teleXbe-2021 – The balance distance and face-to-face learning: a field for the discussion of scientific evidences

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1. Introduction

The rapid acceleration in blended learning and hybrid learning has developed a strong scientific and academic debate on these issues in recent years and has been integrated into the last two meetings of the first and second teleXbe workshops. With this in mind, the two conferences must be as open as possible to international scholars; naturally, we worked in this direction. At the same time, in view of future developments, the foundations are already being laid for the future organization of this content update conference: the third meeting of teleXbe 2022 included two days comprised of studies that have concentrated their research on digital technologies for education and serious games (day 1) and the inclusive skills of university teachers (day 2).

The organization of this event is in view of getting with a group of scholars from different universities, colleagues from the University of Naples and, above all, the strongly collaborative Prof. Miglino who, as you all know, unfortunately passed away this year. It was a huge tragedy that we have lost such a great scholar, a real magister, we could say, and this tragedy has somehow given us the motivation to work hard on such topics [3]. In terms of his legacy, our aim is continuing the endeavor, the effort we're putting into these kinds of events, the organization of seminars and congresses, and working on publications in trying to continue the development of his project and his ideas.

The second edition of TeleXbe has an important accent on the work of Orazio Miglino. Remembering Orazio is our duty, but we have to look forward, continuing his work with the young researchers he contributed to grow up, and with a lot of extremely dynamic and competitive publications and papers. In this way this edition is willing to offer platforms and opportunities like this in the years to come in order to exchange our research, collaborate, and open up new fields of research as any researcher should do.

The direction of this conference is on a very peculiar and contemporary segment of human knowledge that is, of course, the learning sciences and the technologies involved in the process of learning. We've all seen the effects of superficial e-learning use and the superficial or badly thought-out use of technologies in schools and universities during these two years of the pandemic, and we all know that we need hard, solid science behind decisions that are taken every day in classrooms, schools, and in informal educational environments. Therefore, we need and are thus looking for evidence and strong, reliable science.

Connectivity is crucial to the success of hybrid school models for students and learners [1]. Some technological solutions will be needed for the model to thrive in the future. Safe access to data is one of the core solutions where students are guaranteed safety when accessing data and where unacceptable content is filtered and blocked. Also, sensitive information in the student database ought to be protected from malicious cyber-attacks and breaches. Bridging the take-home assignment gap with smartphone connectivity is also crucial. Regardless of the learning conditions of students, there should be adequate internet connectivity in their homes. Parents need to ensure that a wireless connection is accessible from home to enhance continuous learning.

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On the other hand, relevant digital resources should also be available in learning institutions to facilitate hybrid learning because inadequate technological tools are limited. Governments also have a significant role in ensuring the resources required for hybrid learning are provided to learning institutions through regular funding and the adoption of supportive curriculums and policies. A new, specific learning space is the hybrid or blended synchronous learning environment, where both on-site and remote students can participate in learning activities simultaneously. As synchronous hybrid learning is relatively new, few studies have investigated its use and effectiveness. Conversely, hybrid learning is characterized by various significant challenges in its implementation process [2]. Firstly, there are considerable hardships in student engagement. In this context, tutors will admit that it is indeed challenging to ensure students in the physical classroom are engaged with those learning remotely from home for equality in learning experiences. These phenomena occur due to different teaching methodologies that lead to unequal engagement. The solution could be tutors focusing on activities that can spiral engagement, such as discussion groups and tests, through engaging technological platforms such as live streaming and sharing screens.

With a cohesive event like this, we're looking to generate a community of researchers and scholars that will work to offer reliable evidence to all the practitioners that work in the field of education because in order to take the right decisions when you have your pupils in front of you or when you're conducting training sessions with adults, you need solid, reliable scientific evidence. Our double effort is, on the one side, to work on solid research and, on the other, to be able to disseminate this kind of research in order to reach all the segments of society where learning sciences are useful.

2. The second edition of Technology Enhanced Learning Environments for Blended Education – The Italian e-learning Conference

The Second edition of "Technology Enhanced Learning Environments for Blended Education – The Italian e-learning Conference", with the acronym teleXbe-2021, was organized jointly by the University of Foggia and Smarted srl, a company expert in the field of Technology Enhanced Learning. The conference was held on 5th and 6th of October 2021. Although the situation related to the COVID-19 emergency is improving in Italy, the event was held online, because the lack of assurance during the summer regarding the situation during the conference days.

This second edition will come after ten months conference of teleXbe [4], renewing the themes that comes from the COVID-19 experience. In particular, the second edition focused on studies that consolidated the results emerged during the pandemic. The studies are more mature and describe the results achieved after the first period that was useful for a first remodelling of learning strategies in distance mode. During this second year of learning forced with distance learning instruments, the results from the scientific point of view are clear and describe a precise landscape. The conference has the aim to catch these results and to create a dynamic and collaborative field of discussion for researchers and stakeholder in the field of blended education.

The submitted articles are 20 and 35 are the authors involved in the papers. Among the 20 papers submitted for peer-review to this symposium., 18 papers were accepted for this volume.

As in the first event, the chairs, the University of Foggia and Smarted decided to maintain the workshop as an open event. For this reason, no fees were required for the conference participationin any case, with the strong idea to propose a real open workshop with a high academic impact. The conference should not be limited to researchers that pay for their article, but a field for stakeholders that propose their research in an open table, with a precise assessment under a scientific point of view using the peer reviews for the submitted article. Each submission was reviewed by at least two international Program Committee members. To reach a final decision there was a Program Committee discussion period.

The final goal was to involve the greater number of users for the create open debates and discussion on the topic of blended learning involving participants from different countries. The "Technology Enhanced Learning Environments for Blended Education – The Italian e-learning Conference" aimed to enlarge the community of practice between researchers and professionals in this field created during the first event. One important commitment of the symposium was to involve users and participants from

different field including researchers, practitioners, educational developers, entrepreneurs to address current challenges and advances in the field.

The design of the event aimed to discuss on the new update on the application of technology enhanced learning for the distance and hybrid education, supporting the learning processes and also the teaching in different fields, from the higher education to the school sector.

Blended learning is not a new label: it became popular from the begin of the new millennium [6], but during the last years it acquired a significative revamping. It obtained a new life after the COVID-19 pandemic and the consequent outbreaks [7] that forced all the students (and the teachers) in their homes, forcing new solutions for the achievement of expected learning goals. The distance education were the answer that was applied all over the world. In this context, researchers and teachers evaluated the learning results and the students' behaviors, searching new solutions and re-discovering well-known psycho-pedagogical practices. In the last year, we experienced initial re-opening of learning centers (universities, schools, training courses, etc.) with some limitations. The impact of distance education is a value that could give a significative benefit to the new and next learning. Based on this background, the blended education acquires an improved impact: its methodological approach is the perfect humus for the born of the school/university of tomorrow, linking face-to-face and distance education.

The conference aims to grab this picture and analyze it from a scientific point of view, evaluation the opportunities offered by the information communication technology (ICT) for learning/teaching. The blended learning model is a possible solution to creating a flexible and adaptable learning environment for students' preferences and learning needs.

The teleXbe conference accepted papers that covered the following themes:

- Blended Learning
- Distance Learning
- Massive Open Online Courses (MOOCs)
- Hybrid environment
- High-quality Learning Environments
- Teaching, Learning, and Assessment strategies and practices
- Technology-enhanced Learning
- Tangible User Interface (TUI)
- Intelligent user interface (adaptive virtual agents, smart multi-modal interfaces)

The conference covered two days: a first afternoon addressed for the discussion about ongoing projects in the field of technology enhanced learning, funded by Erasmus+ and H2020; and a second full day for the discussion of the accepted papers.

As in the first edition, teleXbe conference maintained the aim to include in the discussions multiple stakeholders giving the possibility of sharing experiences, promoting debates and creating interconnections in the field. A crucial asset of the conference was to involve the greater number of participants, from different sources, intercepting different languages, placing in the center the multidisciplinary approach of the symposium that starts from the computer science, to the education; from the psychology to the pedagogy. In this context, teleXbe created a first day focused on project dissemination, but with an additional added value: the session was co-designed with another conference in the field called PsychoBit (Psychology Based Technology). PsychoBit2021 aims at presenting psychological theories and models that revolve around the improvement of psychological and relational life of individuals. More in detail, the symposium focuses on technological solutions, mainly employing IT, software, and hardware to meet psychological needs. For this reason, the first day of teleXbe was overlapped with the last of PsychoBit proposing a common ground of interest on practical experiences, sharing knowledge in the area of technology enhanced learning for psychological and educational needs. This intention enlarged the impact of the conference, bringing together two sectors with many interactions and boosting discussions and collaboration aimed at creating interconnections and new convergences.

As during the first edition, the teleXbe conference aimed at the inclusion of contribution from experienced researchers, but with a special attention on the early experienced researchers. Early career researchers were encouraged to apply, because one main aim of the workshop is to promote a community of practice in the field of blended learning studies, including the preliminary research of young scientists. For this reason, one goal was to select contributions also presented as proof concept, thus in a preliminary stage, or prototype without user-experience research (in an intermediate stage), or

services or products released in operational field (in a final stage of implementation). In this context, the workshop stimulated also the submission of papers in an initial stage of implementation, using the European framework of Technology Readiness Level (TRL)[1] [4]. It implies that papers that proposed projects from the first two steps of the TRL were accepted, as a useful trigger for further discussions, suggestions and debate development. The scientific committee of teleXbe considers this as a central reference of the workshop, because it includes themes and topics that involves a continuous upgrade of technologies and procedures that needs to be discussed by communities of practices that works in the same scientific area.

As mentioned earlier, the conference aims to have an impact in the discussion of hybrid and blended learning. For achieving this, the organizers of the conference maintained the access to the two-days workshops fully free. Also, for the authors no registration fees were applied. The Technology Enhanced Learning Environments for Blended Education – The Italian e-learning Conference has the goal to become a fully open ground where practitioners, researchers, lecturers, professors, teachers and even students debate about the new impact of digital learning in daily routines.

Also this year the conference is jointly organized by the University of Foggia and Smarted srl. These two organizers well represent the spirt of the workshop, with the aim to connect the academia with the productive environments. Smarted srl is an Italian company that works in Technology Enhanced Learning sector, with a special orientation on gamification of MOOCs [8] and application of mixed-reality solutions based on Tangible User Interfaces, applying Agent Based Models [9].

A final remark on the scientific quality of the workshops. All submissions were be peer-reviewed by at least two experts in the field that are part of the Program Committee.Acknowledgements

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3. The workshop schedule rationale

As described in the previous section, the teleXbe Day 1 was jointly organized with PsychoBit symposium focused on the “Project session” oriented to practical experiences.

During this section were described six projects with seven contributions. All the projects where funded by the European Commission in the Erasmus+ and H2020 programmes.

The first project described was STOP (STop Obesity Platform) [10] under Grant Agreement No. 823978 that focused on the development of an innovative platform (mobile and web-based) for contrasting the obesity behaviours in critical patients. In the teleXbe conference the attention on the gamified approach using a mobile app. [11].

The second project presented was EULALIA (Enhancing University Language courses with an App powered by game-based Learning and tangible user Interfaces Activities) funded in Erasmus+ aimed to improve and integrate the learning methodologies of the university language centres of 4 countries (Italy, Malta, Poland and Spain) for Erasmus students using a mobile app in a blended approach. [12].

The third project is called MERGO (Mooc in Enology aimed at Reinforcing competences applying Game-based approach and Olfactive learning for the wine tasting) that proposes a n innovative tool for olfactive learning with Tangible User Interfaces in MOOC learning for viticulture and enology learning,

Next, Blue Arrow project, that takes the name from the book wrote by Gianni Rodari [13] (La Freccia azzurra, the original novel in Italian) with a roject for the improvement of distance learning of children between 3 and 7 years old using storytelling and mixed reality.

After Blue Arrow, teleXbe hosted Knights (knIghtS oF thE EuroPean Grail) funded by Erasmus Plus in school sector, proposing an app designed for the enhancement of motivation in language learning of the high schools.

[1] https://ec.europa.eu/research/participants/data/ref/h2020/wp/2014_2015/annexes/h2020-wp1415-annex-g-trl_en.pdf

Finally another Erasmus+ project called (Edu4AI) that has the aim to join artificial Intelligence and Machine Learning to foster 21st century skills in secondary education

During the second day started the workshop with the presentation of the articles, after the speech of the invited speaker Davide Marocco called “An Agent-Based Approach for training Soft Skills in Digital Environments” focused on the approach of Agent-Based models in learning environments, including the impact of serious games for the assessment and the training of soft-skills as negotiation and management of conflicts.

Next, the teleXbe hosted three sessions with the paper presentations. During this edition, the Scientific Committee and the editors preferred to do not create clusters of papers. The papers addressed different topics, involving techniques and methodologies of distance and blended learning in different contexts. During these sessions 14 papers where presented, opening fruitful discussions. At the end of all the presentation was granted the Best Paper Award “Antonio Cerrato” that aims to give the prize for the best article that addresses the conferences topics. The evaluation is performed around three main pillars: innovation, impact and scientific rigor. This year the best paper award was obtained by a paper called “Develop OERs for Technology Enhanced Learning”, that describes the application of innovative OERs addressed for mobile-learning, by using augmented and mixed reality for Erasmus students with the final goal of language learning, in a sector that suffered the impact of the outbreaks and the restrictions that limited the Erasmus mobility.

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