


Figure 4. Group exchange online

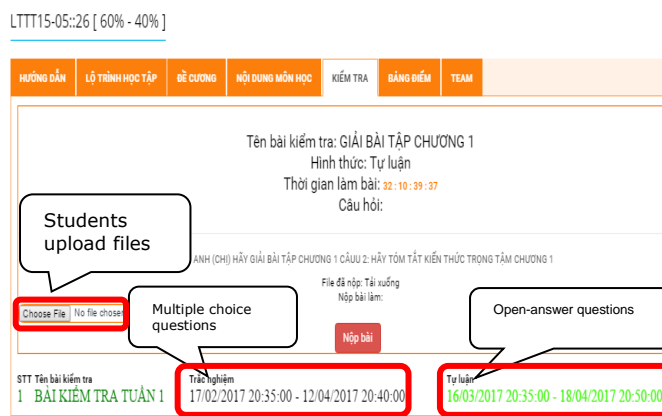


Figure 5. open-answer and multiple choice testing interface

Creating a testing environment: In the learning support system, there is a feature for checking students' learning at home before and after class. Teachers can give multiple choice and open-answer questions to assess students before and after class. Time for answering testing questions is allocated. After students finish multiple choice answer testing the system will display and save their points. When they do open-answer exercises, they can write or type and then upload files on the system for teachers to grade them. After the class organization using the proposed procedure was carried out, the results were as follows:

Table 1. The results of group assignment at home after 5 questions

Questions	Accomplished questions								Bloom's Taxonomy
	N1	N2	N3	N4	N5	N6	N7	N8	
1	Describe the working and demonstrating principles and configuration of the PushDown Automata (ODX)								Remembering
2	<p>For the diagram as shown, indicate that the PushDown Automata (ODX) has an algebraic prediction of $a^n b^n c^n$ ($n > 0$), given the case of $n = 4$.</p>								Understanding
3	Do at least 2 exercises, page 169 in the textbook "Formal and Automata Language" by Assco. Prof. Nguyen Thanh Binh, PhD [1]								Applying
4	Compare the similarities and differences between ODX and finite Automata.								Analyzing
5	Develop ODX that has an algebraic prediction of $a^n b^n c^n$ ($n > 0$)?								Creating

Table 2. The rate of group accomplishment after 5 questions

Questions	Accomplished questions								Accomplishment rate
	N1	N2	N3	N4	N5	N6	N7	N8	
1	x	x	x	x	x	x	x	x	100%
2	x	x	x	x	x	x	x	x	100%
3	x	x	x	x	x	x	x	x	75%
4	x	x	0	0	x	0	x	0	50%
5	0	0	0	0	0	0	x	0	12,5%

(N_i: Group i; x: accomplished; 0: unaccomplished)

Table 2 shows that most students accomplished the first two questions, For question 4, 4 in 8 groups did not accomplish them, and for question 5, only group 7 accomplished it. There is not necessarily one answer to each question, so the representative of Group 7 was made to defend their viewpoints, and the groups discussed why some of them did not accomplish the questions. Then, the assessment of the discussion was given. Simultaneously, questions 4 and 5 were explained and analyzed intensively to the groups. Finally, the lesson was summarized.

2.Results

Quantitative

In order to confirm the quality of the pedagogical experiment, the mathematical statistics on the results of the two classes after the experiment was processed and the two testing papers on the chapter were controlled. The data was collected as follows:

Table 3: Frequency on points of the testing paper after the experiment

Group	Total number of students	A (8.5-10)	B (7.0-8.4)	C (5.5-6.9)	D (4.0-5.4)	F (<4.0)	\bar{X}	S ²	S
Control (DC)	39	5	12	17	5	0	6.83	0.90	0.95
Experiment(TN)	41	11	18	9	3	0	7.52	1.07	1.03

Next, the t- student test was used to consider and check the efficiency of the pedagogical

experiment, The result was: $t = \frac{\bar{X}_{TN}}{S_{TN}} = 2.65$.

In the t- student distribution table, for N=41 and $\alpha = 0.05$, the result is $t_{\alpha} = 1.67$. Thus, it can be found $t = 2.65 > t_{\alpha} = 1.67$. It means that the pedagogical experiment gives a positive result.

Then, the variance of the experimental group and the control group was tested with the assumption H₀: "The difference in the variance between the experimental group and the

control group is not significant". The quantitative result was as follows: $F = \frac{S_{TN}^2}{S_{DC}^2} = 1.18$

The critical value F_α in the F distribution table for $\alpha = 0.05$, f_{TN} = 41 and f_{DC} = 39 is 1,69. It can be seen $F < F_{\alpha}$: H₀ was accepted. It means that the difference in the variance between the experimental group and the control group is not significant. In order to compare the experimental results, the assumption H₀: "The difference in average points between the two samples is not significant with the same variance" was

tested. For $\alpha = 0.05$, and $N_{TN} + N_{DC} - 2 = 41 + 39 - 2 = 78$, in the t- student distribution table, it is $t_{\alpha} = 1,66$. The value was calculated with the formula:

$$t = \frac{X_{TN} - X_{DC}}{s \cdot \sqrt{\frac{1}{N_{TN}} + \frac{1}{N_{DC}}}} \quad \text{with} \quad s = \sqrt{\frac{(N_{TN} - 1)S_{TN}^2 + (N_{DC} - 1)S_{DC}^2}{N_{TN} + N_{DC} - 2}}$$

The result was $t = 2.9 > t_{\alpha} = 1.66$. The H_0 was rejected, which means that the difference in average points between the two samples is significant. The results showed that the learning quality of the experimental group is better than that of the control group.

From the analysis, it is concluded that in terms of both knowledge and learning quality, the experimental group is better than the control group. This proves that the model applied brings learning efficiency to students.

Qualitative

Together with the statistical assumption testing based on the points gained by students, qualitative assessment was carried out in terms of attitude, groupwork, satisfaction... 195 students from the 5 classes were made to assess the learning process with a questionnaire including 12 questions relating the class organization. (191 students gave feedback and 4 students did not. The feedback is important for the implementation of teaching methods and adjustment in learning schedules as well as contents ...). The feedback results are as follows

Table 4: Students' satisfaction with the organization of flipped classrooms

Questions	5		4		3		2		1	
	No of sts	%	No of sts	%	No of sts	%	No of sts	%	No of sts	%
1	103	54%	65	34%	15	8%	6	3%	2	1%
2	110	58%	51	27%	20	10%	7	4%	3	2%
3	112	59%	58	30%	14	7%	5	3%	2	1%
4	109	57%	63	33%	11	6%	5	3%	3	2%
5	114	60%	61	32%	10	5%	4	2%	2	1%
6	112	59%	59	31%	12	6%	5	3%	3	2%
7	101	53%	69	36%	10	5%	7	4%	4	2%
8	99	52%	70	37%	15	8%	4	2%	3	2%
9	120	63%	57	30%	9	5%	2	1%	3	2%
10	107	56%	55	29%	21	11%	6	3%	2	1%
11	105	55%	55	29%	19	10%	8	4%	4	2%
12	111	58%	54	28%	18	9%	6	3%	2	1%

The results of the survey in Table 4 show the level of students' satisfaction after the lesson. The highest levels are "Absolutely agree" and "Agree" in all sentences, demonstrating the fact that the course using the group methodology based on the model of flipped classrooms enables students to be completely active, creative and interested in learning. It is also found that for questions 2, 7 and 11, 4% of students "disagree" or the highest rate of students who "absolutely disagree" is only 2%. Specially, for questions 3, 5, 9 (Organizing a group of discovering chance and situations to widen

knowledge, applying the contents to reality, Being hard-working, enthusiastic, active and interested in dealing with learning tasks, accepting different viewpoints and being willing to work others, Lecturers are willing to give advice and support to groups at home and in class), the highest rate of students who " *absolutely* disagree" is only 2%. This proves that students are satisfied with the model.

Conclusion

Through the researches in the world and in Vietnam, along with the development of information and communication technology, teaching technology has gradually brought benefits and effectiveness to teachers and students. The model of flipped classrooms has confirmed the efficiency in class organization when teachers know how to use teaching technology flexibly and students are active and creative in learning. Flipped classrooms enable students to have more time for practical research, study lessons repeatedly and help those missing classes to study the lessons again on the system as well as take part in the discussion online or in class. However, not all teachers can apply this model successfully because it depends on factors including skill at information technology, facilities and four obstacles which are technology, time, thinking and training. The proposed model and procedure have helped teachers to post lectures conveniently, interact with students online and create favorable conditions for students to learn. Nevertheless, there are still shortcomings needing to be overcome to encourage teachers to enhance their professional skills and apply suitable teaching methods in specific situations.

CALL in Context

The context of social development nowadays is characterized and led by an important tendency that is referred to as the orientation towards a knowledge-based society or an information society. In the knowledge-based society, information has become an extremely important commodity. Computers, the internet and related technology are playing a major role in the storage and transmission of information and knowledge. Intellectual information becomes the most decisive factor in creating wealth, employment, and enhancing competitiveness. In practice of the application of IT to education and teaching at schools, more and more areas of IT application have been explored, many scientific ideas have been proposed and put into practice, and lots of experience has been shared and popularized. Thus, the initial challenges of IT application have gradually turned into chances for an innovative education in the global Internet era. However, depending on teachers' capacity for IT, facilities and students' styles, teachers apply IT at a suitable level. The paper focuses on the capacity for applying IT to students' learning to "teach less and study more", and increase learners' activeness and self-study. With the rapid development of science and technology, the volume of knowledge has been created rapidly, requiring each person to learn regularly, continuously, learn through their life, learn all the time and anywhere. In order to help students to do that, it is essential to develop a student-centered learning environment. Modern teaching technology and software were used to design a learning environment written on web to enable students to use their computers, cellphones, tablets,... to learn part or the whole lesson through videos and lectures in Scorm format and PDF. To apply the model of flipped classrooms successfully, technology is indispensable. Technology helps students to personalize their learning, study lessons through videos and lectures presented by teachers times again. The designed videos and lectures increased the interaction between teachers and students through "problematic" questions and stimulated students' curiosity. According to the theory of constructivism and cognitive theory, learning repeatedly will help students to acquire lessons and develop competences and creative thinking. In addition, the effectiveness of flipped classrooms and the factors affecting the class organization using this model were introduced. Specially, the proposed procedure for organizing flipped classrooms brought advantages to teachers in teaching and students/ groups of students in their preparation before

class. Moreover, to test the feasibility of the designed procedure, interactive videos and lectures, the quantitative and qualitative experiments were carried out. The experiments are important in assessing the knowledge as well as learning quality, attitude, behavior of students in the experimental class and control class to indicate the difference between students in flipped classrooms and students in traditional classes. The results are based on mathematical statistics.

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The proposal of blended learning towards learning styles in training students at universities

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Abstract

A student's learning style is a category referring to differences in learning. Each student has his own strengths and weaknesses in the leaning process at university. They can be gathered and highlighted through the effective teaching process. However, the matter put forward is which teaching model will be used to make the teaching process effective based on learning styles? This article presents how to make the teaching process effective based on the model of blended learning by Michael B. Horn and Staker, the

model of learning styles by Martinez M., other theories and experimental methods, then proposes measures and constructs the model of blended learning towards learning styles enabling the teaching process to meet students' need, interests, competences and experience. The experimental findings to evaluate the reliability and validity of the scale showed that this model was superior to the traditional courses.

Conference paper

1. Introduction

The objective of higher education is to equip learners with good moral and ethical qualities, qualifications corresponding to the level of training, and the ability to solve common problems in the specialized field. Hence, teaching students should focus on the goal of higher-order thinking skills (creative thinking, problem detecting and solving, self-learning...). Furthermore, lecturers have to know how to develop students' activeness, creativity and personalization to help them meet the requirements of the society. It is necessary for lecturers to create a proper learning space and choose the best model to strengthen the role of learners, avoid passive learning and foster self-learning to lead them to lifelong learning. From that requirement, the adaptable learning model called "learning style- based blended learning" was analyzed, designed and applied to the process of training students at universities.

- What is the learning style- based blended learning?
- Why was this model designed?
- Why was the theory of learning styles by Margaret Martinez (2002) applied?
- Why was the model of blended learning by Michael B. Horn and Heather Staker (2011) applied?
- What are the distinctive features of the learning style- based blended learning, compared to other learning models?
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What is the learning style- based blended learning?

The researchers in teaching and education have defined blended learning as the best combination of online learning and face – to – face learning. The studies (by Abdullah Sanusi Ahmad, 2003; Singh, H. 2003; Dziuban, C.D., Hartman, J.L., & Moskal P.D., 2004; Harris., Connolly, J., & Feeney, L., 2009; Moebs & Weibelzahl, 2006; Garrison, D.R. & Vaughan, N.D., 2008; Michael B. Horn and Heather Staker, 2011; Mohamed Amin Embi, Afendi Hamat & Abdul Halim Sulaiman, 2012; Lungu I., 2013; Curtis J. Bonk và Charles R. Graham and Andrew S. Gibbons, 2014) on the advantages of blended learning proved that when this model is applied by teachers, the efficiency of students' learning increases. However, depending on students' learning styles, characteristics and backgrounds, teachers design a blended learning environment in a way that is suitable for students. To apply this model successfully, it is essential to develop an online learning environment adaptable to learners together with effective traditional classroom methods. Thus, the learning style- based blended learning can be defined as "the best combination of online learning and face – to – face learning *applying different methods to different learning styles*".

For example: For Student A with learning style B, method C can be applied (x% online and y% face – to – face)

Why was this model designed?

Learning styles are a very diverse category, which can be considered as the differences in individuals' learning. Every student has different strengths and weaknesses in the training process at university. These strengths and weaknesses can be synthesized and highlighted through an effective teaching process applying a suitable model. Meanwhile, the advantages of blended learning in teaching and learning are flexible. According to Michael B. Horn and Heather Staker (2011), in the model of blended learning, there are different kinds of combination depending on the diversity of classrooms. According to Curtis J. Bonk and Charles R. Graham, (2012) BL can be applied at 4 different levels (Activity level, Program level, Course level and Institutional level). The research by Eddie

Gulc, Senior Adviser, (2006) titled *"Using Blended Learning to Accommodate Different Learning Styles"* pointed out that when the learning style-based blended learning is applied, teachers' methods will be effective and students' learning based on their styles will produce positive outcomes. If a model meets the elements of "blended learning and learning styles", it enables learners to personalize their learning and flexibly creates more opportunities for their academic success.

Why was the theory of learning styles by Margaret Martinez (2002) applied?

There are lots of researchers in learning styles worldwide and the studies on learning styles are abundant and diverse, with different approaches. Coffield and fellows (2004) enumerated 71 notable learning styles models in the world and he assessed 13 of them. The models currently applied the most in Vietnam are the models by Witkin (1962), David Kolb (1970, 1981, 1984, 2001), Bernice McCarthy (1970) Pask (1976) Entwistle (1979), Miller (1991), and Myers – MacCaulley (1985). In 2002, Margaret Martinez introduced *Four Learning Orientations including: (1) A Transforming Learner, (2) A Performing Learner, (3) A Conforming Learner, (4) A Resistant Learner and the relationship among 3 important structural elements: (1) Emotional/Intentional motivational aspects, (2) Self – directed strategic planning & committed learning effort, and (3) Learning autonomy*), suitable for adults and online learning.

Why was the model of blended learning by Michael B. Horn and Heather Staker (2011) applied?

In 2011, Michael B. Horn and Heather Staker studied and designed the model of blended learning including 4 sub-models (Figure 1): (1) Rotation model, (2) Flex model, (3) Self-blend model, (4) Enriched Virtual model. In the book titled *"Blended Using Disruptive innovation to Improve Schools"*, the foreword by Clayton M. Christensen presents full contents: Understanding about Blended learning, Are All Classrooms Going to Blend?, Mobilizing, Designing, and Implementing. This can be considered a complete model of blended learning in theoretical terms. However, the effective development of face- to-face learning and online learning environment with the support of technology is prevented by factors including the advanced technology and teaching aids.

What are the distinctive features of the learning style- based blended learning, compared to other learning models?

First, this model enables learners to choose the method with x% face – to – face and y% online (total 100%). It depends on learners' contexts, time...

Second, this model allows learners to choose suitable learning styles with individual methods to acquire information.

Third, with this model, online learning is similar to offline learning (students can interact with teachers, students can interact with students, and the interaction between teachers and students online is similar to that in traditional classrooms thanks to the tool programmed and integrated into the online learning system). Specially, in the model of online learning, the learning management system (LMS) is developed and teaching is divided into 2 parts "theory" and "practice". In the designed model, all the contents of a certain lesson are displayed on the computer or cellphone screens. Only using computers, cellphones, tablets..., students can interact with one another, other members in the group and teachers like Skype for Business. They can also watch lectures in Scorm, Video, text,... Teachers can also give students lectures in PowerPoint, Word, PDF, Scorm and modeling software on the personal computer by sharing the screen with students.

Fourth, this model consists of sufficient elements of a teaching model (Objective, content, method, material, means, result). (Figure 2)

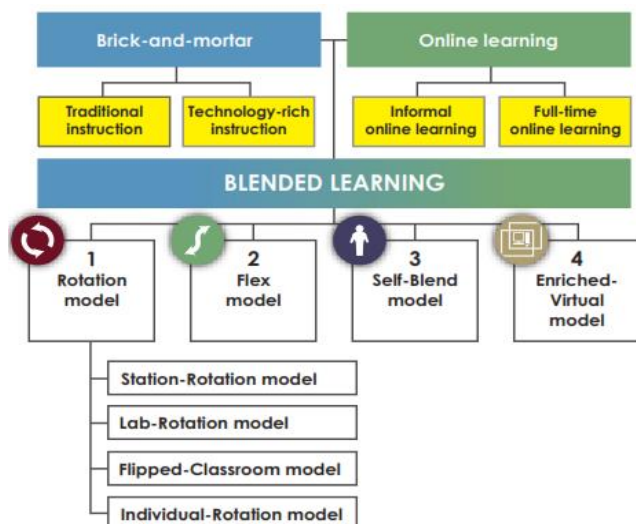


Figure 1: Blended learning by Michael B. Horn and Heather Staker (2011)

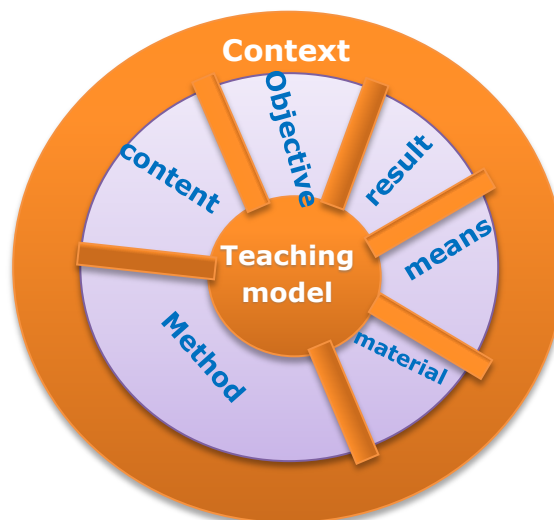


Figure 2: Elements of a teaching model

2. Developing learning style-based blended learning in the process of training students at university

The learning process of students, who are adult learners, is a process of acquiring knowledge and skills to achieve the goal of improving personal and learning ability which enables each individual to work faster, better and more professionally. This learning process is supported by the training process, in which training will guide learners through specific guidelines, assisting learners in gaining new knowledge or applying new knowledge by a specific method or reaching a level of efficiency in a certain period of time. Therefore, it is necessary to consider effective solutions which are suitable for learning styles and methods of blended learning in designing a teaching model.

Principles of designing the model

Principle 1: Being scientific, modern and suitable for learners

The volume of knowledge in lectures has to be accurate, proper and scientific. Materials are selected from reliable references, suitable for the requirements and trend in development of training students at university.

Principle 2: Ensuring logical and systematic knowledge

The learning contents are developed by chapter and week, making lessons logical.

Principle 3: Ensuring contents

Teaching methods are defined by contents. The teaching methods have to enable learners to improve their activeness, creativity, experience, self-study and self-research. Depending on contents, the applied methods should be close to objectives, students' characteristics, and available sources such as time, equipment, materials and contexts.

Principle 4: Ensuring visual intuition

Visual intuition is an objective reality that improves learners' perceptions and develops abstract thinking. It is the first stage of the cognitive process, which is the direct reflection of things, phenomena through the human senses. Vladimir Ilyich Lenin outlined the process as follows: "From visual intuition to abstract thinking, from abstract thinking to reality."

Principle 5: Being pedagogical

This principle disperses difficulties for students. It sets the selection and division of materials according to individual characteristics. This principle considers the movement of

knowledge from simple to complex, from individual and specific to more general and intensive. The e-learning system must fully implement the phases of the teaching process, from the consolidation of knowledge, the formation of new knowledge, revision and systematization of knowledge to the assessment of knowledge.

Principle 6: Ensuring computer - human interaction

This principle ensures learners' adaptability to programs and lectures integrated into the online learning system, or on personal computers. According to the Special Interest Group on Computer-Human Interaction SIGCHI: "*Computer - human interaction* is a field that involves the design, evaluation, installation of interactive computer systems for human use and the study of phenomena happening on them". This principle focuses on learners' adaptability to the course contents, subject contents, and the objectives of the systems aiming to provide the contents suitable for individuals.

Principle 7: Ensuring flexible and effective application of information technology

Currently, there are many teaching software pieces, learning support systems in the world, along with strong development of information and communication technology. Thus, it is essential to choose proper tools flexibly to design effective lectures ensuring visual intuition, science and intellectual property.

For example: There are lots of tools supporting the design of lectures such as PowerPoint, Violet, IsPring Suit, Adobe Presenter.

Some of the support systems for designing online courses are CMS Module, CMS eFront, CMS Drupal.... These are the systems serving the field of education applied by educators in the world.

The process of designing learning support system with the learning style-based blended learning

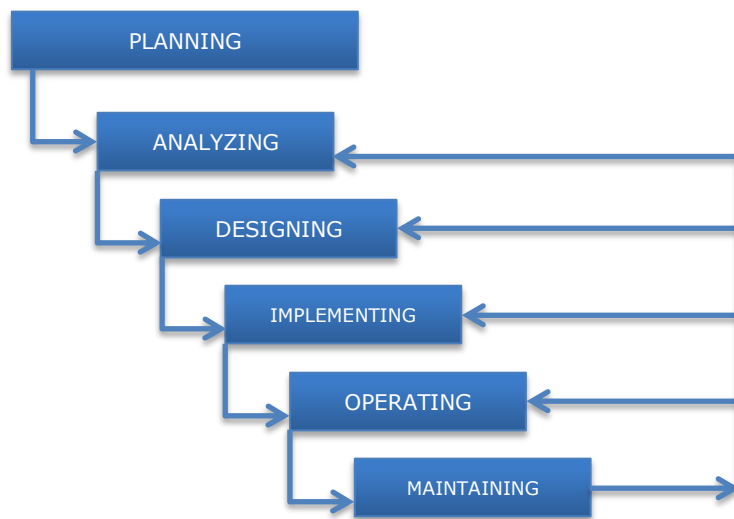


Figure 3: Process of designing the support system

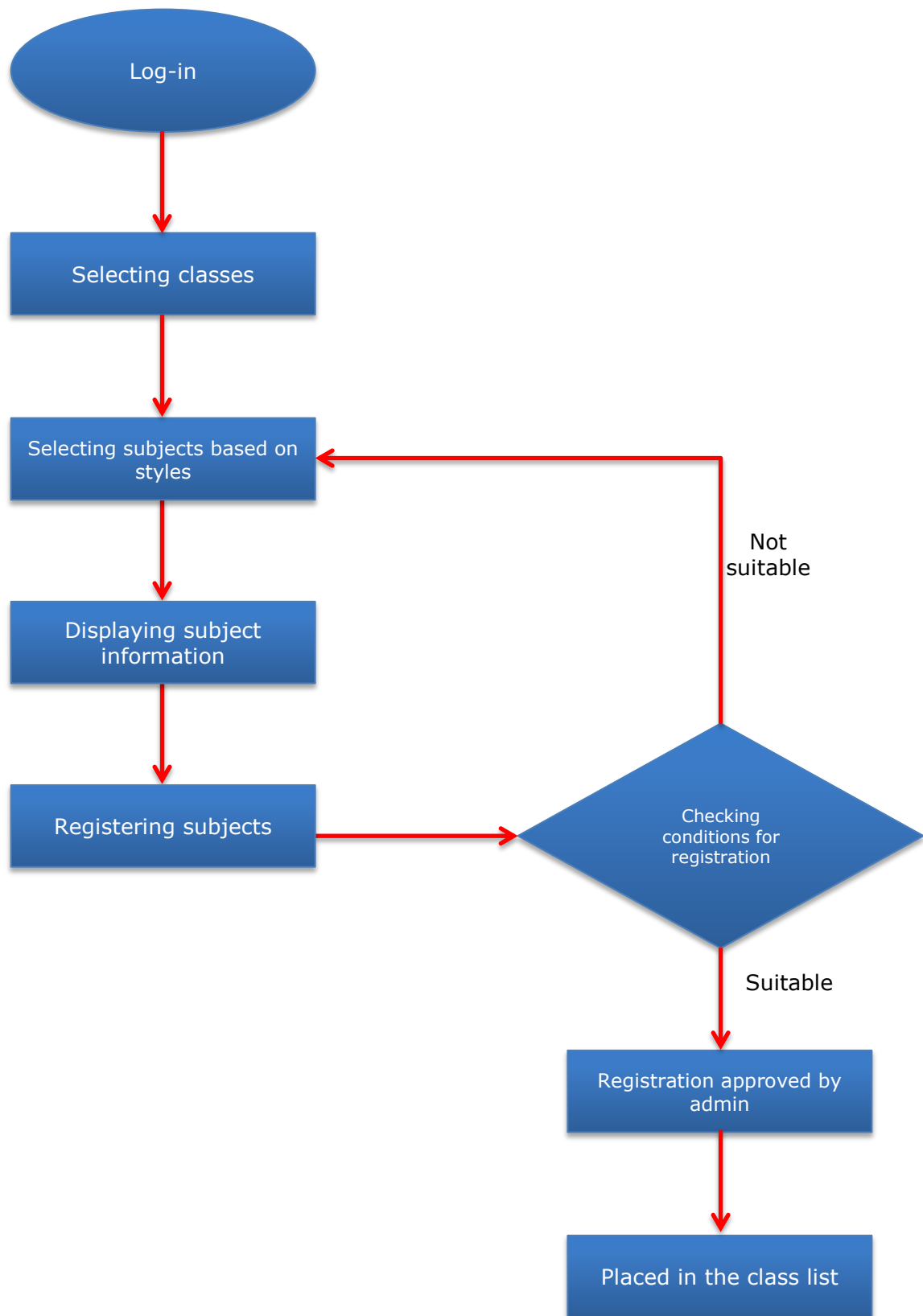


Figure 4: Process of registering a course

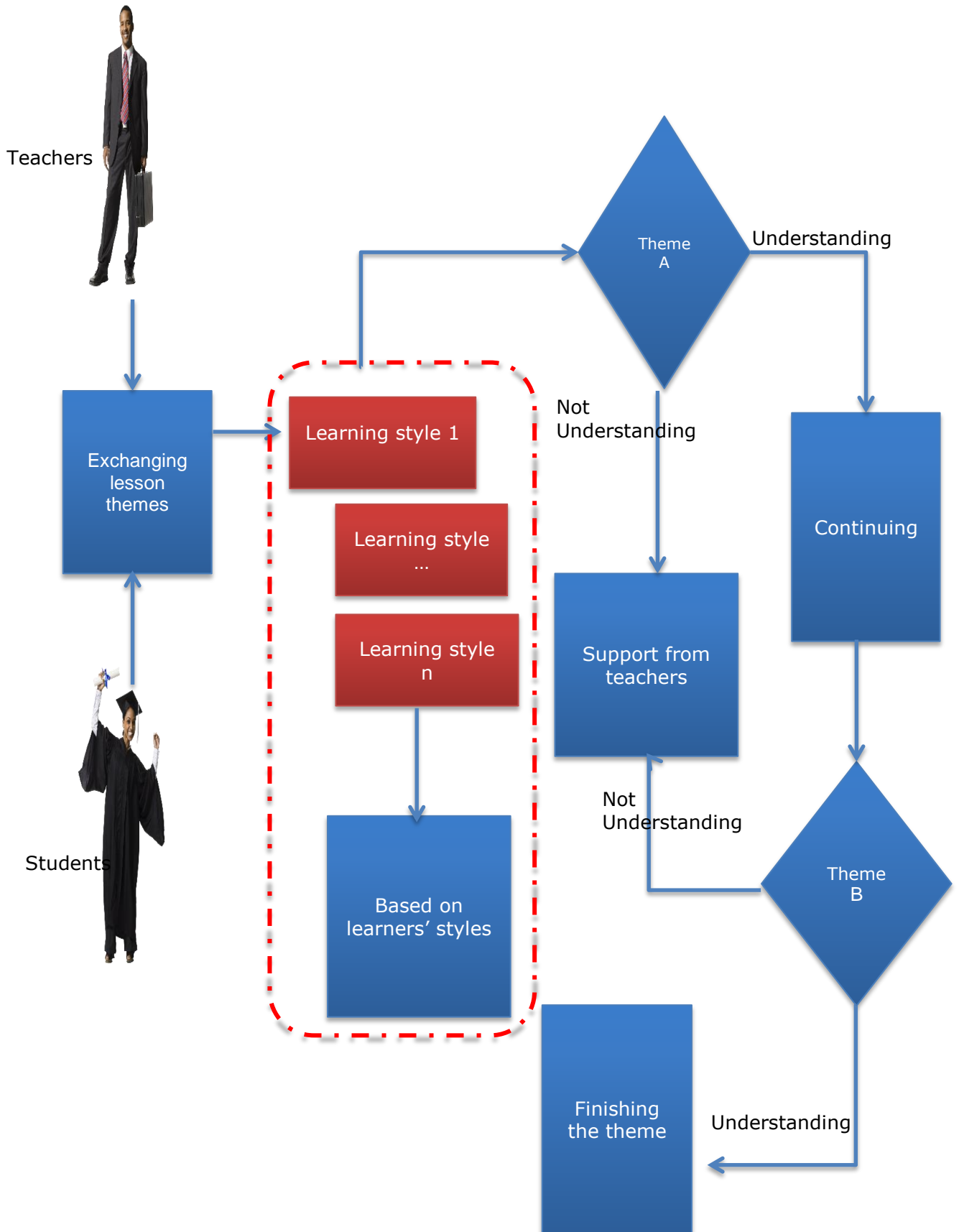


Figure 5: Process of learning style -based interaction between teachers and students/group of students

Structure and basic functions of learning style-based blended learning

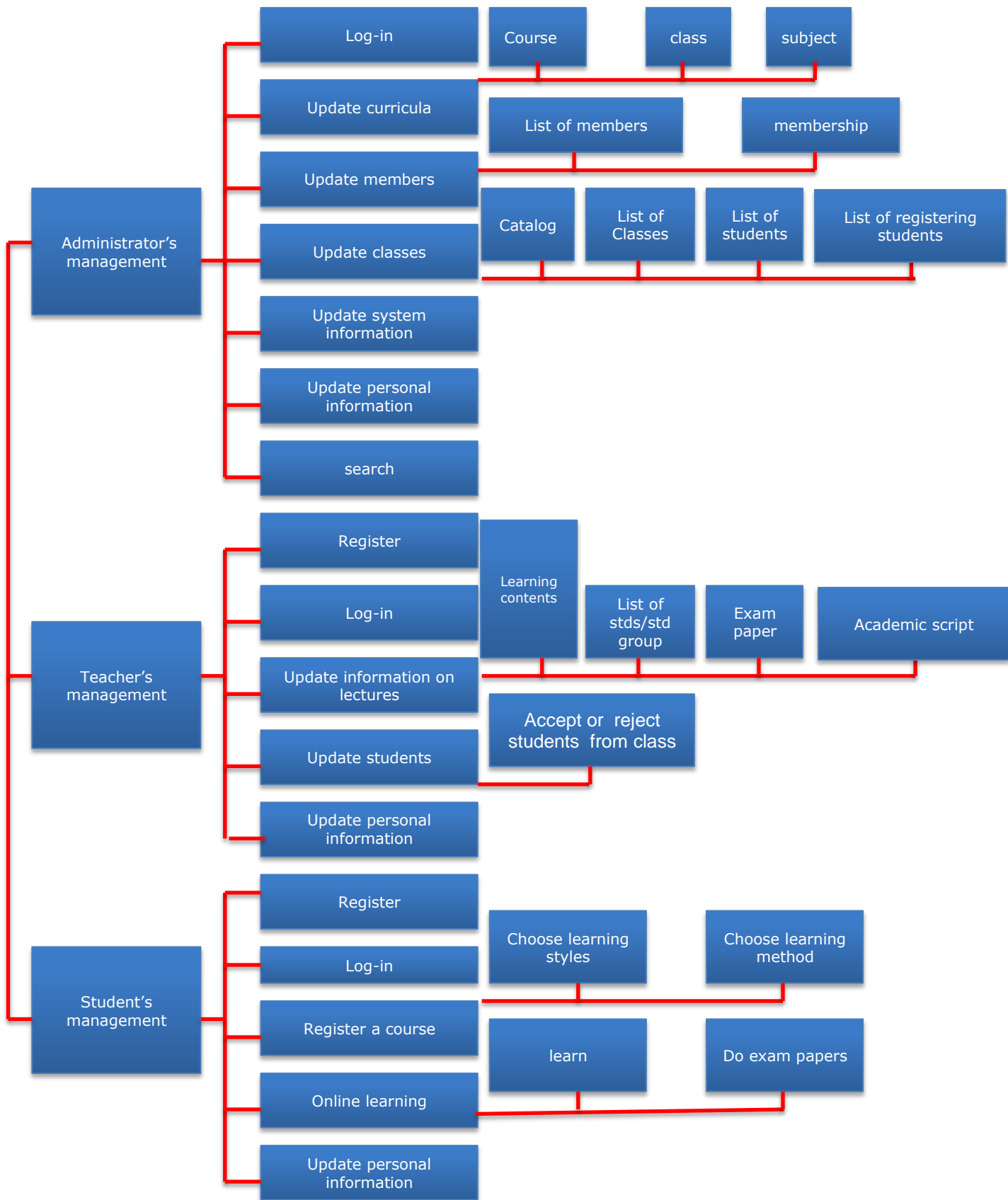


Figure 6. Functions of the system

Results of the design

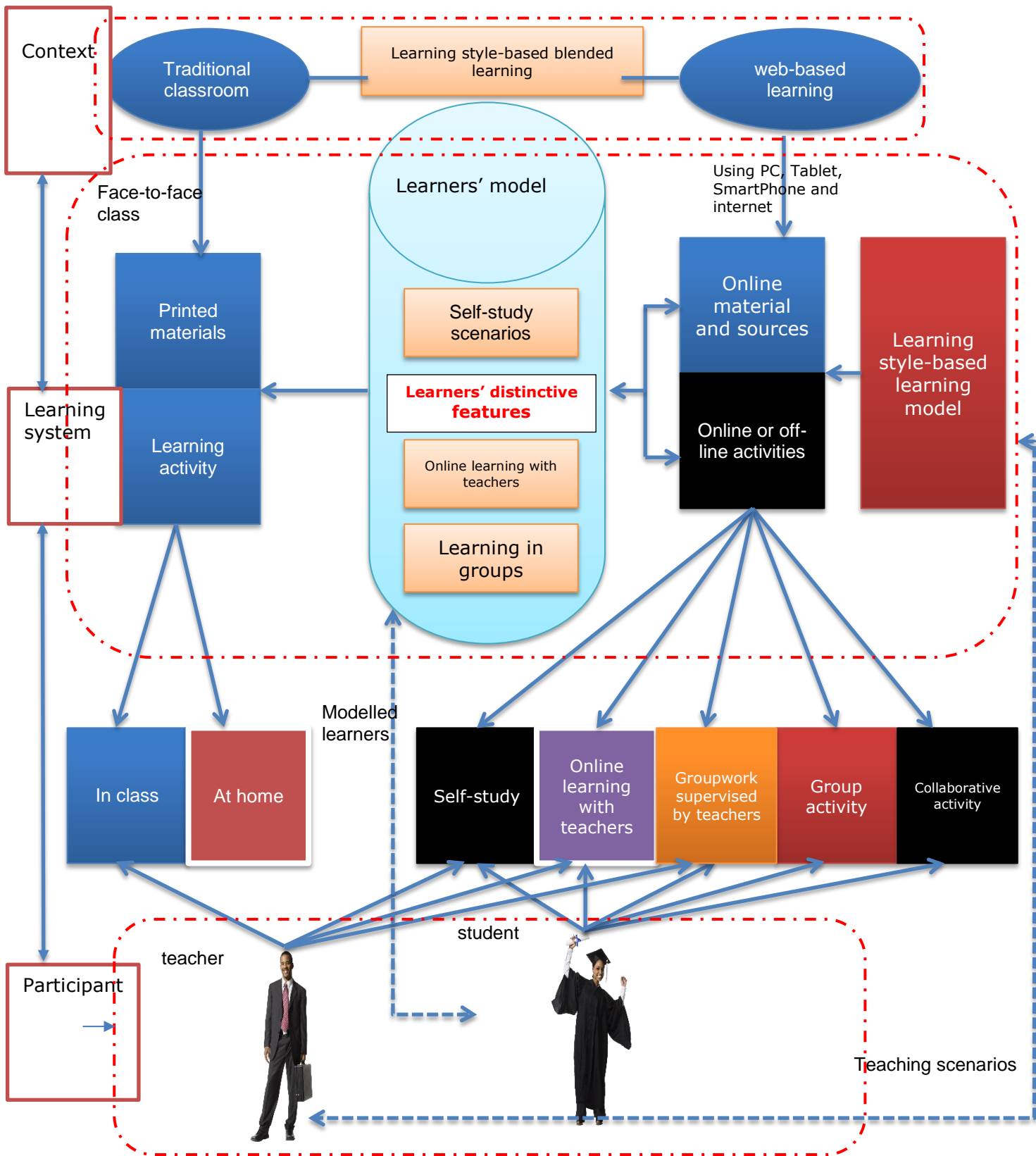


Figure 7: Structure of learning style-based blended learning

The model was designed as in Figure 7. The learning support system was programmed and developed on Laravel Framework PHP, and live stream integrated by WebRTC to overcome shortcomings faced by Moodle, eFront or Sky business. The software ran on <https://blearning.vn>. Some interfaces were used:



Figure 8: The interface of <https://blearning.vn>

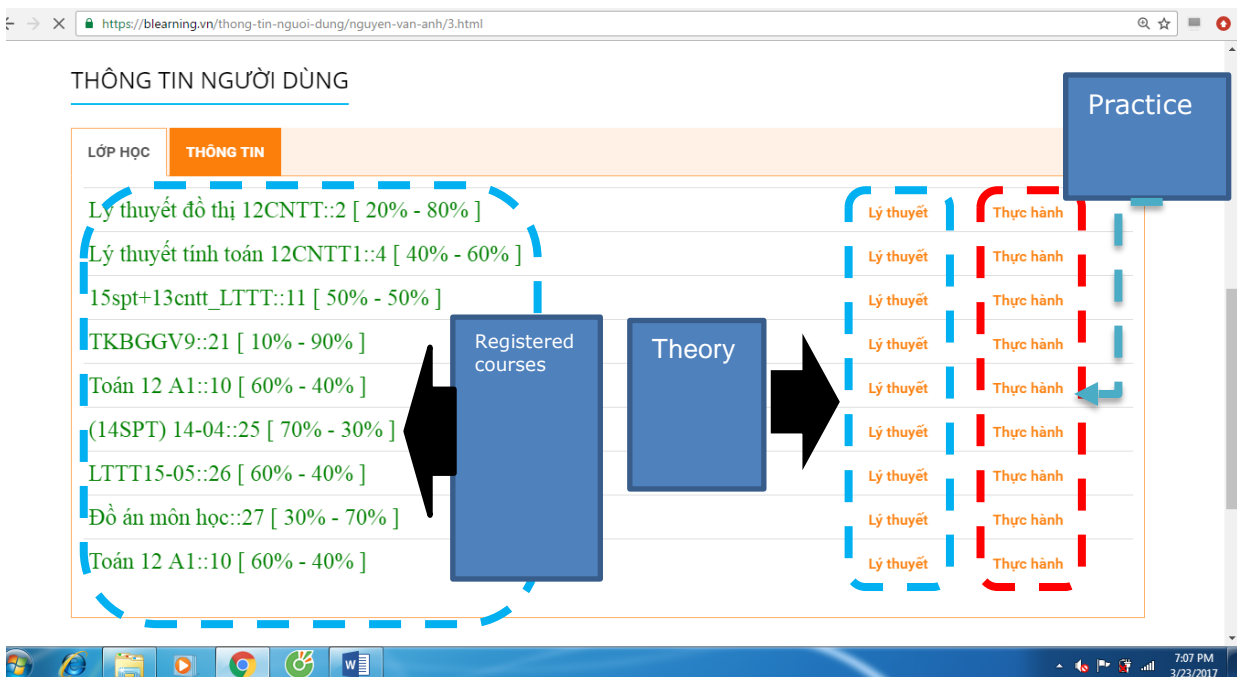


Figure 9: Student course interface

Figure 10: Interface of subject contents in a term

Figure 11: Interface of online learning with videos

3. The application of learning style-based blended learning to teaching students at university

In order to test the feasibility, effectiveness, stability of the system and the benefits of the designed model, the experiment of teaching with the designed model was carried out at universities in Vietnam. It consists of two parts: online (Figure 12) and face - to -face (Figure 13, Figure 14) for the purpose of developing students' creativity. At the end of the lessons, questions regarding the level of student satisfaction with the teaching model were investigated. The results are shown in Figure 15, Figure 16.

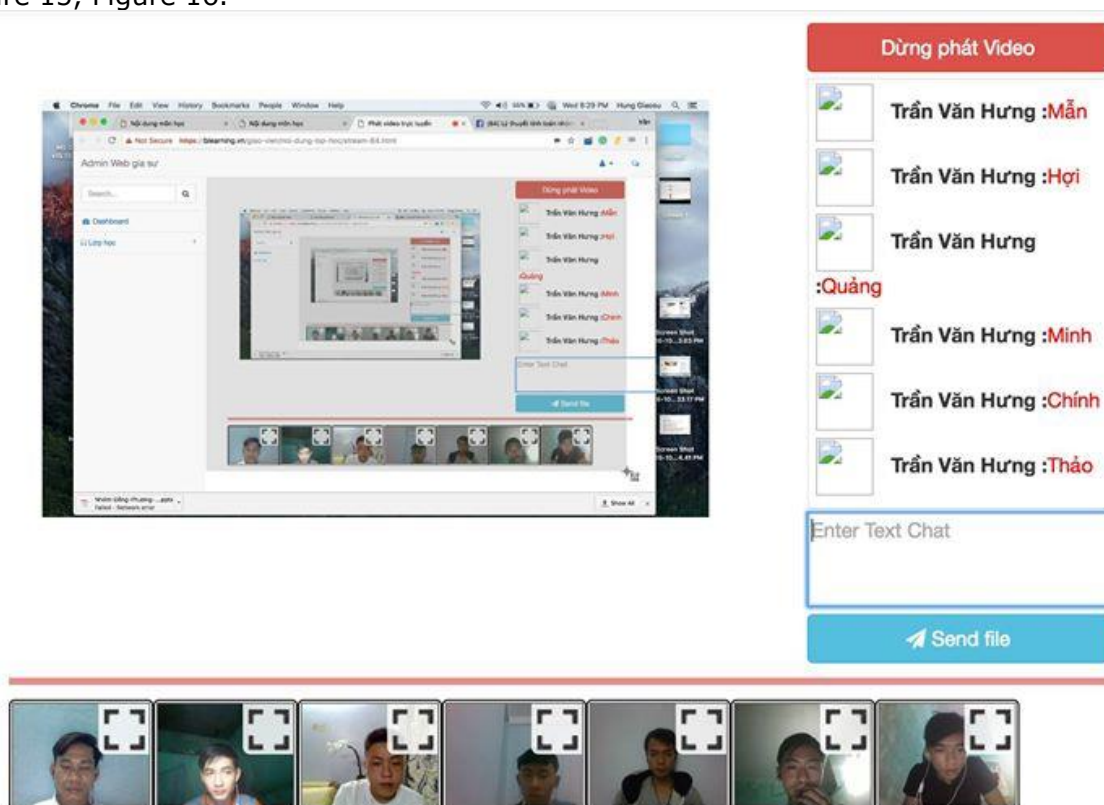


Figure 12: Interface of online learning with teacher



Figure 13 (a): Group presentation in class Figure 13 (b): Group presentation in class



Figure 14 (a): Group discussion in class



Figure (b): Group discussion in class

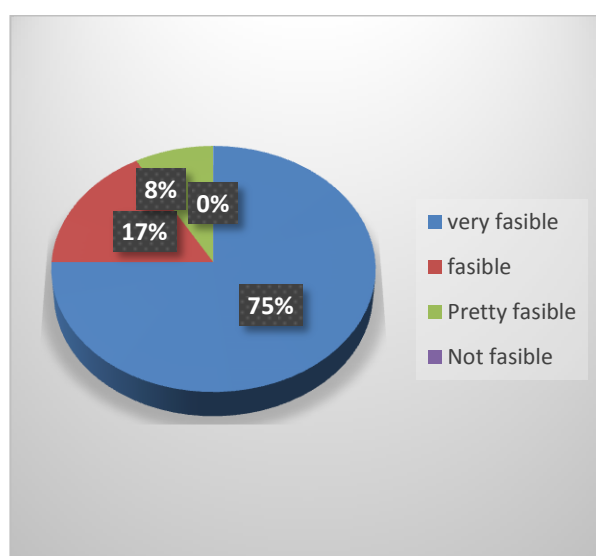


Figure 15: Testing the feasibility of the model by 10 experts

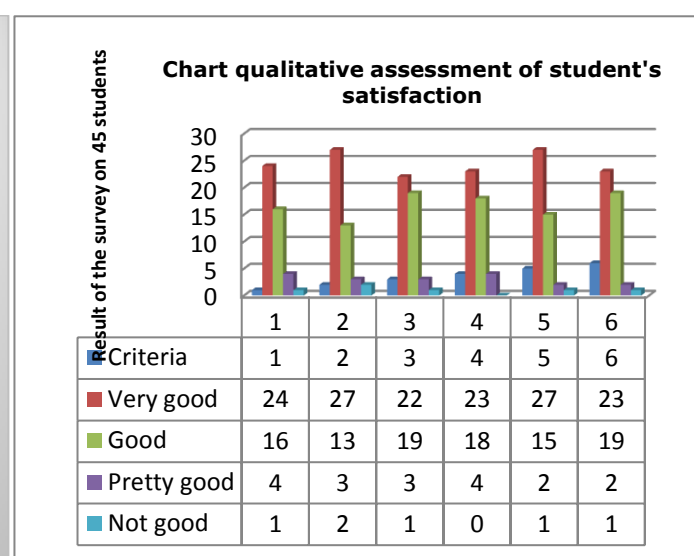


Figure 16: Satisfaction level of 45 students

4. Conclusion

Along with the development of online learning technology, online courses have maximized flexibility over space and time for learners to access the training process. The proposed model of "learning style-based blended learning" is the development of learning style-based space on the internet for learners, together with pedagogical strategies on face-to-face interaction in class. This enables learners to get used to online learning and face-to-face learning effectively. Then, learners experience the combination of online learning and face-to-face learning which is suitable for individual characteristics such as learning ability, habits, interests. Hence, the design of learning style-based Blended Learning will be an important pedagogical solution which help promote the quality of online learning and face-to-face learning for students to promote the strengths to the utmost and prevent the shortcomings brought by traditional classrooms. It is considered an effective solution to students' need of "learning everywhere, learning all the time, learning everything, flexibly, open-mindedly and through life" and becomes an indispensable trend in education in the world in general and in Vietnam in particular.

The conference organizers will reward the 3 best paper submissions as 'selected plenaries' (if submitted before the submission deadline and registered before the Early Bird registration deadline).

CALL in Context

With the development of Information and Communication Technology (ICT) in recent years, E-learning systems have been designed and developed around the world, and nearly 90% of them are Web-based E-learning systems. Currently, Moodle -based E-learning is mostly used in universities in Vietnam. The reality at universities shows that the efficiency is not high due to different factors and the fact that this model focuses on enhancing students' self-learning, not enabling learners to acquire knowledge through groupwork, interact with others or teachers directly like in class and it is not suitable for students or student groups' characteristics or learning styles. Although there are some support technologies like Video Conference or Sky Business, they are completely independent of the systems and only used as standalone software on the web. This causes difficulties for teachers and students in interacting with one another, which is an important factor for traditional classrooms and learning on the internet. To overcome this shortcoming, a multi-functional system was studied, designed and installed. The system integrated with lots of functions is similar to Moodle, but it was integrated with WebRTC enabling students to interact with one another, with teachers and vice versa via Webcam, which is similar to the function of Video Conference or Sky Business. More importantly, there is no need to install anything else for users or teachers. A teacher can organize their teaching process for students having learning styles in common on the internet like that in class, and the teacher can ask any student to answer questions, whereas other students can hear the answers and interact with the students and teacher. Students or student groups can exchange, discuss, interact and cooperate with one another to do a certain assignment given by teachers in the learning process. More specially, the system was programmed and developed on Laravel Framework PHP, enabling teachers to give students online lectures in PowerPoint, Word, PDF, Scorm, and modeling software on the personal computer by sharing the screen with students.

Similar to teaching theory online, the form of teaching practice online was programmed and designed. This is an important factor for students to develop skills and techniques through subjects including practice.

In order to assist group interaction online like in class, the function "Team" was designed. This function is for online exchange and interaction through Webcam, enabling all members of a group to take part in discussion (seeing each other)

The model -based assessment is categorized into 2 forms that are online learning and face-to-face learning using the formula:

<p>Middle - term result (m%) = [(Score of part 1)* coefficient + (Score of part 2)* coefficient + (middle-term score)* coefficient] * (x% face - to - face) + [(Score of part 1)* coefficient + (Score of part 2)* coefficient + (middle-term score)* coefficient] * (y% online)</p> <p>End-of-term result (n%) = [(Score of part 1)* coefficient + (Score of part 2)* coefficient + (end-of-term score)* coefficient] * (x% face - to - face) + [(Score of part 1)* coefficient + (Score of part 2)* coefficient + (end-of-term score)* coefficient] * (y% online)</p> <p>Final result =</p> <p>100% = (Middle - term result)* m% +(End-of-term result)* n%=</p>

In summary, from practice of traditional classrooms and online learning, the model of "learning style-based Blended learning" was designed to overcome the shortcomings faced by Moodle systems and face-to-face learning. It is found that technology plays an important role in the current context where effective teaching solutions and models are considered the key in the process of training students at university all over the world. The learning style-based multi-functional model is suitable for the cognitive theory, the theory of connectivism and the theory of constructivism.

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Gamification for language instruction or language education? Communicative and symbolic competence in gamified language learning activities

Bio data



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Abstract

CALL research has been dealing with the impact of digital technologies in different learning contexts - either in formal, institutionalized settings (e.g. online and/or hybrid courses, schools, universities) or informal, autonomous, mobile learning environments. More recently, smartphones and tablets have considerably contributed for the growing engagement of individuals in more informal and autonomous learning experiences especially due to the proliferation of applications (henceforth "apps") that promise to teach languages. App developers have incorporated gaming features to language learning apps, or, in other words, have "gamified" digital learning activities as an attempt to help learners learn. One of the assumptions made is that users' motivation is increased when educational activities are designed and include rankings, characters (avatars) and other game-like aspects. We do not deny the role motivation may play in the language learning process. However, our concern lies on the (non)existence of affordances for the development of language skills that provide individuals with real, powerful, communicative resources. In other words, popular apps do not seem to explore the potential of digital literacies/multiliteracies for language education when they do not provide affordances for the full development of communicative competence. When it

comes to more complex, intricated discourse skills, language apps also appear not to tackle cultural and power relationships established by language in use, and fail to foster the development of symbolic competence. Facing the contradiction between the potential for global communication digital technology has and the apparent limitation of language learning apps in methodological terms – or, their theoretical neutrality – we analyzed activities from popular apps, trying to identify aspects of communicative competence they may have been designed to develop. Also, we tried to check if and to what extent the apps and their activities provide users with affordances for multiliteracies through the reflection on cultural, social, political issues in the language, so that symbolic competence may emerge. We concluded that the apps analyzed have not been designed for language education, but for basic, limited language instruction. The point we make is that the global context of instant messaging, live broadcasting and other digital resources and activities demands for language education (instead of simply language instruction) and apps and app developers should be aware and able to deliver language learning activities that go beyond motivation.

Conference paper

Introduction

When global distance becomes short due to instant, real-time communication possibilities digital technologies provide us all with, language learning has been raised special interest not only from individuals who want and need to communicate in different languages but also from companies that want to profit from this demand by developing (autonomous) learning resources. At the same time, CALL research has been dealing with the impact of digital technologies in different learning contexts - either in formal, institutionalized settings (e.g. online and/or hybrid courses, schools, universities) or informal, autonomous, mobile learning environments. More recently, smartphones and tablets have considerably contributed for the growing engagement of individuals in more informal and autonomous learning experiences especially due to the proliferation of applications (henceforth "apps") that promise to teach languages. App developers have incorporated gaming features to language learning apps, or, in other words, have "gamified" digital learning activities as an attempt to help learners learn. One of the assumptions made is that users' motivation is increased when educational activities are designed and include rankings, characters (avatars) and other game-like aspects. We do not deny the role motivation may play in the language learning process. However, our concern lies on the (non)existence of affordances for the development of language skills that provide individuals with real, powerful, communicative resources. In other words, popular apps do not seem to explore the potential of digital literacies/multiliteracies for language education when they do not provide affordances for the full development of communicative competence. When it comes to more complex, intricated discourse skills, language apps also appear not to tackle cultural and power relationships established by language in use, and fail to foster the development of symbolic competence. According to Kramsch (2011), "Symbolic competence is [also] engaged in the symbolic power game of challenging established meanings and redefining the real". How do language apps provide learners with affordances (Van Lier, 2004) from which symbolic competence may emerge?

Research and findings

Facing the contradiction between the potential for global communication digital technology has and the apparent limitation of language learning apps in methodological terms – or, their theoretical neutrality – we analyzed activities from popular apps, trying to identify aspects of communicative competence they may have been designed to develop. Also, we tried to check if and to what extent the apps and their activities provide users with affordances for multiliteracies through the reflection on cultural, social, political issues in the language, so that symbolic competence may emerge. We concluded that the apps analyzed have not been designed for language education, but for

basic, limited language instruction. We found that activities not only ignore the role of context in language learning when they present isolated sentences and grammar items, but also reinforce stereotypes (e.g. those related to sexism).

Conclusion

The point we make is that the global context of instant messaging, live broadcasting and other digital resources and activities demands for language education (instead of simply language instruction) and apps and app developers should be aware and able to deliver language learning activities that go beyond motivation.

CALL in Context

To what extent can technology contribute to contextualization of the learning process?

Within a teaching and learning environment, in which contextualized activities happen, by exploring student's interdisciplinary knowledge and including real references to real events, the student begins to perform in the situation and stops being a mere spectator of the activities. That is, the student is led to empower himself through the language, establishing new meanings that correspond to his way of life and thought. However, in order for this process of re-signification to occur, activities need to correspond to the context the student is in, referring to the situation that he or she can interact with and that would make sense in his / her day-to-day life. **If the technological apparatus were able to suppress such questions, providing the conditions and means by which the student understands the different uses of language by the characterization of different contexts, the use of technologies during the learning process would become more efficient. It would involve issues pertaining to learning itself, as well as motivational issues when introducing new mechanisms for language learning.** However, during the analysis of the selected gamified application, it was found that the given approach refers to an instrumental language learning in detriment to an educational perspective. This is because contextualization issues such as the understanding of global issues related to that learning process are not taken into account.

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Augmented Reality based Chinese Character Composition Game in L2 Classrooms**Bio data**

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Abstract

It is well recognized that Chinese, as a kind of logographic language, is distinctive from English or other alphabetic languages. Consequently, Chinese character recognition is a major hurdle for non-native learners. Augmented reality (AR), as one kind of technologies that combine or supplement real-world objects with virtual objects, has been widely developed for education in recent years, but it is less used in classrooms. This paper introduces a tabletop system based on AR with paper interfaces for collaborative Chinese character learning. All the system-based activities are designed in line with Chinese language curriculum for primary 1 and primary 2 students in Singapore. Five design principles that can describe the fundamental ideas about the system are elucidated in this paper. These principles may provide the field of CALL with insights into how to integrate AR in language teaching and learning, and how to improve Chinese character teaching with AR technology.

Conference paper

Introduction

Singapore is known as a multi-ethnic and multilingual country. In Singapore, English is the de facto national language which is used not only in official workplaces but also as the medium of instruction in the school system (Pakir, 1991). Chinese (Mandarin), Malay, and Tamil languages are defined in specific Singaporean terms as "Mother Tongue Language (MTL)". The Ministry of Education in Singapore defines MTL by student ethnicity rather than by the language used at home or the first language learned (Tan, 2006). All students in Singapore must study two languages in schools: English and their MTL. Ethnic Chinese formed 74.3 per cent of the resident population (Singapore Department of Statistics, 2016), but their home language environment are diverse. Among ethnic Chinese students, the proportion of students with English as their most frequently used language at home was more than half (MOE, 2010). Meanwhile, it is well recognized that Chinese, as a kind of logographic language, is distinctive from English or other alphabetic languages. Consequently, Chinese character recognition is a major hurdle for non-native learners. School teachers and researchers in the field of teaching Chinese as a second/foreign language strive to find optimal ways to teach characters for beginning learners.

With the increasing usage of information and communication technology (ICT), leveraging ICT to enhance character learning has become an emerging trend, and their

positive effect on character learning has been reported in a large number of studies. (e.g., Lam et al., 2001; Spiri, 2008; Sung, 2014). The instantiation ranges from web-based reading tasks with glossing support to online personal vocabulary learning systems or application. With the development of touch-screen device technology, the focus of design has been shifting from simple visual aids to interactive interfaces (Zhan & Cheng, 2014). Nevertheless, most of systems for vocabulary learning are designed specifically for individual learning, though some propose group activities (e.g., Wong, Boticki, Sun, & Looi, 2011), but most disregard formal classroom learning. They are less concerned with empirical practices of enacting these technologies in classroom environments.

This paper focuses on introducing a tabletop system (named ARC) based on augmented reality (AR) with paper interfaces for collaborative Chinese character learning. AR, as one kind of technologies that combine or supplement real-world objects with virtual objects, has been widely developed for education (Bacca et al., 2014; Cuendet et al., 2013). It is used in language learning because of the possibility of combining augmented information with contextual information to provide new experiences in language learning. The motivation of the system design is derived from the potential of AR with the paper interface in educational applications and the lack of technology for facilitating collaborative character learning in classrooms. All the system-based activities were designed in line with new Chinese language curriculum for Singapore primary 1 and primary 2 students.

To “augment” paper, input devices including cameras, barcode readers, radio frequency identification (RFID) readers, near-field communication (NFC) readers, scanners are often used to identify and locate the objects. In our study, we chose NFC, which is a specialized subset within the RFID family. Like RFID, this technology has advantages of cost-effectiveness and stability of data communication. The cost of their tags currently is just a few cents. Furthermore, the size can be super small, so that they can be easily hidden and attached to papers. Besides, NFC was adopted as its short distance security for information. When many cards with tags on the table at the same time, card information can be read without mutual interference. NFC readers, as the input devices, connect to tablets (iPad, for example) that are used as the output devices to project the results of the paper cards being manipulated in each group.

Due to space constraints, the details of ARC design and its installation will be described in this paper. We will concentrate on demonstrating the design principles of the system. We hope our work may provide the field of CALL with contexts and insights into how to improve Chinese character teaching with AR technology and how to integrate AR in L2 classrooms.

Design Principles

System-based instructional design is usually related to elaborating learning technologies and learning activities that take into account the targeted learning outcomes, the specificity of the contents to be learned, the peculiarities of learners and the principles of educational psychology, i.e. how people learn (Cuendet, et al., 2013). Focusing on these intrinsic elements to the learning process, we extracted five design principles that can describe fundamental ideas about ARC design. Up till the present moment, the system has been developed but is still under our lab-based testing. After we implement it in schools and collect the empirical data from school-based intervention, we will be using these principles to retrospectively examine the system installation.

Radical-derived character learning

Though Chinese character learning is particularly challenging for beginning learners, characters are not random symbols without pattern and regularities. The structure of Chinese characters can be classified by a 3-layer hierarchy: character, component, and stroke. A character is basically constructed by strokes and their combination. Radicals are defined as “the smallest, meaningful orthographic units that play semantic or phonetic

roles in compound characters” (Shen & Ke, 2007, p.99). Theoretically, a radical represents the sound of a character or a clue to the meaning of the character (Chen et al., 2013). Radicals usually have two major features: (1) habitual positions with characters, and (2) function of encoding phonetic information or semantic information of characters (Su & Kim, 2014).

Research has shown that knowledge of radicals plays an important role in enhancing character learning achievement not only for young school children but also for adult L2 learners (e.g., Jiang & Cohen, 2012; Shen & Ke, 2007; Su & Kim, 2014; Taft & Chung, 1999; Wang, Liu, & Perfetti, 2004). In Gobert et al.’s opinion (2001), it is based on the principle of chunking, in which a chunk refers to a collection of elements having a strong association with one another. Because of chunking, learners can utilize familiar character with a phonetic radical or semantic component to learn and memorize those characters with the identical component but they have not learned yet.

With restricted vocabulary, it may not be easy for beginning learners to realize the importance of character’s radicals. Yet some studies have tested the beginning Chinese learners’ sensitivity to the structures of Chinese characters. They found that the development of semantic radical awareness helped Chinese learners guess the meaning of unknown or unfamiliar characters and revise what has been learned while learning the new (Huang, 2003; Jackson et al., 2003; Shen 2000; Shen & Ke, 2007; Wang, Perfetti, & Liu, 2003). Furthermore, Shen and Ke (2007) pointed out in their review paper that the first two years are the pivotal stage of component processing for Chinese character learning. Therefore, the content design of ARC is concerned with the learning content of Primary 1 and Primary 2. All the system-based character composition games were designed according to radical-derived character learning approach. Examples of their instantiation can be found in following section about group-based hands-on activities.

Visualized contextual information

Researchers have proposed different definitions of AR. For example, Chen and Tsai (2012) stated that AR allows for interaction with 2D and 3D objects integrated into a real-world environment. Similarly, Cuendet et al. (2013) argued that AR refers to technologies that project digital materials onto real world objects. They all underscored the feature of AR that is the possibility of superimposing virtual information to real objects. With regard to virtual information, it has been widely acknowledged that it can help learners construct connections between the verbal and visual representational systems, resulting in an increase in vocabulary knowledge (Chen et al., 2013; Kilickay & Krajka, 2010; Lu, Lin, & Ku, 2009; Tozcu & Coady, 2004). In the context of Chinese character learning, virtual information usually embeds audio input, most likely the real voice pronunciation of Pin Yin or sentence, and visual input, for example, the meaningful context animation of the target character.

Nevertheless, it is noteworthy that though ARC-based activities were designed based on radical-derived character learning, but we do not advocate the character-centered approach. In every single activity of ARC, target characters were not designed without detaching from the context. Beyond the words, the words from the sentences or even the sentences from tests, the character context in our study has a broader scope. It also includes individual’s language learning process from the sociocultural perspective, in which meaning of the character is dialogically negotiated between the learner and others. In this sense, our corresponding activity design did not only embed visual information about the sentence or text context of target characters, but also contributed a channel to trigger communications and interactions that provide students more enriched context of using and understanding the target characters.

Group-based hands-on activities

Since interactive tabletops are designed for co-location, multiple user participation, integrating hands-on activities and enabling multiple modes of communication, their

benefits to education have been evidenced as well (Dillenbourg & Evans, 2011). Meanwhile, various arguments have been put forward for why manipulatives (defined as physical objects that can be touched or moved by students to reinforce a concept) may support learning, for instance, providing an additional channel for conveying information, increasing flexibility, empowering students to process and organize information at their own pace, facilitating abstraction and improving memory through physical action. (Manches, O'Malley, & Benford, 2010; McNeil & Jarvin, 2007). In traditional language teaching, using foreign language flashcards and other manipulatives is a common method to make learning a foreign language fun and exciting. Corrales (2008) indicated that in the context of language teaching and learning, the manipulative can provide opportunities for students to process and organize learning information on their own and at their own pace. Hence, in this study, we propose an assumption that manipulatives in language learning, like in other subjects, allow students to discover regular patterns on their own. We provide students manipulatives with the paper interface (ARC cards). Via NFC tags attached, these paper cards can be used with digital capabilities for augmenting content, but also keep paper's intrinsic properties, e.g., tangibility, maneuverability, and flexibility (Bonnard, 2012; Prieto, Wen, Caballero & Dillenbourg, 2014).

In the classroom, students will use ARC in small groups with the purpose of encouraging them to communicate with and learn from one another. As noted earlier, all the system-based character composition games were designed based on radical-derived approach. In every single game, we prepared three kinds of paper cards for students. Regular A4 paper with NFC tags are used to display the structure of compound characters (four types of structures are shown in Fig. 3a). Different sets of cards with NFC tags represent various character radicals and components (examples are shown in Fig. 3b and Fig. 3c). When students in a small group are working on the activity, a set of radical and component cards (approximately 40 cards), as well as the structure cards will be provided for them (as shown in Figure 1).

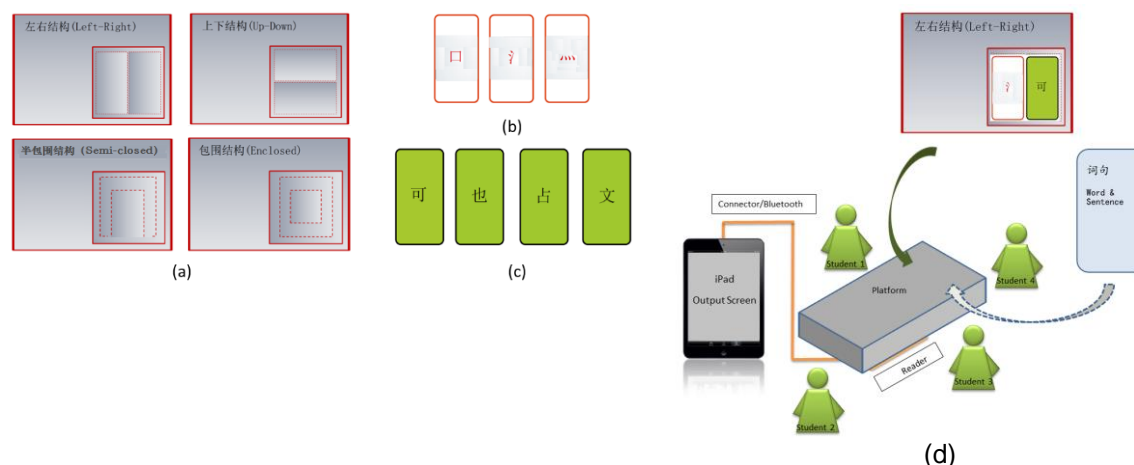


Figure 1. Examples of paper-based user interfaces and work process: (a) the structure of characters; (b) semantic radical cards; (c) component cards; (d) work process

With these paper interface, the system-based game will not be dominated by a single student. Students in one group can hold different radical or component cards, and in this way, they need to negotiate with one another to complete the task together. Even students with low language proficiency may have an opportunity to joining the game.

Differentiated learning curves

Singapore local students' starting points are pretty different particularly during the foundation years in primary school. Using teacher account, school teachers will be able to select and apply appropriate activities by taking into consideration their students' starting points and learning needs. Besides, in addition to radical and component cards, we provide students a whole spectrum of accessory cards with diverse functions to complete

tasks at their own pace. With these accessory cards, students in groups will be able to continue the activity and develop knowledge with their own needs. Figure 2 demonstrates some examples of the accessory cards.

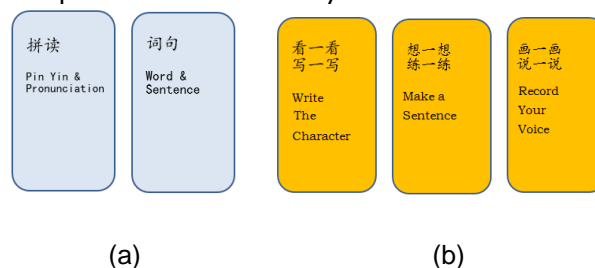


Figure 2. Examples of accessory cards: (a) for providing more information regarding the target character; (b) for expanding tasks designed from student-generated solutions

Those students with little home Chinese language exposure can autonomously and spontaneously learn the target character via using the accessory cards with functions, such as displaying Pinyin and playing pronunciation, making a word and sentence combination, or playing an animation about the use of the character/word in a real-life situation (as shown in Fig. 2a). As for students in the group with high language proficiency, they can be encouraged to use the accessory cards to complete expand tasks (as shown in Fig. 2b). "Write the character", for example, means students need to write down the target character following the stroke sequence animation. "Make a sentence" refers to students discuss and order a sentence with the given words within the group. The card of "Record your voice" will be used when students would like to explain the character/word using their own language. These student-generated artifacts will be sent to teacher's account automatically and simultaneously. Teachers can continue explanation based on these artifacts. More essentially, these artifacts can be selected and saved by teachers as resources for helping other students to learn the target character.

Enabled classroom orchestration

The space-centered and expressive-movement-centered interactive tabletop environment can go beyond the coupling of physical and virtual objects (Hornecker & Buur, 2006), and may arise more social interactions. However, students would own the collaboration skills by nature, so clear guidance from teachers are also pretty important to group learning success. Hence, we designed orchestration cards (as shown in Fig 3a) to help teachers orchestrate collaborative learning in classrooms. All these orchestration cards can be used in every system-based activity.

Additionally, in the interactive tabletop environment supported by AR, computers not only provide multimedia information or virtual contextual information, but can also be easily programmed to keep track of a learner's performance and control the sequencing of activity items. Group performance based on log data will be shown, providing instant feedback to help teachers orchestrate classroom activities (Fig 3b as an example). Based on these information and with the aid of those orchestration cards, the system enables teachers to monitor and manage on-going activity in real time.

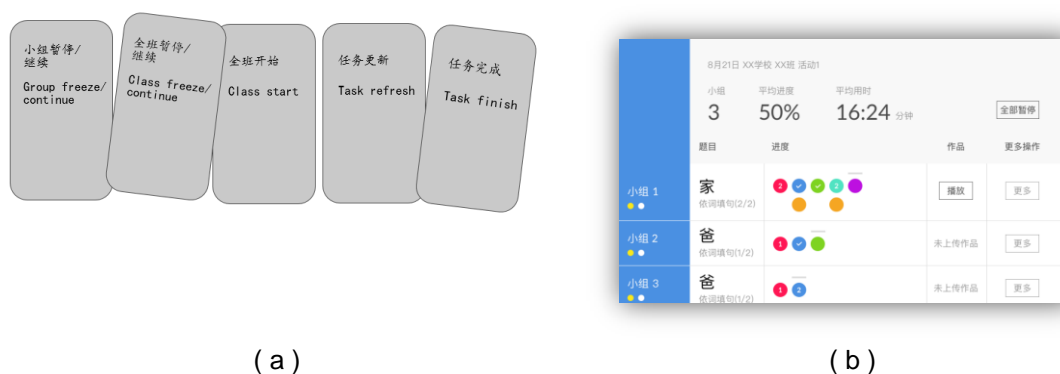


Figure 3. cards for orchestrating learning

Ongoing and Future Work

We will be conducting our school-based intervention after the lab-based testing. By that time, on the basis of the instructional design principles discussed above, we will further refine the system in terms of the feedback from teachers and students, following the design research approach. We plan to record the teaching practices and the learning trajectory of target groups using the system. When collecting data on teachers' moment-to-moment instructional practices and students' group work, two researchers will observe lessons, take notes and capture the whole class/target group process by video cameras. Chronological representation and annotation tools such as Studio Code or ELAN will be used to help analyze and visualize video and audio data. Moreover, log data will be used to triangulate video data from target groups, and finally we aim to extract indicators about interpreting group performance and predict the difficulty or common errors of character learning based on log data. These findings will, in turn, help us to examine the five instructional design principles.

CALL in Context

My study is guided by sociocultural views of learning, with which language learning is viewed as a semiotic process attributable to participation in social activities, rather than internal mental processes solely by the individual (Lantolf & Thorne, 2006). Therefore, in regard to the contribution of technology on contextualization of the learning process, I am not just thinking about which technology or to what extent technology can help provide enrich or vivid contextual information for learning. I am more interested in which or how technology can be used to trigger more effective interactions among group students, where the use of target word and its meaning making may occur. In other words, it is acknowledged that AR, as one kind of technologies that combine augmented information with contextual information, may provide a new experience in language learning (Bacca, Baldiris, Fabregat, Graf, & Kinshuk, 2014; Prieto, Wen, Caballero & Dillenbourg, 2014). My research focuses on investigating how to integrate AR in classroom learning for co-location and multiple user collaboration, in which more interaction contexts arise. In the system design, we are concerned about not only designing learning context closed to students' life, but also collecting student-generated artefacts that they created in the learning process (e.g., the sentence that students made with the target Chinese character or word, the video clip that students created to explain they understanding about the target Chinese character or word). These student-generated artifacts enable teachers and researchers track learning processes, and can be saved as learning resources for other users of the system.

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Voices of Inquiry in Intercultural Telecollaborative Teacher Professional Development

Bio data



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Abstract

This presentation reports on an intercultural telecollaborative project involving a group of pre-service EFL teachers in Taiwan and a class of education majors in a university in the U.S. The design of the project leaned on the socio-constructivist view of learning and teaching to enhance higher-level thinking, technological competence, and intercultural

communication skills for teachers (Doolittle & Hicks, 2003; Driscoll, 2000; Fosnot 2005; Karpov 2003). The Community of Inquiry Model developed by Garrison, Anderson, and Archer (2000) was the guiding framework for the participant-lead intercultural discussion part of the project. The instructors of the project aligned their course objectives and instructional activities to allow the participants to form intercultural telecollaborative groups to inquire, interpret, explain, and understand the domain knowledge in language teaching and learning. The intercultural groups communicated via GoogleDocs and Zoom, a cloud videoconferencing tool, on topics related to teaching and learning in their respective local contexts and then co-constructed instructional units that they considered applicable in both instructional settings. At the end of the project, the intercultural groups delineated their co-constructive instructional units and considerations they took when negotiating and planning for the units. Individual participants also each submitted a final report reflecting on their individual experiences.

The participants' telecommunication data (including Google Docs and Zoom and Facebook video recordings), their co-constructed instructional units, and their reflective reports were collected and analyzed. Types of international collaboration contradictions defined in Basharina (2007) and resolution strategies found in Priego and Liaw (in press) provided the basic framework for the coding of the data.

The preliminary findings reveal that the voices of participants from diverse backgrounds and experiences caused tensions among group members, yet at the same time, also mediated the establishment of shared domain knowledge. The participant's knowledge base broadened as they continuously examined their decisions within their local contexts and negotiated for creative application in new pedagogical settings.

The project created a pedagogical "third space" (Skerrett, 2010) for pre-service teachers operating within different cultural and educational contexts to form community of inquiry for meaningful dialogue to take place. Based on the findings, the presenters of this session will provide suggestions for implementing successful international telecollaboration and preparing pre-service teachers to become interculturally sensitive educators.

Conference paper

The push toward including international perspectives in undergraduate and graduate experiences in higher education has encouraged professors to use classroom technologies to create international learning contexts. In education classes, such contact across geographic boundaries brings new opportunities to study intercultural learning, which in language education focuses on the knowledge and skills needed to engage with individuals from a variety of backgrounds (Byram, 1997; Kramsch, 2008). The objective of this paper session is to examine the findings from a qualitative study exploring how *pre-service* teachers in Taiwan and in the United States gained pedagogical expertise through their participation in a technology-mediated intercultural exchange during a 12-week semester.

This qualitative study was guided by the following research questions: 1) How do participants from diverse backgrounds form a community of inquiry in the context of an online exchange in which multiple communicative options are available? 2) Which types of tools do participants gravitate toward to create community online? and 3) What types of explicit dialogue around language pedagogy take place in an international exchange among pre-service teachers when they are asked to co-construct instructional units that can be used across different local instructional settings?

To explore these questions, 11 students in the United States and 22 students in Taiwan were grouped into 11 partnerships of 3 members. Both classes in each educational

context focused on co-constructing pedagogical strategies for teaching English (and/or Chinese) as a second or foreign language. After 2 weeks of initial introductory online activities, these small groups of students focused on building collaborative lesson plans. They used a variety of online interaction platforms, including VoiceThread (an asynchronous video exchange tool), Zoom (a synchronous videoconferencing tool), email, Google Docs, and Facebook. All interactions were password protected and private only to the group members and to the instructors of record and researchers at each location.

Data sources include transcripts of all online interactions across the full semester of the exchange. Audio files were transcribed, and text-based interactions were archived for analysis. Artifacts collected include all unit plans, lesson delivery protocols, and any additional participant-generated pedagogical tools developed as part of the collaborative planning. In addition, each partnership created a video in which they performed a mock teaching unit for their peers to demonstrate their proficiency with teaching in an intercultural context. Finally, pre- and post-surveys of all participants were designed to capture any changes to participants' knowledge about teaching in intercultural classrooms and their skills in communicating with people from different cultures.

The data were analyzed to understand the following: 1) participants' uses of different multimodal semiotic resources for communication, 2) the reasons for their pedagogical choices during the co-constructed instructional units, and 3) participants' reflections on the instructional units they planned with their partners. Data analyses were conducted as an iterative process, aligned with the protocols established in grounded theory case study qualitative research (Miles & Huberman, 1994). Open coding of the transcripts of all text-based and transcribed audio files took place using qualitative analysis software (NVivo11) to develop a coding system, followed by two independent raters using the coding system with interrater reliability of 80% or higher.

Preliminary findings indicate that the voices of participants from diverse backgrounds and with experiences caused tensions among group members, yet at the same time, mediated the establishment of the shared domain knowledge and broadened the knowledge base, as the intercultural partners continuously examined their decisions within local contexts and negotiated for creative application in new settings. Furthermore, the findings also reveal how the online pedagogical discussions helped the pre-service teachers apply their learning about new teaching skills and strategies in linguistically and culturally diverse classrooms.

CALL in Context

How to determine the role and shape of the most appropriate technologies for our context?

To what extent do technologies afford context-dependent enrichment and personalization of the learning process? What are the routines and models for doing so?

The Community of Inquiry Model (Garrison, Anderson & Archer, 2000) was particularly useful in providing guidance on the use of technologies to enhance the development of learners' critical thinking and collaboration capabilities. This model includes three elements: social presence, cognitive presence, and teaching presence. In particular, for the pre-service teachers who did not have classrooms of their own, the online context provided a unique space for contextualizing the theoretical and pedagogical knowledge they were developing in class. They were able to engage in a pedagogical "third space" (Skerrett, 2010) to form a community of inquiry for their dialogues. Each of these "third spaces" were unique based on the partnerships. What enhanced the context-richness of the project was the specific personalization strategies that each group developed—and the subsequent sharing of their experiences within the context of their physical classroom. In short, they not only applied

their knowledge in the technology-mediated context, but then they transferred that experience into new knowledge to bring back to their same-class peers. This two-way engagement—first in the technology-mediated context and then in the physically-mediated context—offered a cycle of action and reflection. The weekly routine then set a cycle of expectations for interaction into motion such that the partnerships could focus less on logistical uptake and more on developing and maintaining a social and cognitive presence. The “teaching presence” of the Community of Inquiry Model is then one that was being indirectly cultivated through this cycle. In next phases of the research, following students into that teaching phase would provide an opportunity to understand how these online interactions might manifest in later teaching. A second model that was useful was provided by O’Dowd and Ware (2009), in which a typology of task types was laid out. As with the case example they demonstrated, tensions also occurred in this project among the intercultural partners when they were negotiating and planning their instructional units. Therefore, having a structured and explicit typology of task types provided participants with a pedagogical tool for understanding what types of outcomes they might expect with particular task types.

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Coordination of Concordancers and Dictionaries in Self-correcting Collocation Errors in EFL Writing**Bio data**

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Abstract

Data-driven learning, in which learners consult corpora and induce patterns, has been shown effective in collocation learning in L2 writing. Researchers have also argued that utilizing concordance with other resources such as dictionaries and grammar books together is preferable. Nevertheless, empirical studies have mostly focused on search patterns of each resource when learners have access to corpora and dictionaries. Little is known regarding how the coordination of the corpora and dictionaries assist learners in enhancing collocation knowledge in writing and what role proficiency plays in the coordination process. This study intends to bridge these gaps by investigating how 140 Taiwanese college EFL learners at three English proficiency levels coordinated the Corpus of Contemporary American English (COCA) with external reference resources, including google translate, English-Chinese dictionaries, English-English dictionaries and thesauruses, to correct eight collocation errors adapted from their writing in an 18-week Freshman English class. Data was obtained through triangulation: learners' performance, learners' resource use, and learners' evaluation of their coordination of resources. A mixed-method approach including quantitative statistics and qualitative analysis based on grounded theory is used. Results show that learners utilized external resources to complement corpus-use in answering 57% of the questions. Regression analysis revealed that the more learners utilized the external resources, the greater collocation improvement they made. Coordination of corpus and external consultation resources also helped in enhancing personalization of the learning process, in which learners demonstrated individual "resource-reference style" (Kennedy & Miceli, 2010). While most learners displayed the "corpus-external resource-answer" pattern by using google translate or English-Chinese dictionaries to obtain the Chinese translation of unknown vocabulary shown on the concordance, some learners sophisticatedly went back and forth between corpus and external resources for confirmation and expansion of collocation knowledge. Furthermore, access to external resources helped scaffold the corpus use because it enhanced learners' comprehension of concordance lines, especially for lower proficiency learners, who were the more frequent users of external resources. Overall, although learners showed preference toward deductive learning which dominated the local learning context, they felt empowered because they could obtain language patterns they wanted through corpus consultation for the immediate context of language use, with assistance provided by external consultation resources. Teachers should inform learners of the benefits of coordination of resources and guide learners in effectively coordinating corpus use and external resource consultation .

Conference paper

Introduction

Data-driven learning, in which learners consult corpora and induce patterns, has been shown effective in collocation learning in L2 writing. Many DDL researchers advocated the “eclectic approach” (Chan & Liou, 2005, p.248), which combines the inductive learning with the deductive learning from coordination of different resources, including grammar books, dictionaries and corpus concordancers (Boulton, 2010; O’Sullivan & Chambers, 2004; Yoon & Hirvela, 2004). Nonetheless, scholarly focus has been placed on comparing the inductive learning and deductive learning (e.g., Daskalovska, 2015; Smart, 2014). Little is known regarding how the coordination of the corpora and dictionaries assist learners in enhancing collocation knowledge in writing and how proficiency plays a role in the coordination process.

This study intends to bridge these gaps by investigating how 140 Taiwanese college EFL learners at three English proficiency levels coordinated the Corpus of Contemporary American English (COCA) with external reference resources, including google translate, English-Chinese dictionaries, English-English dictionaries and thesauruses, to correct eight collocation errors adapted from their writing in an 18-week Freshman English class. The research questions addressed are as follows:

- (1) How do learners of three different English proficiency levels coordinate the use of COCA and other consultation resources?
- (2) How are learners’ performance and improvement in collocation related to their coordination of COCA and other consultation resources?

Method

Participant

One hundred and forty non-native English speakers whose first language was Mandarin Chinese participated in this study. Before taking part, the students had learned English for about 8 to 10 years, and their English proficiency levels spanned mostly the B1 to B2 levels in the Common European Framework of Reference for Language (CEFR). Students were divided into three levels as Group A (46 students, lower-intermediate level, B1 in the CEFR), Group B (47 students, intermediate level, B1+ in the CEFR) and Group C (47 students, upper-intermediate level, B2 in the CEFR).

Research instrument and materials

First, after the corpus tutorial and collocation instruction, learners completed the paper-based test, in which they corrected eight collocation errors and provided three correct answers for each error without access to any reference resources. This helps researchers to estimate their original collocation knowledge prior to treatment. Table 1 shows the eight collocation errors adapted from their writing and were chosen based on three sets of variables: L1 congruency, level of difficulty, adjective+noun collocation and verb+noun collocation (e.g., Sun & Wang, 2003; Nesselhauf, 2003, 2005). Afterwards, learners completed the COCA-based test, in which they corrected the same eight collocation errors by consulting COCA accompanied by other consultation resources including google translate, English-Chinese dictionaries, English-English dictionaries and thesauruses. They were required to report how many times of each consultation resource they have utilized after correcting each collocation mistake. Finally, learners completed the questionnaire regarding their corpus use after the COCA-based test. 10 students from three proficiency levels out of 140 subjects were chosen to videotape their corpus consultation and be interviewed at the end.

Data Analysis

First, the scores from both paper-based and COCA-based tests were analyzed using Stata’s descriptive statistics and a regression analysis to investigate the differences in the learners’ scores to understand learners’ performance and improvement in

collocation knowledge. The data was utilized to compare with the number of use of each reference resource by using descriptive statistics and a regression analysis in Stata to see how the number of resource use correlated with learners' performance and improvement. Also, the interview data and videotaped videos and interview were analyzed qualitatively to understand the qualitative coordination behavior.

Discussion

In total, 140 subjects have utilized external consultation resources to accompany the use of COCA to answer 57.63 % of the questions. Learners of lower proficiency utilized external consultation resources more than higher proficiency learners (Group A: 67%, Group B: 54.94 %; Group C: 51.86 %). Regression analysis also showed that the number of use of external resources is negatively correlated with English proficiency. It indicates that while learners of lower proficiency had higher level of difficulty in understanding corpus concordances (e.g., Chan & Liou, 2005; Koosha & Jafarpour, 2006; Webb & Kagimoto, 2009), they did seek help from other reference resources more often. Regression analysis further demonstrated that while learners' collocation performance was not correlated with the number of use of external consultation resources, namely they did not necessarily perform better while utilizing more external consultation resources; their improvement in collocation knowledge, however, was positively correlated with the use of external consultation resources. This indicates that the use of external consultation resources could assist learners in improving their collocation knowledge through consulting COCA in a significantly significant way, even if it did not necessarily lead to better performance when compared with others. This further supported the argument from Perez-Paredes et al., (2011) that the more coordination was utilized, the better the improvement by providing the statistically significant data.

Furthermore, learners showed preference toward different types of reference resources. Their best two favorite consultation resources were google translate for its speed and convenience (28.9% of the questions) and English Chinese dictionary for its being comprehensible and provision of example sentences (21.87% of the questions). Thesaurus dictionary and English English dictionary were utilized for only 13% of the questions and 11.1 % of the questions respectively. In addition, some learners also combined the use of various consultation resources, such as combining the use of google translate and thesaurus. Nevertheless, some patterns of coordination led to ineffective search. For example, one learner utilized thesaurus to search for the synonyms of the collocate error marked in the question, and she checked whether those synonyms also appeared in COCA as the legitimate collocates of the target noun. This pattern ended up being extremely time-consuming with poor performance. This result aligns with the "reference-resource style" suggestion by Kennedy & Miceli (2010) that students have to be informed clearly regarding the association between each resource and its best-suited function in order to benefit from the use (Frankenberg-Garcia, 2005).

Conclusions

This paper showed that coordination of external consultation resources such as dictionaries and thesaurus is beneficial for learners' collocation performance and improvement. The coordination of external consultation resources has shown positively correlated with learners' collocation improvement. Learners of lower English proficiency, specifically, used more of the external consultation resources. Nevertheless, teachers have to help learners differentiate the function of each resource and educate them the most effective way to coordinate the use of various resources so that learners could obtain the most gains.

Acknowledgements

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CALL in Context

Coordination of corpus and external consultation resources also helped in enhancing personalization of the learning process, in which learners demonstrated individual "resource-reference style" (Kennedy & Miceli, 2010). While most learners displayed the "corpus-external resource-answer" pattern by using google translate or English-Chinese dictionaries to obtain the Chinese translation of unknown vocabulary shown on the concordance, some learners sophisticatedly went back and forth between corpus and external resources for confirmation and expansion of collocation knowledge. Furthermore, access to external resources helped scaffold the corpus use because it enhanced learners' comprehension of concordance lines, especially for lower proficiency learners, who were the more frequent users of external resources. Overall, although learners showed preference toward deductive learning which dominated the local learning context, they felt empowered because they could obtain language patterns they wanted through corpus consultation for the immediate context of language use, with assistance provided by external consultation resources. Teachers should inform learners of the benefits of coordination of resources and guide learners in effectively coordinating corpus use and external resource consultation.

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AWE-based corrective feedback on EFL learners' syntactic complexity in controlled online writing

Bio data



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Abstract

This paper explored the impact of automated writing evaluation (AWE) based corrective feedback on English as a foreign language (EFL) learners' syntactic complexity in controlled online writing. We selected 400 argumentative essays written by sophomore of non-English majors at our university. These essays were analyzed by using the second language syntactic complexity analyzer (L2SCA) developed by Lu (2010), which adopted 14 syntactic complexity measures as indices from five different dimensions, which are, length of production unit, sentence complexity, subordination, coordination and particular structures. The results of the study showed that the AWE-based corrective feedback did have a positive effect on students' syntactic complexity in their writing, especially, on more advanced-level students' writing. We conducted this study in the hope of offering some tips to EFL teachers and researchers on how these measures can be used as indices of college-level EFL learners' language development.

Key words: syntactic complexity, corrective feedback, automated writing evaluation (AWE), second language syntactic complexity analyzer (L2SCA), English as a foreign language (EFL)

Conference paper

Introduction

In China, confronting with large class size, it is often the case that English as a foreign language teaching is typically input-based, and it is almost impossible for individual instructor to provide timely guidance for each learner in writing process. Therefore, the Pigai (<http://www.pigai.org/>), a web-based automated writing evaluation system (over 13,000,000 users till now in China), rose in response to the proper time and conditions. The positive effects of the system's corrective feedback on EFL learners' writing had been testified in the presenters' previous studies in the similar teaching context. The current one focused further on the deeper layer of the language structure in EFL learners' writing, more specifically, to check if the corrective feedback provided by the Pigai system also had a positive impact on their syntactic complexity in discourse organization in their writing texts.

Syntactic complexity, which has been considered as an important construct second language writing and teaching, refers to the range of forms that surface in language production and the degree of sophistication of such forms (Ortega, 2003). Previous researchers had conducted numerous cross-sectional and longitudinal studies in the hope of finding out valid and reliable syntactic measures as indices of college-level EFL learners' writing proficiency (Ferris 1994, Henry 1996, Larsen Freeman 1978, Ishikawa 1995, Stockwell & Harrington 2003). However, according to Lu (2011), due to "the lack of computational tools to automate syntactic complexity analysis and the labor-intensiveness of manual analysis", previous studies were insufficient in the number of syntactic measures and the amount of analyzed data. Based on the previous research, Lu (2010) developed L2SCA, which adopted 14 syntactic measures as indices of EFL learners' writing proficiency. The effectiveness of L2SCA had been testified in a number of studies (Lu & Ai 2015, Zhang 2016), and this current study was an example application of L2SCA to test whether and to what extent can these measures indicate EFL learners' writing proficiency.

Method

Research questions

The research aimed to deal with the following questions:

- Is there an impact of AWE-based corrective feedback on EFL learners' syntactic complexity? If yes, is it a positive or a negative impact?
- Are there any differences in the indices of syntactic complexity in writing among learners of different language levels? If so, what are the differences then?

Research design

To process the writing texts in this study, the second language syntactic complexity analyzer (L2SCA) developed by Lu (2010) was adopted. All the selected writing texts for analyses of this study were collected from embedded 10-minute online controlled writing tasks from the second author's English audio-video speaking course (EAVSC) in a digital lab from October 10 to December 20 in 2016. Throughout the period, 121 students in the four parallel classes were required to complete seven in-class writing tasks (each between 150-250 words) to the same group/pair discussion topics through the Pigai system. At the end of the course, all the students were required to fill in a questionnaire concerning their feedback on the teaching effect and also their perceptions on the use of the Pigai system.

The research was conducted as follows: first, the sample subjects were selected according to their English proficiency level (their scores on College English Test Band Six, a national test in China to evaluate non-English majors' comprehensive language proficiency) and their writing texts of revised scripts from the Pigai system were collected as research corpora, and then, the selected corpora were analyzed by using the L2SCA. Finally, the students' responses to the questionnaire were processed through the SPSS

software. As for the detailed explanation of the measures adopted in the study, see Table 1.

Table 1. Syntactic complexity measures developed by Lu (2011)

	Measure	Definition
Length of production unit	Mean length of clause (MLC)	number of words divided by number of clauses
	Mean length of sentence (MLS)	number of words divided by number of sentences
	Mean length of T-unit (MLT)	number of words divided by number of T-units
Sentence complexity	Clauses per sentence (C/S)	number of clauses divided by number of sentences
Subordination	Clause per T-unit (C/T)	number of clauses divided by number of T-units
	Complex T-units per T-unit (CT/T)	number of complex T-units divided by number of T-units
	Dependent clauses per clause (DC/C)	number of dependent clauses divided by number of clauses
	Dependent clauses per T-unit (DC/T)	number of dependent clauses divided by number of T-units
Coordination	Coordinate phrases per clause (CP/C)	number of coordinate phrases divided by number of clauses
	Coordinate phrases per T-unit (CP/T)	number of coordinate phrases divided by number of T-units
	T-units per sentence (T/S)	number of T-units divided by number of sentences
Particular structures	Complex nominals per clause (CN/C)	number of complex nominals divided by number of clauses
	Complex nominals per T-unit (CN/T)	number of complex nominals divided by number of T-units
	Verb phrases per T-unit (VP/T)	number of verb phrases divided by number of T-units

Data collection and analysis

All the students' revised writing scripts were automatically scored and collected through the Pigai system. All the collected data were processed by SPSS 22.0 and L2SCA. In the whole process, the corpora, i.e. all the students' revised writing scripts, were first analyzed by using Stanford parser, which can analyze the syntactic structure of each sentence. Then, with the help of Tregex, the occurrences of the relevant production units and structures were retrieved. Last, all the plain texts were put into the L2SCA, which can output 14 syntactic complexity indices of the sample based on the 14 syntactic complexity measures.

Results and discussion

As mentioned before, at the second presenter's EAVSC in the digital lab, 10-minute online controlled writing tasks were embedded. During the whole semester, students were required to complete seven in-class writing tasks based on the Pigai system, which could give instant corrective feedback towards students' writing texts. According to the feedback of the follow-up questionnaire and the scale of the students' perception (at 5-point Likert) on AWE-based corrective feedback, we discovered that more than 87% students confirmed the positive impact of AWE-based corrective feedback on EFL learners' syntactic complexity. They admitted that with the help of the corrective feedback and the hints on sentence structures provided by the Pigai system, they made great improvement in logicity, consistency, and validity (see Table 2).

Table 2. An excerpt of the follow-up questionnaire on the benefit of the teaching model

Categories	Items	Mean	Samples
Overall reflection of corrective feedback	#1 #2 #3 #4 #8	3.48	2. I think the corrective feedback provided by the Pigai system is comprehensive. 3. I think the corrective feedback provided by the Pigai system is accurate. 8. I think the comments provided by the Pigai system is useful.
Beneficial to vocabulary and grammar	#12 #14	3.89	12. I think this teaching model is helpful to consolidate their vocabulary 14. I think this teaching model is helpful to decrease the grammar mistakes
Beneficial to writing skills	#18#19	3.84	18. The corrective feedback provided by the Pigai make realize my weak point in writing. 19. The corrective feedback provided by the Pigai helped me revise my previous mistakes in writing.

Apart from the questionnaire, we also selected final drafts of the first task and the final task of one student to test whether there were any significant differences or not. The results are obviously displayed in Figure1, from which we can discovered that this student had made great progress throughout the whole semester, especially in MLS, MLT, MLC and CN/T.

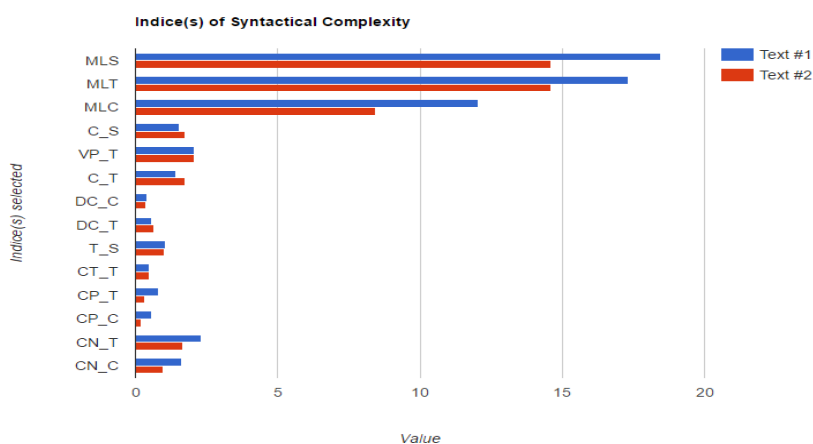


Figure 1 final drafts of one student's first writing task (red) and the last writing task (blue)

As for the differences in the indices of syntactic complexity in writing among learners of different language levels, we selected two students, one is an advanced level student, and the other is an intermediate level student (classified on the basis of their scores on College English Test band 4, which aims to evaluate non-English majors' comprehensive language proficiency). We compared the final drafts of the two students on the same writing tasks and the results were shown below (see Figure 2):

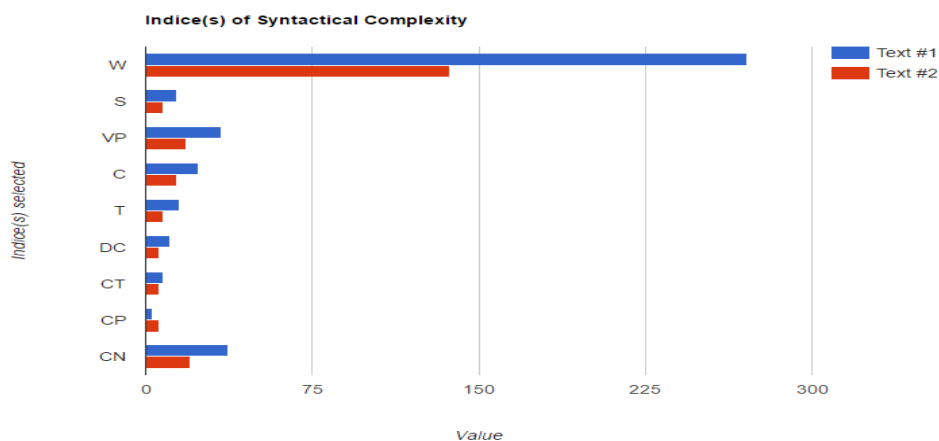


Figure 2. final drafts of the last writing task of the advanced level (blue)vs the intermediate level (red)In

Figure 2, W stands for word count, S stands for sentence, VP stands for verb phrase, C stands for clause, T stands for T-unit, DC stands for dependent clause, CT stands for complex T-nuit, CP stands for coordinate phrase, and CN stands for complex nominal. From Figure 2, the advanced level student seemed to be advantageous over the intermediated level student from all aspects, especially in W, VP and CN.

Conclusions

The results of the study showed that the AWE-based corrective feedback did have a positive effect on students' syntactic complexity in their writing, especially, on more advanced-level students' writing, and this was greatly matched with the results from the questionnaire data. The findings also indicated that the more advanced-level students would tend to have higher motivation in revising their writing texts than those of lower level in discourse organization, and more than 80% students confirmed that the corrective feedback provided by the Pigai system were helpful to their writing tasks.

CALL in Context

In China, confronting with large class size, it is often the case that English as a foreign language teaching is typically input-based, and it is almost impossible for individual instructor to provide timely guidance for each learner in writing process. Therefore, the Pigai (<http://www.pigai.org/>), a web-based automated writing evaluation system (over 13,000,000 users till now in China), rose in response to the proper time and conditions. The positive effects of the system's corrective feedback on EFL learners' writing had been testified in the presenters' previous studies in the similar teaching context. The current one focused further on the deeper layer of the language structure in EFL learners' writing, more specifically, to check if the corrective feedback provided by the Pigai system also had a positive impact on their syntactic complexity in discourse organization in their writing texts.

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(2010) developed L2SCA, which adopted 14 syntactic measures as indices of EFL learners' writing proficiency. The effectiveness of L2SCA had been testified in a number of studies (Lu & Ai 2015, Zhang 2016), and this current study was an example application of L2SCA to test whether and to what extent can these measures indicate EFL learners' writing proficiency.

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Noticing, Context, E-learning, and EFL Learners' Speech Production: Complexity, Accuracy, and Fluency

Bio data



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Abstract

Drawing upon the weak version of Contrastive Analysis Hypothesis (CAH), it is assumed that by identifying the similarities and the differences between the two languages EFL students can notice the holes in their current oral ability. For example, EFL learners' mother tongue could remain interfering to a great extent after EFL learners' years of learning the target language. As such, the study aims to find whether students' mother tongue (MT) interferes their speech production in English and whether students' oral ability in three respects, complexity, fluency, and accuracy, is enhanced through comparison and the teacher's explicit error correction and teacher-student conferences. Then the e-learning system at a university in Taiwan is utilized as a platform to collect EFL students' speech production for students to reprocess their interlanguage for further analysis. Twenty-four English majors in Taiwan participated in this study in which a pre-, three treatments, including students' transcripts of their audio-recordings in both English and Chinese, the teacher's explicit error correction, a post-test, and teacher-student conferences were conducted to first understand to what extent learners' mother tongue has affected their spoken English and whether they are able to notice the differences between their erroneous utterances and the correct form provided by the teacher and second to help students be more aware of the errors in their utterances and notice the likely impact of their MT on the production. The findings suggest that students' accuracy and fluency improve though the complexity is not significantly different. The qualitative data suggest that the e-learning system on campus enables students to re-listen to their English utterances and provides them with more opportunities to reprocess what they have said and thus notice how their MT has affected their speech production and the discrepancies between their interlanguage and the target language. The teacher's explicit error correction as well as the teacher-student conferences assists students in fostering their awareness of these errors in their utterances and that of their MT on their utterances. Many students did not consider their spoken English to be very problematic until they were required to listen to their audio-recordings. They found that when speaking English, they sounded like talking in Chinese despite the language is English. In conclusion, students' awareness of their errors in spoken English is promoted and they have learned how to say expressions or sentences in English in a more native-like way.

The context in which learners learn the target language is more associated with English as a foreign language (EFL) learning in the study, which entails that learners do not have much time to use the language outside of the classroom. Hence, learners do not have

many opportunities to use what they have learned so as to have a better grasp of their problems in spoken English, particularly complexity, accuracy, and fluency. According to Dynamic Complex Theory, learners' using of language patterns is adaptive to the context in which they learn the target language. That is to say, the development of EFL learners' oral ability is not linear but chaotic and unpredictable. For example, their speech production in English has been profoundly impacted by their MT though they have learned English for more than ten years. This phenomenon shapes the design of the study and the researcher wants to foster EFL learners' exposure to their interlanguage since most of them are rarely required to listen to their speech production in English. It is very likely that the learners' unawareness of their problems in spoken English has led to the fossilization of certain errors. In other words, the context in which they are placed in English learning forms their learning habits that could be difficult to change to a great extent. The current study attempts to break the long-term impact of the context on EFL learners' learning of spoken English with more exposure time to help learners understand their erroneous utterances and concurrently enhance the complexity, accuracy, and the fluency of their speech production. In a similar vein, the local context plays an important role in the current study since the form of the target language has been emphasized when EFL learners started to learn English at a young age. Therefore, the impact of the local context on the research has been that due to the demanding requirement of accurate form from either the learners or the society, the design of the study has been shaped to fit and satisfy the learners' mindsets and needs, even those from the society in general. On the other hand, the e-learning system at the university is a friendly yet private online access for students to listening to their audio-recordings while the teacher can keep track of the students' access to their own recordings online from time to time to ensure students' completion of the required learning tasks. The e-learning system can be multi-functional and serve as a platform for both teachers and students to form an online community and enhance students' learning effects in the long run.

Conference paper

Introduction

Deriving from Behaviorism, the Contrastive Analysis Hypothesis (CAH) was first postulated to predict likely difficulties, particularly those which do not exist in their native languages. It is claimed that language learners have more difficulty learning those morphosyntactic features which are absent from their native languages. This strong version of CAH has been criticized for their lack of empirical evidence. On the other hand, the weak version of CAH addresses the comparison between the target language and language learners' native language and the comparison would contribute to learners' noticing of the holes in their current language ability. However, the use of CAH has declined due to its focus on linguistic components (Fries, 1945) without considering other constraints. For example, it neglects children's ability to create language.

Despite the drawbacks of the strong version of CAH, the weak version of the hypothesis still deserves more attention owing to the likely effects of L1 interference on EFL/FL language learning. Furthermore, the context in which EFL learners are situated while learning English as a foreign language bears a rather strong impact on their language learning because in the EFL context language learners have fewer opportunities to use what they have learned in the instructional setting; hence the influence of their L1 on the development of their interlanguage could be greater in magnitude than those who are in the second language learning context. Additionally, most of the language learners merely have opportunities to re-listen to their oral production. Therefore, this study utilized the on-campus e-learning system as a platform to collect language learners' audio-recordings for learners' reflections of their oral production afterwards and to see to what extent the audio-recordings promoted their noticing of errors along with L1 interference on their interlanguage. Another purpose of this study is to examine the effects of EFL learners' noticing of errors through the online

access to their interlanguage and the treatments on the three constructs, complexity, accuracy, and fluency of their speech production.

Literature review

The weak version of CAH underpins the diagnosis of learners' errors resulting from L1 influence (James, 1998). Likewise, modifying the original CAH by eliminating its predictive role in second language learning, error analysis (EA) was then proposed to explain the similarities and the differences between the target language and learners' native language. EA regards learners' errors to be a phenomenon which is worthy of further investigation. EA brings language teachers and learners more insights with respect to what they need to improve in different areas of language such as grammar or lexis and the comparison between learners' interlanguage and the target language is valuable as to fostering EFL learners' awareness of L1 interference on their interlanguage and probable issues in second/foreign language learning. Some terms have been used interchangeably to connote the weak version of CAH, such as 'cross-linguistic influence' (Kellerman and Sharwood-Smith, 1986), and 'language transfer' (Gass and Selinker, 1983). The current study used cross-linguistic influence to indicate the effects of EFL learners' mother tongue (MT) on the development of their interlanguage, particularly the spoken form.

Cross-linguistic influence

The underpinnings of CAH lie in explicit learning theories and one of them is the Noticing Hypothesis (Schmidt, 1990, 1995), which stresses the prominence of learners' consciousness in noticing the gap between their current language knowledge and the target form. According to the Noticing Hypothesis, researchers later distinguished more different types of noticing. One type of noticing is referred to as learners' noticing of the holes in their current oral ability while comparing their oral production and the correct form of their erroneous utterances by teachers or more proficient learners. Chan (2004) conducted a study investigating Hong Kong Chinese students' transferring from Chinese syntax to English and suggested that Chinese native-speaking learners should pay more attention to the similarities and the differences between Chinese and English. As can be seen from studies of the like, cross-linguistic influence does exist and it is important for language learners to be aware of the errors that they make when producing the foreign language in the spoken form.

Complexity, fluency, and accuracy

Complexity, fluency, and accuracy (CAF) have been central to EFL research and many researchers have utilized the three constructs to measure EFL learners' speech production. Though there remain some arguments and ambiguity concerning CAF, they are still valuable in providing researchers with perspectives on EFL learners' development of spoken English. Among the three constructs, complexity is "the most complex yet the least understood dimension" (Housen and Kuiken, 2009, p. 463). Furthermore, complexity has been categorized into several types, namely cognitive and linguistic complexity (DeKeyser, 2005), task complexity, and L2 complexity (Robinson, 2001; Skehan, 2001). However, in order to understand students' development of complexity in linguistic aspect, complexity in the current student is defined as students' use of types of clauses in relation to the total number of clauses that they produced. Accuracy is the least argued construct though there have been some arguments in terms of the criteria used in measuring EFL learners' accuracy. Put it differently, some debates have been over the norm of the target language used in inner-circle countries and outer-circle countries (Ellis, 2008; Polio, 2007). To be in line with the English used in the treatment, accuracy was measured by the English used in the inner-circle countries. According to Housen, Kuiken, and Vedder (2012), fluency is regarded as "a phonological phenomenon" (p. 5). Therefore, fluency is referred to as EFL learners' phonological performances in spoken language without considering the meanings of their utterances.

E-learning and Context

The advancement of technology has opened more possibilities of language learning with different types of media or platforms. Among those different types of media or learning tools, E-learning system has been widely used in universities and colleges in Taiwan to provide teachers with more channels to interact with students along with more functions to teach classes in differential ways. The system is multi-functional and can be used for different purpose of teaching and learning.

Then recent studies in second/foreign language learning have blurred the boundary between second and foreign language learning (e.g., Tan, Pandian, and Jaganathan, 2016; Webb, and Doman, 2016). It seems that language learning in a second or a foreign context does not make much difference. Nevertheless, the context in which language learners are placed does insert differential effects with respect to second or foreign language learning. Though English has become a compulsory subject in Taiwan since the mid-2000, EFL students in Taiwan still encounter many issues when it comes to speech production. Furthermore, since EFL learners rarely have the opportunities to use English outside of the classroom, L1 interference is frequently shown in their spoken English. For example, after years of learning English, they could still utter sentences like "Because I like to watch TV, so I watch it every day." Thus, it can be seen that in the EFL context, learners have to face more dilemmas when producing the target language and their development of interlanguage will always be interfered by their native languages to a greater extent than ESL learners. Furthermore, according to Dynamic Complex Theory, learners' using of language patterns is adaptive to the context in which they learn the target language. That is to say, the development of EFL learners' oral ability is not linear but chaotic and unpredictable. Likewise, dynamic systems theory does not dwell on the distinction between competence and performance (de Bot, Lowie, and Verspoor, 2007) since the distinction is not critical in explaining "human behavior in context" (Larsen-Freeman and Cameron, 2008, p. 17). Simply put, EFL learners' performances (or competence) would have been heavily affected by the context in which they are while learning a second/foreign language.

Error correction and teacher-student conferences

To enhance language learners' awareness and noticing of the errors that they made in either their written or spoken English, error correction has long been utilized by language teachers to improve learners' language ability. Though there have been abundant debates over the efficacies of error correction, the method is considered to be of high value in fostering learners' language awareness or noticing of their problems in language learning due to its explicit nature as well as learners' expectation from teachers. (Yang, 2015)

Teacher-student conferences have long been used in research of second language writing for the purpose of assisting learners in understanding their writing issues or problems. The conferences can function as another channel to enhance learners' consciousness regarding their learning problems in either written or spoken English. The current study employed the method to provide learners with more opportunities to reflect on their utterances and with more exposure to the correct form of their erroneous utterances.

Hence, this study aims to examine the following questions:

1. What are the effects of noticing and contrastive comparison between EFL learners' interlanguage and the target language on their speech production?
2. What is the effect of context in which EFL learners are placed on their interlanguage development, particularly L1 interferences?

Method

Participants

Twenty-four English majors at a university were involved in this research. Most of the learners were sophomores whereas one of them was a senior student who was re-taking the class when the study was conducted. They aged from 19 to 22 years old and have learned

English for more than eight years. They were also taking English classes of other language skills and those related to English literature during which the study was in process.

Instrument

Four true stories from a textbook were used as the pre-, post-test, and the treatments. The stories were presented in strip comics. One of the stories was the pre- and the posttest while the other three stories were used as the treatments.

Data collection and analysis

The study was embedded in an English Speech class. In order to eliminate the likely impact of instruction on the study, the pre-test, treatments, and the posttest were conducted in five weeks continuously. After the pre-test, students were requested to describe each picture story and record their utterances. Their audio-recordings were uploaded to the E-learning system on campus afterwards. Then the researcher asked them to listen to their utterances online again and transcribe them into English. Concurrently, students had to translate the English version of their story into the Chinese counterparts. In the following week, the researcher also collected students' errors and explicitly corrected these errors in class. The same treatment lasted for three weeks following the posttest. One thing to note is that after the treatments were completed and before the posttest, teacher-student conferences were held to help students better understand the errors in their utterances and be more aware of the impact of L1 interferences on their speech production. All of the treatments, the pre-, and the posttests were audio-recorded for further analysis.

Students' utterances were analyzed according to the three constructs, complexity, accuracy, and fluency. Table one illustrates the criteria of calculating the three dimensions:

Table 1: Criteria of measuring CAF

Dimension	Criteria
Complexity	<ul style="list-style-type: none"> ● Finite and non-finite clauses ● Subordinate clauses in which subjects and finite verbs are deleted. (Menhnert, 1998; Mota ,2003; Weisshemier and Mota, 2009) ● Total number of clauses divided by seconds and multiplied by 60
Accuracy	<ul style="list-style-type: none"> ● Paired-sample t-test ● Errors per 100 words ● Error-free clauses (Foster and Skehen, 1996; Menhnert, 1998; Mota, 2003; Weisshemier and Mota, 2009)
Fluency	<ul style="list-style-type: none"> ● Paired-sample t-test ● Speech rate: unpruned ● Speech rate: pruned ● Multiplied results by 60 (Lennon, 1990; Ortega, 1999; Weisshemier and Mota, 2009) ● Paired-sample t-test

Qualitative data

The researcher took notes during teacher-student conferences to understand students' perceptions of the comparison between their interlanguage, the Chinese counterparts, and teacher's correct forms of their erroneous utterances. Likewise, the conferences provided both the students and the researchers with more insights regarding the impact of L1 interferences on learners' oral production.

Results and discussion

The results of the study suggested that students' accuracy and fluency reached significant differences between the pre- and the posttest whereas their complexity was not enhanced in general. Furthermore, many students whose oral ability was considered to be good at the pre-test were not able to utter more complex sentences in the posttest. In contrast, students who were categorized as low achievers at the pretest did make some progress in

complexity though the statistic result did not achieve the significance level. On the one hand, the findings appear to correspond to Dynamic complex theory, which addresses that learners' use of language patterns is adaptive to the context in which they learn the target language. In the current study, learners' use of English could have been strongly affected by the focus of the research being imposed by the researcher, which is to attend to the linguistic form yet the complexity of their utterances was rarely stressed. The researcher's emphasis on the linguistic form through explicit error correction and teacher-student conferences may have unconsciously directed learners' attention to the form of their utterances. This phenomenon also speaks for the trade-off effects indicated by Skehan (1998), which claims that students' attentional resources are limited and can only attend to two dimensions at the expense of another one.

Another finding of the study showed that EFL learners' speech production was heavily impacted by their native language. During the teacher-student conferences, many students mentioned that when they were describing the stories, they would describe the stories in Chinese first in their heads and then translated the Chinese version into English. Therefore, they found that their English oral production sounded like Chinese spoken in English. Thus, the development of their interlanguage at the time when the study was conducted remained non-native to a great extent. After the three treatments and learners' noticing and higher level of awareness regarding the errors that they made in their utterances, learners' accuracy and fluency were promoted without increasing the complexity of their speech production. Factors such as students' way of describing the pictures and anxiety could have had an impact on their performances in story-telling tasks. Several students mentioned during T-S conferences that they felt anxious when describing the stories. Thus, students' high level of anxiety may have mediated the findings of the research one way or the other. Since learners do not have many opportunities to use English outside of the classroom owing to the local context, the task may have lifted their affective filter and further influenced their oral production during the two tests. It is likely that with learners' high level of anxiety as well as L1 interferences, it was even more difficult for learners to utter utterances that could fulfill the three dimensions (CAF) simultaneously.

Another possible explanation for learners' enhancement in accuracy and fluency but not complexity could lie in the context in which the learners and the researcher are placed. EFL learners and language teachers in an EFL context have been expected to utter correct form of the target language all the time such that the EFL context in Taiwan may have shaped the design of the study in some respects.

Conclusion

In light of the EFL context along with EFL learners' multiple comparison between their interlanguage, the Chinese counterparts, and the correct form of their erroneous utterances, it is suggested that EFL learners' speech production has been strongly influenced by their MT. Concurrently, when attending to the linguistic form of the utterances, EFL learners whose interlanguage has not achieved native-like level are not able to accomplish the three dimensions (CAF) of speech production simultaneously as being defined by literature. However, the transcribing tasks and the multiple comparisons contribute to EFL learners' noticing of errors in their utterances and can be employed in the EFL classroom to enhance EFL learners' consciousness concerning their learning problems in either the written or the spoken form. Though one line of research argues that explicit learning does not lead to language learning or acquisition in the long run, it remains prominent to help students be more aware of the errors in their utterances and explore solutions to alleviate the effects of L1 interferences on their oral English such that their interlanguage can achieve to be more native-like eventually.

CALL in Context

The context in which learners learn the target language is more associated with English as a foreign language (EFL) learning in the study, which entails that learners do not have much time to use or be exposed to the target language outside of the classroom. Hence, learners do not have many opportunities to use what they have learned so as to have a better grasp of their problems in spoken English, particularly complexity, accuracy, and fluency. According to Dynamic Complex Theory, learners' using of language patterns is adaptive to the context in which they learn the target language. That is to say, the development of EFL learners' oral ability is not linear but chaotic and unpredictable. For example, their speech production in English has been profoundly impacted by their mother tongue (MT) though they have learned English for more than ten years. This phenomenon shapes the design of the study and the researcher wants to foster EFL learners' exposure to their interlanguage since most of them are rarely required to listen to their speech production in English. It is very likely that the learners' unawareness of their problems in spoken English has led to the fossilization of certain errors. In other words, the context in which they are placed in English learning forms their learning habits that could be difficult to change to a great extent. The current study attempts to break the long-term impact of the context on EFL learners' learning of spoken English with more exposure time to help learners understand their erroneous utterances and concurrently enhance the complexity, accuracy, and the fluency of their speech production. In a similar vein, the local context of the study plays an important role in the current study since the form of the target language has been emphasized when EFL learners started to learn English at a young age. Therefore, the impact of the local context on the research has been that due to the demanding requirement of accurate form from either the learners or the society, the design of the study has been shaped to fit and satisfy the learners' mindsets and needs, even those from the society in general. On the other hand, the e-learning system at the university is a friendly yet private online access for students to listening to their audio-recordings while the teacher can keep track of the students' access to their own recordings online from time to time to ensure students' completion of the required learning tasks. The e-learning system can be multi-functional and serve as a platform for both teachers and students to form an online community and enhance students' learning effects in the long run.

Furthermore, the findings also showed that though after years of learning English, most of the students remain unaware that there was much room for improvement concerning the three dimensions of their spoken English. For example, many of them uttered sentences like "Because I enjoy watching TV, so I watch TV for a long time every day." Or "My mother let me to take a trip with my friends." Sentences like this suggest that students' way of thinking when speaking in English is still like Chinese. As they have indicated during interviews, they would "tell" the story in their heads in Chinese first and then translate them into English without being conscious that their English utterances have been strongly interfered by their MT. Therefore, the local context has an ostensible influence on their oral output in the target language since students are exposed to Chinese much more frequently than to English along with very few opportunities to use the target language outside of the classroom. Hence, it is suggested that language teachers should provide students with more exposure to the target language by, for instance, speaking English most of the time in class when attempting to explain new words, phrases, or when expressing their ideas or thoughts without translating it into Chinese often. Additionally, students should create more English as a second language context in which they can receive more input and then establish a context in which they are able to apply what they have learned about the target language to real-life situations so as to advance their language proficiency to a greater extent.

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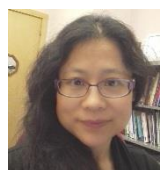
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Identifying Learners' needs: The starting point of design in improving students' Self-Regulated Learning in flipped/blended learning environments

Bio data



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Abstract

This study focuses on the first phase of a large project investigating how to design components in a flipped/blended Chinese-as-a-Foreign-Language course to promote students' self-regulated learning. The first phase is an analysis study of the current state of being of the learners to find out whether and how they self-regulate their learning, what strategies they adopt, and what support they need so that they could maximally benefit from the flipped/blended learning environments.

The analysis study used interview and survey methods to explore 1) to what extent the learners self-regulate their learning in a flipped/blended learning environment; 2) what problems, if any, they encountered in self-regulating their learning; 3) what caused the problems; 4) what help they think they need get to solve the problems. It is a fact that most learners might not be aware of the factors that hinder or stimulate them with respect to learning in the flipped/blended environments. The interview of this study was largely modeled on Colpaert (2010)'s method in detecting, eliciting, and formulating learners' personal goals. First, different participants were selected to form a focus group. Then, the group were asked to write down the first three keywords that came up in their mind when being asked questions related to self-regulated learning, in order to reduce the "bandwagon" effect and to produce more relevant information. The complete list of answers was put on the white board for discussion. In addition, a researcher-designed survey was administered to the focus group. The survey was designed based on Zimmerman (1990) and it is composed of questions that examine three different phases of self-regulated learning, planning, performance, and self-evaluation. The data are being analyzed using ground theory (Strauss & Corbin, 1993).

With more and more flipped and blended courses offered in higher education, students' being able to control their learning process and monitor their learning performance becomes more and more important. Self-regulated learning is a social-cognitive model that conceptualizes effective learning as a process of cognitive and motivational evaluation during academic tasks and it has been shown not only to predict academic achievement of learners but also to contribute to learners' self-confidence. To incorporate components to support students' self-regulated learning should be considered in the

design of any flipped and/or blended courses. An analysis of learners' needs should be the starting point and be followed by specification of the types of technology and pedagogical strategies could be used.

Conference paper

Introduction

This paper focuses on the first phase of a large project investigating how to design teaching components to promote students' Self-Regulated Learning (SRL) in a flipped/blended Chinese-as-a-Foreign-Language course. Self-Regulated Learning (Zimmerman, 1990) is a social-cognitive model that conceptualizes effective learning as a process of cognitive and motivational evaluation during academic tasks. Self-regulated learning behaviors have been shown not only to predict academic achievement of learners but also to contribute to learners' self-confidence. With more and more flipped and blended courses offered in higher education, students' ability to control their learning process and monitor their learning performance becomes more and more important.

This is an analysis study to explore students' use of SRL in unstructured and naturalistic settings. It attempts to answer questions such as whether and how students self-regulate their learning, what strategies they adopt, and what support they need so that they can maximally benefit from the flipped/blended learning environments. Despite the advantages of flipped/blended classrooms, one of their disadvantages is learners' lack of self-regulation strategies, which usually results in students spending very little time completing the outside-of-classroom learning on their own. As a consequence of this lack of preparation, students' participation in the Face-To-Face (FTF) meetings and their learning in general are negatively affected. In order to make flipped/blended classrooms more successful, teaching learners to use self-regulated learning to control their learning process and monitor their learning performance is critical. Self-regulated learning should be considered in the design of any flipped and/or blended courses, and courses should incorporate components that support students' self-regulated learning. An analysis of learners' needs should be the starting point of course design, and should be followed by specifying the types of technology and pedagogical strategies that could be used.

Research Questions

This study used an individualized exchange format survey study via WeChat to explore 1) to what extent the learners self-regulate their learning in a flipped/blended learning environment; 2) what problems, if any, they encountered in self-regulating their learning; 3) what might have caused the problems; 4) what help they think they need to solve the problems. It is a fact that learners might not be aware of the factors that hinder or stimulate their learning in flipped/blended environments. In this study, WeChat was used as a data-collecting tool. WeChat is a free, instant-messenger type application that supports asynchronous, semi-synchronous, and synchronous interactions in the modes of one-to-one, one-to-many, and many-to-many interactions. Users can opt to engage through either text, audio, or video.

Method

This study adopted an interactive, online, formative-survey format in collecting the data. Nineteen students who are taking a flipped/blended Chinese-as-a-Foreign-Language (CFL) course participated in the study. Some of them had been using WeChat to communicate with friends prior to beginning the study, and some used WeChat for the first time during the study. Students were asked to use a computer rather than a cell phone when answering survey questions so that they could write more and use more detail within a brief period of time. The initial survey had four components. First, it asked for the students' demographic information, their history of learning Chinese, and their experience taking online/blended courses. Second, the survey asked for the students' personal goals in learning Chinese. The questions for this part of the survey were

modeled after Colpaert (2010)'s method in detecting, eliciting, and formulating learners' personal goals. Third, it asked to what degree the students used self-regulated learning strategies in their Chinese learning. These SRL strategies primarily included whether the students were self-reflective about their learning, whether they set goals for their learning, whether they sought help when needed, whether they initiated efforts to select or arrange the physical setting to make learning easier, and what kind of time management skills they used. Lastly, after reading the completed student surveys, the researcher/instructor asked each student further questions to clarify an answer, to complete an answer to which they failed to respond, or to fill in what was missing from the first round of the survey.

Findings

Each student had learning goals. For example, most students were striving to improve their sentence structures and remember the characters. Some were concerned about their pronunciation tones or the speed and fluency of their spoken Chinese. However, they needed to know and use more SRL skills necessary to accomplish those goals well, such as: setting goals and making a plan for achieving the goals, reflecting on learning to improve the next time, actively seeking help to keep improving, or structuring their physical environment to avoid interruption.

The lack of goal setting habits and the lack of planning for sequencing, timing, and completing activities in order to achieve goals is reflected on students' procrastination habits and their commonly-practiced technique of cramming many things into their study the night before an exam. Most students attributed the habit of procrastination to their busy schedules, laziness, boredom, and frustration. Some students thought that the brain was used to procrastinating and that it would be hard to change.

Most students thought that they sought help when it was needed, but some felt that seeking help would bother people, so they did not seek assistance. Some students only considered online resources, such as translation software or phone apps, as resources for help-seeking, while some considered seeking assistance from other people as the only way to get help.

Few students had the habit of reflecting on their learning. A few reported that they did engage in reflection when they did not do well on exams, but most students did not reflect. When they were asked to report what learning strategies they adopted to help them learn Chinese, some students were not aware of what could be accounted as strategy. Some reported strategies they used to memorize characters, while some reported that they did not use any strategies in learning Chinese.

Most students could find a time to complete their online work, but most of them did not intentionally arrange their physical environment to avoid potential interruptions while they worked, such as turning off their cell phone etc. When asked about their time management skills, most students reported a 6 out of 10 to indicate that they thought they did not manage their time as well as they could. Most knew to develop a to-do list, but sometimes they did not complete the to-do list because of mood change or becoming distracted by other things.

Conclusion

The findings show that students would benefit if they have the opportunity to learn self-regulated learning strategies. The areas where they needed the most help were knowing how to set a goal, to create a plan to achieve the goal, and to become more aware of using different strategies to manage their learning and manage their time. Additionally, it demonstrated the need to make students aware of the importance of intentionally finding an isolated physical environment in which to work, but still know how to seek social help to improve their learning. These findings no doubt will contribute to the efforts of

designing valid SRL teaching components for courses, especially flipped, blended, or online language courses.

CALL in Context

Self-regulated learning (Zimmerman, 1990) should be considered in the design of any flipped and/or blended courses, and courses should incorporate components that support students' self-regulated learning. An analysis of learners' needs should be the starting point of course design, and should be followed by specifying the types of technology and pedagogical strategies that could be used. The questions for this part of the survey were modeled after Colpaert (2010)'s method in detecting, eliciting, and formulating learners' personal goals.

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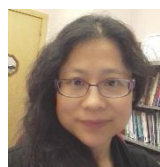
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Viewing learners, the unique features of target language, available resources, and learning objectives as the local context in designing CALL projects

Bio data



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Abstract

"For me context is the key from that comes the understanding of everything."

Kenneth Noland

Below are four projects that I have completed and will be used to illustrate how contexts affect the application of technology in designing, developing, and implementing of them to help Chinese-as-a-Foreign-Language (CFL) learners learn Chinese:

- 1) **Learning through a Computer-Mediated-Communication-based tandem project.** This project investigates the implementation of a tandem learning activity designed to allow CFL learners in America to interact with native speakers of Chinese in China. The study explores how learners interact with native speakers via Skype, QQ, or WeChat.
- 2) **Culture learning through multimedia authentic materials and ethnographic interviews in a blended learning environment.** This project tests the effectiveness of an approach to teaching CFL learners about the Chinese culture. This approach combines the use of multimedia materials in a blended learning environment and an ethnographic interview with native speakers by taking advantage of three accessible technology and non-technology resources.
- 3) **Designing a blended learning environment for in a short course for engineering CFL students.** This project investigates learners' perception of the effectiveness of a blended Chinese non-credit bearing short course designed for engineering students with no prior knowledge of the Chinese language. The framework of parameters (Neumeier, 2005) and Bloom's taxonomy were adopted in deciding on the time distribution of the two modes and on the sequencing of the two modes.
- 4) **Transformation of a Face-To-Face CFL course into a flipped/blended course.** This project analyzes the way a Face-to-Face course was transformed into a

blended/flipped course and the way it was implemented in order to maximize the positive effects of each of the two approaches.

Drawing upon the concept of the Distributed Design model, I will provide details on the design process of the projects and the ways these technologies were utilized, explain the effects of the technologies, and then discuss possible changes that could be implemented in a cyclical process.

As Colpaert (2015, 2016) pointed out, neither technology nor pedagogy nor content should be the starting point for designing environments. Rather, the starting point should be a methodological design process during which the types of technology, pedagogical strategies, and teaching content are specified. The methodology design process starts with a consideration of the learning contexts such as, who the learners are, and what specific features the target language has, the available resources that the immediate learning environment could provide, and the learning objectives and a consideration of the affordances that different technologies could provide.

Conference paper

The famous American Color Field painter, Kenneth Noland, once said, *"For me, context is the key -- from that comes the understanding of everything."* The concept of context applies not only to the creation of art, but also to the design of teaching activities and learning environments. Therefore, when designing teaching activities or learning environments, neither technology, pedagogy, nor content should be the starting point (Colpaert, 2015; 2016); but instead, the starting point should be a careful consideration of contexts, both social and local. After this, a methodological design process can be implemented, taking into account context and then determining the technology, pedagogical strategies, and teaching content that should be included.

This paper focuses on how contexts have affected the application of technology in designing four projects that I have completed in supporting Chinese-as-a-Foreign-Language (CFL) learners. Drawing upon the concept of Educational Engineering and its Distributed Design approach (Colpaert, 2010; 2015; 2016a & b), the projects were designed with a full consideration of the learners, instructional objectives, available resources in the immediate environment, types of technology available, as well as how those types of technology could be utilized in order to maximize learning.

According to the concept of Educational Engineering, analyzing the real-world situation and the specificity of context in a systematic and verifiable way should be the first step in design. The ultimate aim of design is to build the optimal educational artifacts including "documents, tools, content, concepts, models and solutions such as textbooks, syllabi, lesson plans, curricula, graded readers, exercises, tests, applications or electronic learning platforms" (Colpaert, 2016a, p. 5). The Distributed Design approach asserts that the design process should take into account many actors and factors in order to create this optimal educational artifact. This approach is based on the ADDIE instructional design model with its five phases: Analyze, Design, Develop, Implement, and Evaluate (see figure 1.) The approach is an artifact-development concept applied in the environment of learning for constructing performance-based learning when a lack of knowledge or skills is the main cause of a performance gap (Branch, 2009). The five-phase Distributed Design approach is illustrated in Figure 1.

While using the five phases to illustrate the projects, I will put emphasis on the design process, the aspects of contexts that were considered in the design, the reasons that certain technologies were applied, and the ways these technologies were utilized. I will

also explain the effects of the technologies and then discuss possible changes that could be implemented in a cyclical design process.

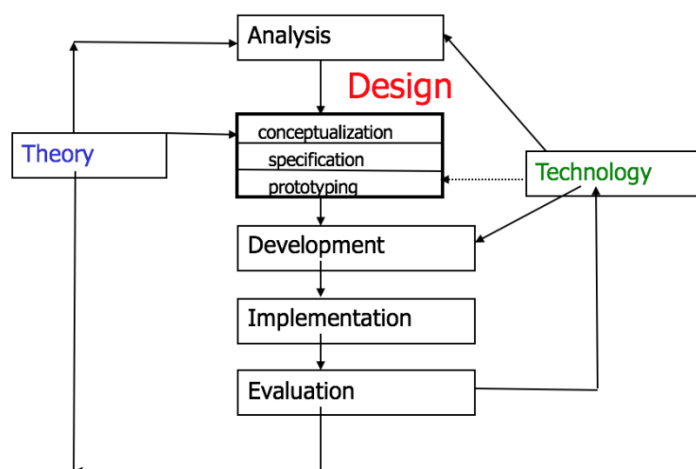


Figure 1. The Distributed Design Approach (Colpaert, 2016b)

Project #1: Learning through a CMC-based tandem project with native speakers (Zhang, 2016a). This project investigates the implementation of a tandem learning activity designed to allow CFL learners in America to interact with native speakers of Chinese in China to learn about Chinese culture and improve language skills. The study explores how learners interact with native speakers via Skype, QQ, or WeChat for the purpose of completing a culture project.

a. Analysis.

The learners were beginning-level CFL learners in their second semester of studying Chinese. Most of them did not have any background in Chinese culture or many opportunities to interact with people from China. During their first semester of Chinese instruction, they learned basic Chinese grammar and some rudimentary vocabulary so that they were able to conduct very simple, daily conversations in Chinese. The learners acquired both speaking and writing skills at the same time, but their speaking skills were not as well developed as their writing skills (by typing using pinyin), due to the disconnect between written Chinese characters and their spoken equivalent. However, compared to their speaking, they could write/type relatively well in Chinese, given adequate time. Additionally, since face-to-face class time was devoted to language learning, little time could be spared for learning Chinese culture. The goal, then, was to combine language and culture learning.

There are some available resources that could help address this issue. For example, there were ESL learners in China who were interested in interacting with American students in order to develop English-speaking skills and learn about American culture. What's more, there are free-to-download video conferencing tools available, such as Skype, QQ, WeChat, etc., which could be used to connect the two groups of learners.

b. Design:

- 1) Conceptualization: Interacting with native speakers would be one of the most efficient ways to improve both the learners' cultural awareness and their language proficiency. However, face-to-face conversations with native speakers would be very hard for beginning CFL learners if learners were required to use Chinese for nearly all interactions. Therefore, it is better to use an online, asynchronous or synchronous chat for the purpose. During

these chats, learners have the freedom to choose to interact via voice chat or video chat, if they could manage those interactions, or to use typewritten chat.

- 2) Specification: When using online video-conferencing tools to interact with native speakers of Chinese, certain criteria should be in place: 1) There must be a certain amount of time devoted to asynchronous and to synchronous chat, 2) There must be a goal for the online conversation in order to make the interaction more effective (such as the culture project used in this example), 3) Instructions should specify how much of the conversations need to be in Chinese, 4) Students should choose either voice/video chat or text chat, depending on their skills and comfort level with the language, and 6) The deliverable should be specified. In this case, the deliverable was a presentation in Chinese consisting of information about the tandem partner, the interaction process, and the Chinese culture. The presentation should be scheduled at the end of the semester.

- 3) Prototyping:

The process should progress in this manner: Instructor matches CFL student with native speaker ESL student in China => CFL student and ESL student make contact and plan for conversation time => CFL student plans for discussion and explores cultural topic => Online chat (with a certain amount of time allocated for asynchronous/synchronous interactions and English/Chinese interactions) => CFL student develops a PPT and presents in class.

- c. Development: The instructor contacted a colleague in China who taught ESL, and this colleague asked for volunteers who were interested in joining this project. The instructor wrote specific instructions describing how to complete the project and outlining the detailed project requirements.
- d. Implementation: CFL students installed either Skype, QQ, or WeChat and practiced using the program to send messages to the instructor before engaging in real communication with the tandem partner. When the students did the project, the instructor checked communications weekly, asked students to hand in chat logs, answered questions, solved problems, and encouraged students to actively participate in the project.
- e. Evaluation: The deliverable was the presentation given in class. The chat log was used to see how much learners interacted with their counterpart ESL learners and to see the content of their interactions. A survey was also used after the project to collect the students' views about and experiences with this project. The adoption of Skype/QQ/Wechat in this project was useful for improving learners' culture and language skills.

Project #2: Culture learning through multimedia, authentic materials and ethnographic interviews in a blended learning environment. This project tests the effectiveness of an approach to teaching CFL learners about the Chinese culture. This approach combines the use of multimedia materials in a blended learning environment with an ethnographic interview with native speakers by taking advantage of three accessible technology and non-technology resources.

- a. Analysis:

Learners were beginning-level CFL learners in their second semester of studying Chinese. Most of the learners had little background with the Chinese culture, especially with "little c" Chinese culture, and most had few opportunities to interact with people from China. Even though there are many videos on China and

Chinese culture available online, learners did not watch those videos often. Since there was limited time to focus on culture learning in face-to-face class meetings, students needed to learn culture outside of class. The best way to help students learn culture is to teach them different strategies for learning culture on their own so that these strategies could be used even after they finish school.

There are available resources to help with such a project, such as Blackboard Learn (a convenient, easy-to-use LMS), many freely available Chinese micro-movies that are posted online, and many Chinese students on campus.

b. Design:

- 1) Conceptualization. The culture-learning process should be meaningful to the students. Students should be exposed to various ways of learning culture so that they become aware of available learning methods and can use these methods in the future. In addition, these different methods should be interesting and engaging so the students will enjoy using them to learn culture and will easily remember these different methods.
- 2) Specification: Available videos should be used to give students an opportunity to visually observe how people in China interact with each other. One way these videos could be used is by having teacher and students watch the videos together so that the teacher could point out particularly interesting aspects of the culture. However, since face-to-face time in the classroom should be primarily occupied with teaching, learning, and practicing the language, a more efficient way to use the videos would be to edit in a way that calls attention to the most relevant points, and then post these edited videos online. To help students learn better, online questions and discussions should be developed by the instructor and completed by the students. After learning about the culture through this second-hand experience, students should have an opportunity to interact with native speakers on campus, so that students get first-hand experience with the culture and can ask any questions they might have about Chinese culture after watching the instructor-edited micro-movies and participating in group discussion.
- 3) Prototyping: Online video watching, answering questions and participating in group discussion, ethnographic interview

c. Development: The instructor created a mini-PPT lecture describing big C culture and little c culture and ethnographic interviewing. The instructor located micro-movies and movie clips which clearly showed aspects of little c culture. The instructor then edited the videos and wrote questions which would be used to call students' attention to specific points in the videos. The instructor assigned students to groups, taking into consideration ability, age, gender, culture, and language background of the students. The instructor made Blackboard ready for video watching and group discussion and also wrote the instructions for the project, the interview protocols, the interview report requirement, and the reflection paper requirement.

d. Implementation: The instructor taught students about the importance of culture, how to learn about culture, and what an ethnographic interview is as a method. The instructor also helped some students locate a native speaker to interview.

- e. Evaluation: Face-to-face whole class discussion, survey, interview, report, and reflection. The use of edited micro-movies and Blackboard was perceived positively.

Project #3: A blended CFL short course for engineering students. This project investigates learners' perceptions of the effectiveness of a blended, Chinese, non-credit bearing, short course designed for engineering students with no prior knowledge of the Chinese language. The framework of parameters (Neumeier, 2005) and Bloom's taxonomy of learning objectives were adopted in deciding on the time distribution of the two learning modes (online and face-to-face) and on the sequencing of the two modes.

- a. Analysis: Learners were beginning-level CFL learners without any prior knowledge of Chinese. They were engineering students who were very busy with courses and projects in their major area, but who wanted to learn a little bit about the Chinese language and culture. They were eager to learn Chinese in preparation for possible future visits or study-abroad opportunities in China. What they wanted from this short course was a good introduction to both the language (listening, speaking, reading, and writing) and the culture.
- b. Design
 - 1) Conceptualization. To introduce the Chinese language to beginners who have just a few hours a week to learn the language, both face-to-face and online modes should be utilized. Due to the special logographic feature of the Chinese language and the dramatic differences between the learners' native language, English, and the target language, Chinese, the face-to-face meetings should not only focus on giving students an overall introduction to the language, but should also provide them with opportunities to practice all four language skills (reading, writing, speaking, and listening) and to be exposed to the main points of Chinese culture. Generally speaking, new learners have more questions than learners who are familiar with this language, so covering all aspects of the language and the culture in a face-to-face environment allows beginning learners to ask any questions they might have. Online components should be used to facilitate the learning process, help students review and retain what they have learned in class, and supplement cultural knowledge. If possible, there should be apps to support different language skills such as writing, character recognition, reading, and grammar. Available resources included: Blackboard, free culture videos online, writing apps, quizzlet etc.
 - 2) Specification. The framework of parameters (Neumeier 2005) was adopted for use when deciding on how much time to devote to the face-to-face and online aspects of the class, which mode should be the primary mode, and how to sequence and integrate the two modes in order to reach an optimal learning result.
 - 3) Prototyping: See figure 2.

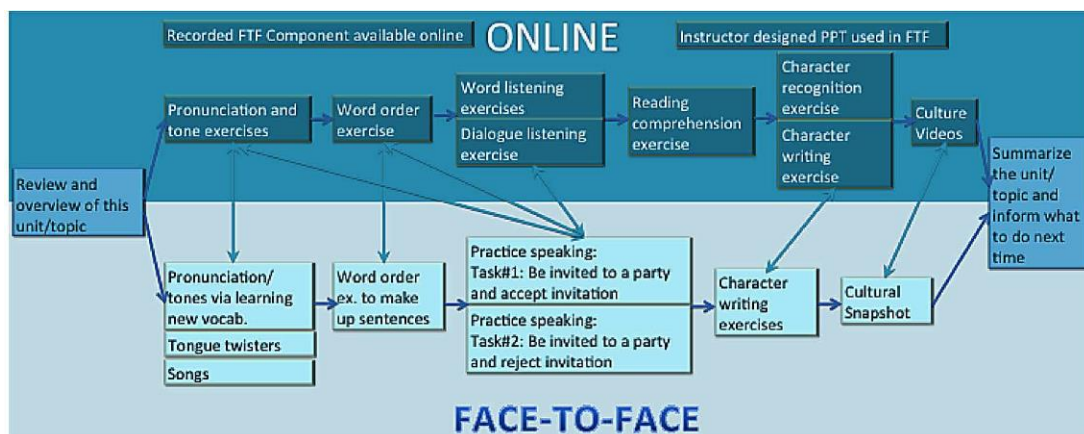


Figure 2. Flow chart of the blended short course (Zhang, 2016b, p. 42)

- c. Development: The instructor created all the materials needed for the course, face-to-face and online, with assistance from a Blackboard technologist.
- d. Implementation: The instructor taught the course face-to-face during 12, two-hour meetings. At the face-to-face meetings, speaking, listening, reading and writing were all covered, in addition to vocabulary, grammar, and culture. The online components were utilized by most students.
- e. Evaluation: Performance assessments and an end-of-semester survey were used to evaluate the course. The online components were very useful in helping these students learn Chinese, both the language and the culture. However, learners suggested that a workbook with different kinds of exercises should also be available.

Project #4: Web 2.0 enhanced TBLT syllabus

This study examined the effectiveness of an approach for improving Chinese-as-a-Foreign-Language learners' language proficiency, especially their speaking ability, and how the learners perceived this approach at the syllabus level.

- A. Analysis: Learners were third-semester Chinese learners with low-intermediate language skills. A survey of the students indicated that they felt a particular need to improve their Chinese speaking skills. Therefore, a syllabus should be designed that stresses speaking, but at the same time improves their language proficiency and other language skills as well. The available resources include: Blackboard, native speakers on campus, and web 2.0 tools.

B. Design:

- 1) Conceptualization. To improve speaking skills, the course should provide many speaking opportunities. Moreover, the speaking activities should be meaningful in order to motivate the students to get involved in speaking. Since preparation for speaking is part of the learning process, activities should allow a great deal of preparation time. The face-to-face meeting times would not be adequate to reach these goals, so students must take advantage of time outside the classroom. To encourage them to utilize time outside the classroom, students should be assigned meaningful tasks and should have interaction with the teacher and other students. Furthermore, writing and speaking are closely connected, so writing should be used to prepare for speaking. Additionally, based on the literature, students believe explicit grammar instruction to be important.

Therefore, syllabus design should stress these aspects: 1) technology should be used to connect the learners with co-learners and the instructor in order to extend learning beyond the classroom and offer students

opportunities to practice language skills such as reading and writing, 2) the teaching approach should stress speaking; however, this approach should also incorporate explicit grammar instruction. Therefore, a web 2.0 tool called a wiki was used in the TBLT integrated syllabus.

- 2) Specification: Pre-task, Core-task, and Post-task activities were designed to give the students enough preparation for the core tasks and enough opportunities to practice the four language skills.
- 3) Prototyping:

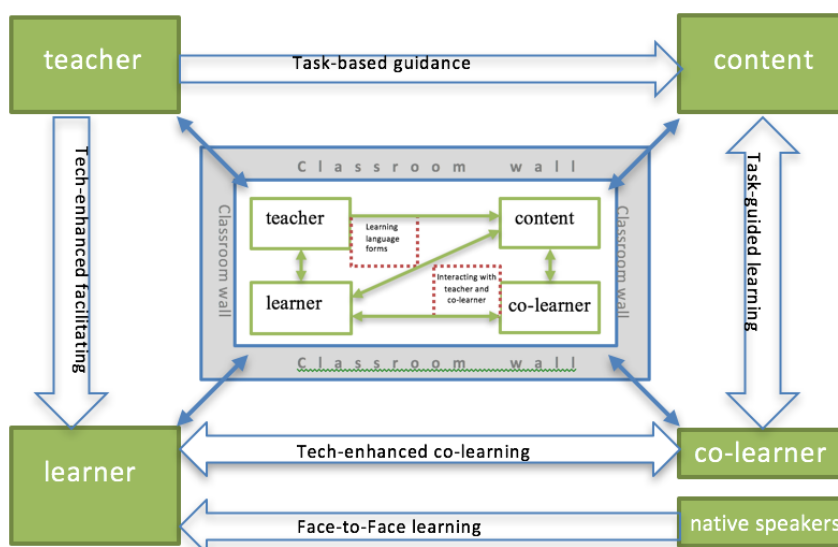


Figure 3. The conceptualization architecture (built upon Colpaert, 2016b)

- c. Development: The instructor developed most of the materials used for this course, including 8 instructional units and the pre-, core-, and post-task activities. The text videos that were used to familiarize the students with the unit topic and to help them practice their listening skills were created by native speaker teaching assistants. Students were assigned wiki essay writing and commenting as one of the core-task activities for each unit.
- d. Implementation: Wiki-writing works very well. The students wrote essays via Wiki and the instructor gave feedback online. Peers also read the essay and made comments.
- e. Evaluation: Proficiency assessment, speaking assessments (before and after the implementation of the TBLT syllabus), reflection papers, and end-of-semester survey. The technology (wiki) and the TBLT approach were both well-perceived. However, the videos should be improved.

CALL in Context

Drawing upon the concept of Educational Engineering and its Distributed Design approach (Colpaert, 2010; 2015; 2016a & b), the projects were designed with a full consideration of the contexts, which include the learners, instructional objectives, available resources in the immediate environment, types of technology available, as well as how those types of technology could be utilized in order to maximize learning.

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A tracking based study of self-revision for word-processed writing by learners of Chinese as a Foreign Language

Bio data



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Abstract

Investigation of self-revision becomes feasible and unobtrusive only when computer-based tools such as screen recorders and/or keystroke logs are applied. In this study, 66 foreign students enrolled in the advanced Chinese writing volunteered to respond to the writing habits and attitudes questionnaire. Using word processor, they also wrote three essays, each in a different genre (i.e., narrative, argumentative, and practical) during a 90-minute class section, in three consecutive weeks near the end of the semester of Fall 2016. Students' writing process were recorded using screen recorder and keystroke logging. Their revisions were first identified and classified into during and after writing according to their occurrence in the writing process. Then each revision was discerned as meaningful or meaningless along four dimensions (i.e., level, type, location, and duration). Comparisons for revisions were made between those with higher and lower writing proficiency. In-depth interviews and surveys were conducted to collect qualitative data about the writers' attitudes to and habitual behaviors of self-revision. Preliminary findings of the present study are: a) in contrast to those with lower writing proficiency, students with higher writing ability spent more time on review, but they made much fewer revisions and much less deletions; b) genre had an influence to the number of

revisions, and students in general made most frequent number of revisions for the narrative essay; c) although the vast majority of the students acknowledged the benefits of revisions for quality of essay writing, they demonstrated noticeable differences in revision behaviors at individual level. Furthermore, students' proficiency in Chinese language had a great impact on their revision behaviors.

Constructivism suggests that learning is accomplished best using a hands-on approach. To better reflect on and learn from experience, learners need an objective representation of their hands-on practice. In learning self-revision, screen recorder and keystroke logging tools proved to be ideal instruments to represent learners' revision process. With analysis of each individual learner's self-revision behavior and attitudes and comparisons of self-revision among a purposeful sample, learners will learn through practice from their own as well as from their peers so as to become proficient in self-revision more efficiently.

Conference paper

Introduction

Investigation of self-revision becomes feasible and unobtrusive only when computer-based tools such as screen recorders and/or keystroke logs are applied.

To better understand Chinese as a Foreign Language (CFL henceforth) learners' self-revision behavior while writing with a word processor, the study set out to answer the central research question: are there any differences in their self-revisions between the proficient CFL and the non-proficient CFL writers? More specifically, group differences were compared in the following aspects: occurrence time of self-revision, content and mechanism self-revision, and unit and behavior of self-revisions across different task types (i.e., narrative, argumentative, and practical).

Methodology

Participants

The 67 participants of this study were foreign students who enrolled in the advanced Chinese writing course in a southern Chinese university. Based on the writing habits and attitudes questionnaire to which they volunteered to respond, the majority of them were from Thailand and Indonesia (about 66%) and the rest were from Japan, Korea, Russia, and so on. Among these students, 40 were female, and the rest were male. The students have taken the course for three months at the time the study began. During these three months, they participated in the 1.5 hour class meeting every week and turned in an essay as homework biweekly. Each homework essay had to be finished within four days and the teacher scored each essay with suggested revisions. Other than this course, the students also all took the thesis writing course to prepare their graduate theses.

Instruments and Rating Criteria

There are three writing tasks for each participant, and they are "an unforgettable travel" for narrative writing, a self chosen topic for argumentative writing, and an application letter for practical writing. The rating criterion was from Jacob and colleagues (1981).

Each participant took about 10 minutes to complete the questionnaire before started his/her narrative writing task. The questionnaire centered its questions on participant's demographic information, writing/self-revision habits/behavior, preference of writing media, as well as attitudes towards self-revision.

After finishing the three writing tasks, purposefully chosen participants were interviewed individually using the screen record as the tool for stimulated recall.

Procedure

Using word processor, the participants wrote three essays, each in a different genre (i.e., narrative, argumentative, and practical) during a 90-minute class section, in three

consecutive weeks near the end of the semester of fall 2016. Students' writing process were recorded using screen recorder and keystroke logging. Their revisions were first identified and classified into during and after writing according to their occurrence in the writing process. Then each revision was discerned as meaningful or meaningless along four dimensions (i.e., level, type, location, and duration). Comparisons for revisions were made between those with higher and lower writing proficiency. In-depth interviews and surveys were conducted to collect qualitative data about the writers' attitudes to and habitual behaviors of self-revision.

Findings

Comparisons between impromptu and non-impromptu revisions across the narrative, argumentative, and practical writing were reported in Table 1.

Table 1. Impromptu versus non-impromptu revisions across the writing tasks

Task-type	Impromptu revision	Non-impromptu revision	N	Sig.
Narrative	18.64	24.15	66	0.005*
Argumentative	12.71	15.68	63	0.024*
Practical	7.87	9.40	63	0.138

Note: * denotes significance at the $\alpha = 0.05$ level.

The following table summarizes significant group differences in occurrence time (during writing versus while reviewing) and nature (meaningful versus mechanism) of self-revision by different writing task.

Table 2. Statistically significant group differences in self-revision among the proficient and non-proficient writers

Task-type	n	Minutes on Reviewing	Revisions while reviewing	Format revisions during writing	Typing revisions while reviewing
Narrative	n1=31, n2=35	3.29*	---	---	---
Argumentative	n1=33, n2=30	---	2.55	---	---
Practical	n1=36, n2=27	3.81**	2.8**	-1.33*	0.33*

Notes:

- n1 is the sample size for proficient writers, and n2 is the sample size for non-proficient writers;
- the numbers in the columns 3 through 6 are group mean differences;
- the "---" denotes statistically non-significant group mean differences;
- * denotes significance at the $\alpha = 0.05$ level, and ** denotes significance at the $\alpha = 0.01$ level;
- a number in the columns 3 through 6 without any * means marginal significant (i.e., p value is in between 0.05 and 0.1).

The last table (Table 3) lists significant group differences in terms of revision unit and behavior in the three writing tasks.

Table 3. Statistically significant group differences in revision unit and behavior in the reviewing stage among the proficient and non-proficient writers

	Types	Narrative	Argumentative	Practical
Unit	Punctuation	---	---	---
	Sub-sentence	1.52*	1.39	1.45***
	Sentence	1.69*	0.82	1.01*
	Sentence group	---	---	---
	Paragraph	---	---	---
Behavior	Deletion	0.83*	0.44	0.46*
	Insertion	1.89*	1.09	1.27*
	Substitution	---	1.07	0.83
	Structural changes	---	---	0.24
n	n1 for Proficient	n1=31,	n1=33,	n1=36,
	n2 for Non-proficient	n2=35.	n2=30.	n2=27.

Notes:

- n1 is the sample size for proficient writers, and n2 is the sample size for non-proficient writers;
- the numbers in the columns 3 through 6 are group mean differences;
- the "---" denotes statistically non-significant group mean differences;
- * denotes significance at the $\alpha = 0.05$ level, and ** denotes significance at the $\alpha = 0.01$ level;
- a number in the columns 3 through 6 without any * means marginal significant (i.e., p value is in between 0.05 and 0.1).

Discussion

In general, the participants of this study made more non-impromptu revisions than prompt ones (please refer to Table 1). This finding suggested that we should provide sufficient time for CFL writers to allow necessary self-revision behavior after they stop writing.

The proficient and non-proficient CFL writers had no significant difference in terms of time spent on writing regardless its task type. But proficient writers wrote significantly longer argumentative ($n_1=33$, $n_2=30$, $t=2.17$, $p=0.036$) and practical essays ($n_1=36$, $n_2=27$, $t=3.54$, $p=0.001$). The difference of the length of narrative essay between the two groups of writers was marginal significant ($n_1=31$, $n_2=35$, $t=1.97$, $p=0.055$).

The proficient writers also spent more time on review except for argumentative essays as shown in Table 2. In summary, the proficient and non-proficient writers spent similar time on writing. But the former group writers wrote longer essays and spent more time on reviewing.

The two groups of writers also demonstrated noticeable difference for the number of revisions in the reviewing process with proficient writers made more revisions in the reviewing process, although there's no significant difference for the number of revisions during the writing process. This signifies the importance of revisions after writing. Furthermore, proficient CFL writers outnumbered the non-proficient writers in mechanism revisions (i.e., format revision and typing revision) but similar in the number of content revisions.

In terms of unit of revision, there's a clear tendency that the proficient writers made both sub-sentence and sentence levels' revisions. As for revision behavior, proficient CFL writers made more deletions and insertions regardless of writing tasks.

In general, the study found significant differences in proficient and non-proficient writers' revisions in many aspects. To improve CFL writers' writing quality, teaching emphasis should be put on revisions during reviewing. Lower level writers should pay more attention to sub-sentence and sentence level revisions. However, the study also found that the two groups were not significantly different in content revisions, sentence group and paragraph revisions, substitutions, and structural changes. A reasonable explanation is that writing in Chinese is a demanding task for most foreign learners which requires tremendous cognitive loadings and prohibits higher level/more meaningful revisions even for the proficient CFL writers. But, further studies in this direction are needed to reach more reliable findings and sound conclusion.

CALL in Context

Constructivism is a theory about how learning happens. Constructivists believe that learners bring experiences as well as reflections into learning activity to construct their own knowledge and understanding. Constructivism suggests that learning is accomplished best using a hands-on approach.

In our local context, a group of CFL learners were taking the elective Advanced Chinese Writing course and the core course of Thesis Writing. They have to improve their CFL writing skills through these courses to accomplish a Bachelor's thesis in the incoming semester and thus partially fulfill the requirement of a B.A. degree by the key university in southern China.

The three writing tasks in this study were actually part of their homework assignment of the advanced Chinese writing class. The size of this class is quite large, which contains 67 students from many different countries although the majority of them were Asians. The teacher of this course is a 35 years old young man who owned a Ph.D. in Chinese linguistics. He is very kind but also very responsible to his students. He insists in revising and providing feedback to each writing assignment on his own although he can actually ask teaching assistants to do this for him. However, one problem puzzled him for each semester. That is he never has a clear picture about how each of his 67 students write his/her essays and therefore can only provide feedback based on the outcome of his student's writing. Sometimes, he tries to figure out how a particular student came up with the essay that s/he wrote by asking him/her to recall, but he can never be sure whether or not the student's responses is sufficiently reliable.

According to the Constructivism theory, the students learned from their own writing process and brought that experience and reflections to their writing class. But the teacher has no way to find his students' problems in their writing process, because most of the essay assignments were done at home. Furthermore, even if the essays were done during class, it is impossible for his to observe each student's writing completely due to the large class size.

With the help of screen recorder, not only his problem mention above was solved, more importantly, students can better reflect on and learn from their writing experience through an unobtrusive and objective representation of their hands-on practice. With analysis of each individual learner's self-revision behavior and attitudes and comparisons of self-revision among a purposeful sample, learners will learn through practice from their own as well as from their peers so as to become proficient in self-revision more efficiently.

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ⁱ Spoken dialogue systems simulate an oral interaction on a particular topic between a user and an animated character.

ⁱⁱ This term is also used by Bibauw et al. (2015).