Digital Technologies for Communication Simulation in Foreign Language Learning under Pandemic

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Abstract
Foreign language acquisition presupposes building up communication skills in audition and speaking by way of using special communicative simulation. With the lack of an authentic foreign language environment it's important to bring about similar to real-life multimedia simulations that substantially speed up and facilitate language acquisition simultaneously raising the students' communicative competence. The research offered is the first integrated scientific investigation in the field of multimedia simulation put into practice at the time of a global-scale pandemic. It presents theoretical background of simulations and empirical results achieved during the experiment phase of the research.
The paper highlights the use of modern digital tools and their impact on students' progress. In addition, the authors emphasize the appropriate combination of traditional and multimedia technologies that acquired a special term "blending" in the frame of the student-centered approach.

Keywords
Multimedia technologies, communicative simulation, blending, student-centered, educational toolkit

1. Introduction

Information techniques found their way into the classroom activities related to teaching and learning foreign languages as early as the 90s of the past century and brought about crucial transformation both in the educational process and students' achievements alike. There followed numerous publications on methods and teaching techniques based on students' surveys and questionnaires.

The introduction of digital tools into foreign language learning at university level as far back as the 90s of the past century was going side by side with its penetration into nearly each field of academic activities in other majors, both technical and liberal arts.

Information technologies (or digital tools, or multimedia technologies that are used here interchangeably) turned up in university classrooms as a result of their wide-spread penetration into the spheres of human activity and were further developed by the academic community to suit their own needs in the classroom and beyond. For readers' convenience we will stick to the following abbreviations related to the subject: MMS – multimedia simulations; PEMT – Pearson educational multimedia toolkit; BYOD – Bring Your Own Device technique; DT – digital tools.

Foreign languages as an educational field, however, had a special demand for this kind of technology to deal with the lack of authentic native language environment in Ukraine as a post-Soviet developing country badly in need of professional tools for teaching listening & oral communication. In other words, until the 1990s followed by the collapse of the totalitarian regime there was a constant

"hunger" for the authentic communication environment. There were no TV channels in foreign languages, no papers or even signs in English in the city streets, therefore foreign languages were taught mostly with the help of locally written textbooks, by teachers struggling for any bit of native communication recording.

With Ukraine's independence the country was flooded with all types of written matter, magazines & papers alike, course books with recorded speaking material, videos etc. Nonetheless, the process of breaking through seemed too slow to crucially change the situation until the introduction of the Internet. This fact immediately resolved the need for creating native-speaking environment to fill in the gap for teaching authentic audition & oral communication in foreign languages.

It's obvious that the newly created environment be termed a "communicative simulation" which has been around for decades and found their way into foreign languages as well.

Nonetheless, the introduction of multimedia technologies into the classroom not only facilitates student's interaction but in multimedia projects makes the borderline between reality and simulation blurred. In this study "simulation" for fostering foreign language communication is viewed as a special type on the border with transgressed real-life pieces.

Thus, the goal of the present research is to sum up the discussion of why simulation is indispensable in modern methods of teaching foreign languages as a technique to close the gap of native speaking environment through multimedia technologies, both in the classroom and beyond. It is the article's aspiration to describe how success in studying English can be achieved through the use of MMS, BYOD & PEMT. Such a goal requires in-depth description of all the tools used and provides for a broad discussion of the results gained. It is not the comparison of all the three educational environments but the insight of their practical application within the research in question.

The research project is a joint effort of the two universities, National Technical University "Kharkiv Polytechnic Institute, Kharkiv, Ukraine, and Vasyl Karazin National University, Kharkiv, Ukraine continued from the previous study by the same foreign language departments and presented in 2021 [1].

2. Related Works

The issue of multimedia technologies for foreign language learning received a wide coverage worldwide in scientific papers [2, 3, 4, 5, 6] to be immediately supplemented by a number of research projects in online learning with the introduction of Covid-19 quarantine [7, 8, 9, 10, 1].

In recent studies of simulations [11, 12; 13] the authors stress their importance of creating the authentic, realistic setting where they "… mimic real life situations" [12, p.1]. Glenn S. Levine goes as far as coining a new term "Global Simulation" – GS – to meet the needs of cultural literacy in teaching students the target culture and language (in this case German spoken in a number of German-speaking countries) [13]. He also emphasizes that simulation can foster the acquisition of communicative competence and stresses the fact, that, "In some regards, all language learning involves a level of simulation" [13].

The problem that digital tools can easily solve is building up communicative competence skills. The subject has been widely covered in connection with digital tools & simulation effects [11, 13] and the main idea why it is so important is presented by Angelen McLaren in [11] as a person's ability to use a language in an appropriate way. Moreover, the author goes further to find similarities with natural language acquisition: "Contemporary applied linguists are inquiring into ways native speakers acquire first language" [11]. We would like to add here that "artificial" language acquisition of automated skills by means of multiple repetitions in its turn can be achieved by extensive use of digital tools. (More on "repetition" as an artificial type of language acquisition in [1]).

It seems to be advisable to emphasize the difference between digital tools for personal (out-of-class) learning and those used for classroom activities. The former include the whole set of electronic communication devices: PC, tablets, I-phones, laptops etc., while classroom activities require special equipment with either plasma screen or overhead projector for group work.

Quite recently they have been supplemented by special smart-phone applications (BYOD-technology [1]) for both team work and individual projects in classroom activities.

In the present study we predominantly focus our discussion on the frame of multimedia communicative simulations via screens of plasma TV, BYOD and the most recently introduced technologies on interactive platforms developed by Pearson. In this respect we are to concentrate primarily on the essence of an interactive educational platform. The usage of such DT has been covered in numerous researches [14, 15, 16] focusing primarily on high achievements and efficacy of these platforms that are of much help both under pandemic and in terms of global sustainable development aspiration aiming at supplying everybody with quality knowledge and ensuring lifelong learning. We define an online interactive educational platform as a multimedia educational space that is based on computer algorithms and that enables its users to hone their skills via communicative simulation.

The authors of [12] study point out the importance of communicative simulations as a "representation of reality" where students are assigned predetermined rules. And here is the big divide between common communicative simulation and the subject of the present study that we term MMS – multimedia simulations. In our case they play the role of representing reality itself by means of Internet search for appropriate video pieces, "the magic flash drive" to bring the video to the classroom, and the necessary equipment to "play it out" in the classroom.

What follows is student's discussion and active participation in the event monitored by the "master-of-the-proceedings" who is supposed to highlight the new active vocabulary, prepare questions and organize the discussion. Therefore the MMS technologies, unlike a common communicative simulation, is not a planned action, they themselves create the communicative environment that involves further expansion of real-world system, be it a CNN interview or a genuine Harvard lecture, no matter how long ago it was recorded and later played out for the student to "expand" the topic in MMS.

In other words, the event can be described as "disrupted in time" (recording as "real-life" plus classroom activities as "real-life" as well). MMS are ready-made situations to be extended beyond the audition material where students get involved in a spontaneous discussion on a given subject. Thus the borders of the traditionally practical methods of role-play, planned simulations and MMS are erased and fluency is achieved as a result of "real-life" simulation when students forget which language they are speaking. No wonder the students choose "fun, excitement, relaxation" as words to describe MMS in our questionnaires.

However, here arises the question "Do traditional methods disappear?" And this is the right moment to introduce the "blending" matter. The term has been in existence for decades in the domain of foreign language teaching [17]. For Blended Learning Definition we will stick in this study to Stefan Hrastinski's thorough research of the other papers on the subject [ibid] who stress the ambiguity of the term and the general idea that "… all types of education that include some aspects of face-to-face learning and online learning may be termed as blended." The present study specifies "blending" as a combination of traditional instruction and any kind of MMS.

No modern technologies can do away with traditional instruction of foreign language altogether, for teaching any course undergoes three main phases: presentation of the material; practice and building automatic skills in listening, reading, writing & speaking communication (both written & oral)

It's only the final stage of communication simulation of MMS in our case that requires mass exploitation of all kinds of digital tools for building speaking fluency and automatic skills. The other two require only limited use or just traditional instruction (rules, patterns, active vocabulary included). There is no way to avoid traditional presentation of elementary patterns, usually in a course book duplicated in an audio/video recording. The "board & chalk" pattern is still in existence and there's no harm in its combination with books, rules and schemes. Based on this point of view we may not agree with the opposite statement by A. McLaren in [11] that teachers are doing away with grammatical rules and skills. One fact in favor of "drills" is that however advanced the present-day techniques of communicative simulation are, they still rest on the second phase of building automatic skill (which is repetition!).

Nonetheless we completely support the idea of approaching the natural way of language acquisition by babies which in teaching a foreign language can be achieved by endless drills in the second phase (practice & drills) facilitated by real-life environments, to be more exact, by acquisition of customized skills through multiple repetition. Later on these bricks would become the building

material for the third, communication phase. The same statement of the question has a modern approach with the simulation of the language environment named BYOD [2, 18, 19].

In any format of MMS use the learners acquire skills of <u>autonomous learning</u> [8] which are viewed nowadays as the most essential skills that serve the basis of student-centered approach.

In addition to that, leadership acquires traits of a shadow guidance behind the scenes. In the new format the teacher is supposed to push them to a self-directed, self-initiated, self-planned & self-regulated learning [8]. And indeed, being assigned a task of Internet search outside of class, the student is required to take the initiative in selecting video pieces and their description without anybody's interference. Later on, in class, the student is faced with evaluating the project by the teacher and the peers. The gap between the two points is termed here as "disrupted" multimedia communication simulation.

According to G. S. Levine [13], simulation itself is not a reality, but the participants must act within the simulation as if it were/As the authors of [12] put it, the MMS under discussion "dismantles" the previously common teacher-student relationship and "declassrooms the classroom" which leads to erasing the traditional borders to achieve native-speaking fluency.

Such fluency nowadays can be reached by way of using multimedia tools that provide not only for efficient learning but for students' interest in the process of education as well. These tools boost students' activity in and beyond the classroom just because of one reason: they involve using something modern learners cannot imagine their life without (PCs, smartphones, tablets, etc.). Moreover, the new world we are living now in, the epoch of pandemic, demands from us more in-depth analysis of digital literacy, for we need to develop students' digital skills throughout their studies [20].

Moreover, under such circumstances usage of multimedia sometimes becomes one of ways to avoid spreading diseases and has a number of advantages as it was stated above. In addition, usage of the cutting-edge technologies helps to save the environment as it involves fewer resources for material goods production providing an alternative way to avoid the constant aspiration towards economic prosperity based on non-eco friendly practices [21]. So, MMS is an eco-friendly way of teaching and learning.

Students of Ukrainian higher education institutions and language courses often face difficulties in mastering the rules of English grammar, as well as the syntagmatic and paradigmatic organization of vocabulary in the speaker's linguistic consciousness. Hypothetically, this is due to a) the shortcomings of the school curriculum, b) the lack of adaptation of the European standard competencies (A1-C2) for a long time due to the formation of ESL competencies in vocabulary and grammar only by typical drilling test exercises.

In the experiment described below, based on the first module of the Cutting Edge Intermediate Textbook, we encountered a situation where students have difficulties using a number of grammatical phenomena and choosing the right vocabulary. The problems we have identified are also confirmed in the world ESL practice and are described in a number of studies:

• Auxiliary verbs, especially in tag questions. English auxiliary verbs, as the name implies, are simply called helping or supporting verbs. They are so called because of the functions, which they perform in communication. They help to make up the verbal group in sentences, that is, they support the main verbs which could either be transitive or intransitive. This is meant to communicate meaningfully in sentences where they are used [22]. Several errors that occurred were error of omission, addition, misformation and misordering [23, 24].

• Present Simple and Present Continuous, the difference between them - both for oral and written speech. ESL learners face a number of difficulties in their attempt to master English tenses appropriate. Typical mistakes seem to be international as it is shown in the research of M. I. Fowzul Kareema, Z.A. Hoorul Fhirthouz from the University of Sri Lanka. The list of tenses mistakes includes: addition of the morphemes 's', 'es', 'ies', omission of the morphemes 's','es','ies', substitution of other tenses, substitution of other tenses with the addition of morpheme 's', forming negative and interrogative statements. The students often misuse the Present Continuous confusing it with the simple present tense. It comes in the following forms: confusion in the addition of auxiliaries, omission of auxiliaries, difficulties in adding 'ing' forms, forming negative and interrogative statements [25].

• Word order in an interrogative sentence. According to G. Clark [26] three typical errors in word order come from a violation of the connection between the sentence actants, e.g. "*I don't know very well Manchester." There is also interference with the word order of the native language, which was investigated, in particular, by the example of speakers of the Yi and Mandarin dialects, e.g. "*Tony last Saturday basketball played?" [27]. From the point of view of neurolinguistics, the fact is also important, to which neural category the student's native language belongs - left hemisphere or right hemisphere [28]. In this context, Ukrainian students are in an advantageous position, since L1 and L2 are left-brained, thus they have a lot in common in their word order.

Problems with memorizing and reproducing new vocabulary are also associated with many factors. First of all "English language learners have a limited vocabulary. Therefore, students find themselves repeating the same words; this hinders creativeness. The students couldn't give voice to their thoughts because they lack the adequate stock of vocabulary" [29].

According to studies, e.g. Herri Susanto [30].the difficulties faced by the students are: difficulties in pronouncing the words, writing and spelling, the different grammatical form of a familiar word, choosing the appropriate meaning of the words, inappropriate using the word based on the context, finding words or expression idiomatic.

Vocabulary in the textbook Cutting Edge Intermediate, Module 1 [37, 38] which the current research is based on contains a topical problem – relatively complex lexico-semantic groups as Sports, Games, Creativity etc.

3. Materials and Methods

3.1. Research Design

The design used for this research study is mixed method approach based on modeling language environment with the help of MMS, PEMT and BYOD by creating proper exercises and creative tasks for students and learners. The survey results contain quantitative data obtained from 2 questionnaires.

3.2. The Context Of The Study

The context of the study is the phenomenon of blended learning of English as a foreign language during a pandemic. We are talking about both professional training in the specialties of Philology and Translation Studies at Universities, and learning the language as a communication tool in the courses. As part of blended learning, the role of multimedia resources, learning platforms and separate tools available at any time both online and offline on smartphones and tablets (BYOD) was considered.

This research study took place at two Universities of Kharkiv, Ukraine and at a monoschool led by Oleksii Zeniakin. All the participants were selected according to their proficiency level and experiment material (Pearson's printed and digital resources).

3.3. Focus Group

The focus group of the study consisted of students at two Universities in Kharkiv, Ukraine, studying English as the first or second foreign language, majored in Philology or Translation Study, and English learners at a monoschool in Kharkiv, Ukraine

3.4. The Sample of The Study

All the samples (total 93) from both focus groups study or learn English as a foreign language. There were 57 1st year students in the first year of the National Technical University "Kharkiv Polytechnic Institute", aging 17-18, (English as the first foreign language), and 11 3rd year students of the Vasyl Karazin National University Kharkiv, aged 19-20, (English as the second foreign language).

47 of them were from high proficiency level and the other 21 from a low proficiency level groups. All students from the selected years were taken as the samples for this study. Another part of samples contains English learners at a monoschool. A part of them, aged 45-60+, has been involved in using PEMT for almost three years (Intermediate level). The other group, aged 18-50+, of the level has been studying English using Pearson resources for two years already (Pre-Intermediate level). The total number of learners in both groups is 25.

3.5. Research Instruments

The main instrument of the first part of the research is constructing exercises or tasks based on MMS, BYOD or introducing functions of multimedia platforms. The second part involves quantitative instruments as questionnaires to collect data.

Questionnaire 1 consists of 11 yes-or-no questions to evaluate the comfort of the MMS+DT system. Questionnaire 2 contains 4 questions for the students and learners to evaluate their own competence in English grammar and vocabulary (Pearson's Cutting Edge Intermediate, Module 1) and in DT usage [33-36, 39-42, 45]. Focus group interviews took about 15 minutes before using MMS+DT (September 2021) and 25 minutes after (December 2021). All the data are used with the permission of the participants. All the interviews were taken by the authors of the research.

4. Experiment

4.1. Pearson educational multimedia toolkit

Right now, the educational market is experiencing a huge increase of competition amongst publishers and education companies to win the support of their direct consumers – students and educators. One of the leading Western corporations whose main area is spread of knowledge is Pearson plc. Having its headquarters in the UK, it collaborates with universities, language schools, and private educators all around the globe.

Pearson is known at the market as a reliable supplier of cutting-edge educational products that help teachers enhance the overall academic performance of their students. For instance, such canonical textbooks like 'Round Up', 'Cutting Edge', or 'Speak Out' were created by Pearson language experts and had proved their efficacy [36, 37, 38, 40, 43, 44] by being demanded products for decades already.

What is more, the corporation managers keep in touch with professional linguists and market analysts allowing them to create not only printed, but what is more valuable now, especially under COVID-19 pandemic, digital tools for learning and teaching. This toolkit, that can be easily accessed via Pearson English Portal, comprising both teachers' and students' pack of applications and online platforms, such as "ActiveTeach" for educators and "MyEnglish Lab" for learners, was taken as a core input for conducting an experiment at the monoschool of English "English Level".

A monoschool is a new term in contemporary EFL/ESL methodology seen as an educational space of a taken single specialist who creates efficient education content within the framework of one single discipline and enables others to get quality education in this field. The first and the only monoschool so far was founded by the author and became the testing ground for PEMT.

The topicality of the research is also enhanced by using a new EFL/ESL teaching method "Equilibris" and is being patented now. The three main postulates of the method derive from the frame theory, ecolinguistics (hence comes the importance of MMS as an eco-friendly teaching practice), and pedagogical philosophy. Thus, it is not only the outcome of using PEMT, but a result of applying a new teaching technique as well.

4.1.1. Teacher's only digital tool

"Speak Out 2nd Edition" was selected as the main teaching product by Pearson plc with all the digital components that it is accompanied by. The first one is "ActiveTeach". It is a downloadable set of programmes that altogether create an application that provides for efficient teaching under pandemic or in blended learning surroundings.

In general, "ActiveTeach" is an interactive Student's Book and Workbook with all its components (both audio and video) integrated into one application with immediate access. By immersing into this programme, an educator can find that it is possible to zoom in or out the page so that it fits perfectly the screen when one is being shared with students.

Figure 1: The general view of "ActiveTeach"

The two additional functions are also of much help when teaching online: an English-English dictionary with all the words from the course that are shown with transcription and an opportunity to hear the word being pronounced by the native speaker, and a Phonetic Chart with sounds grouped altogether. The majority of above-said functions are illustrated in Figure 2.
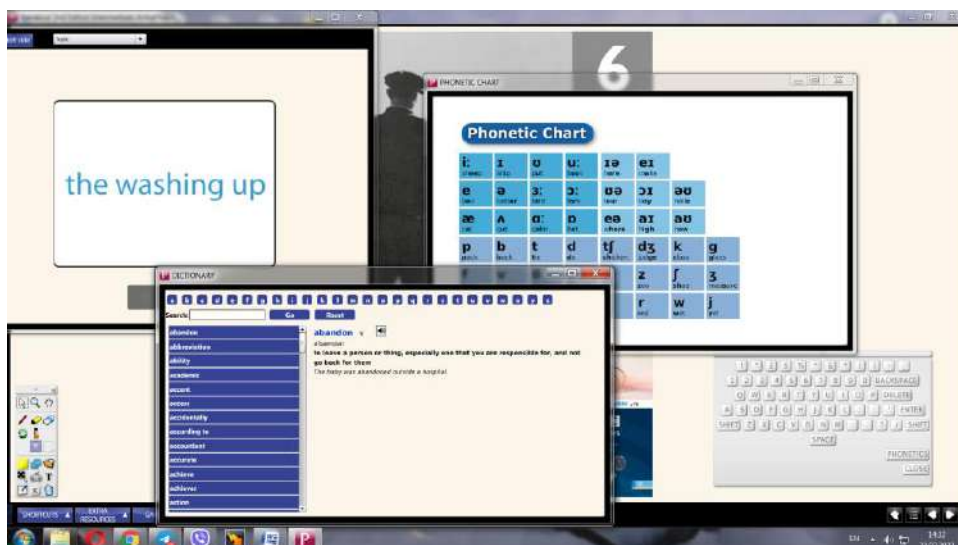

Figure 2: A range of "ActiveTeach" tools

However, it is not the situation when the potential of a teaching tool is over; the other set of tools becomes available when educators begin to work with a page he has chosen. There they can draw, write, highlight, erase, and clean everything and everywhere on the page like it is shown in Figure 3.
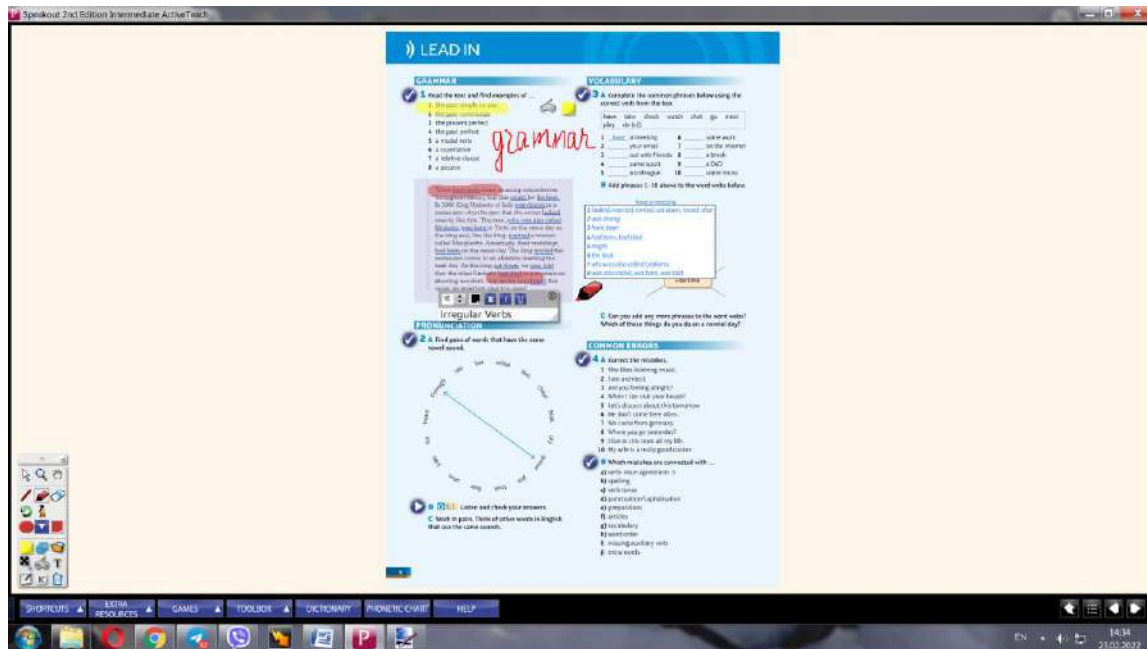

Figure 3: A space for teacher's creativity

One can undo their activity on the page or add a link to the Internet resource. If some file is available on the teacher's computer only, an educator can attach a folder with a file to the page. Also, it is possible to pin a game or hide some part of a page if such is needed.

Another efficient tool almost all teachers under pandemic were aspiring for is a whiteboard: here it is a part of a tiny page menu that can be easily hidden or placed anywhere the teacher finds it necessary to be.

4.1.2. Students' and teachers' digital tool

It is of paramount importance that not only the educator but the student can access their digital tool as well. It is called "MyEnglishLab" [32, 36, 40, 43, 44]. Generally speaking, it is an online platform that enables students to cope with the exercises assigned by the educator, complete tests etc. To get "MyEnglishLab" a student needs to buy a product (textbook) with the digital code inside. Then, by registering and activating the code the students enrolls in the course and gets access to "MyEnglishLab". It is displayed on Pearson English Portal that provides a unique opportunity for both teachers and learners to keep everything at hand: both exercises and additional materials. The latter include audio and video for learners and professional development section as well as the link for downloading "ActiveTeach" for educators [33].

The main features of "MyEnglishLab" are: 1. the combination of an interactive Student's Book and Workbook; 2. students' full independence of paper-based materials as all the elements are built in the platform.
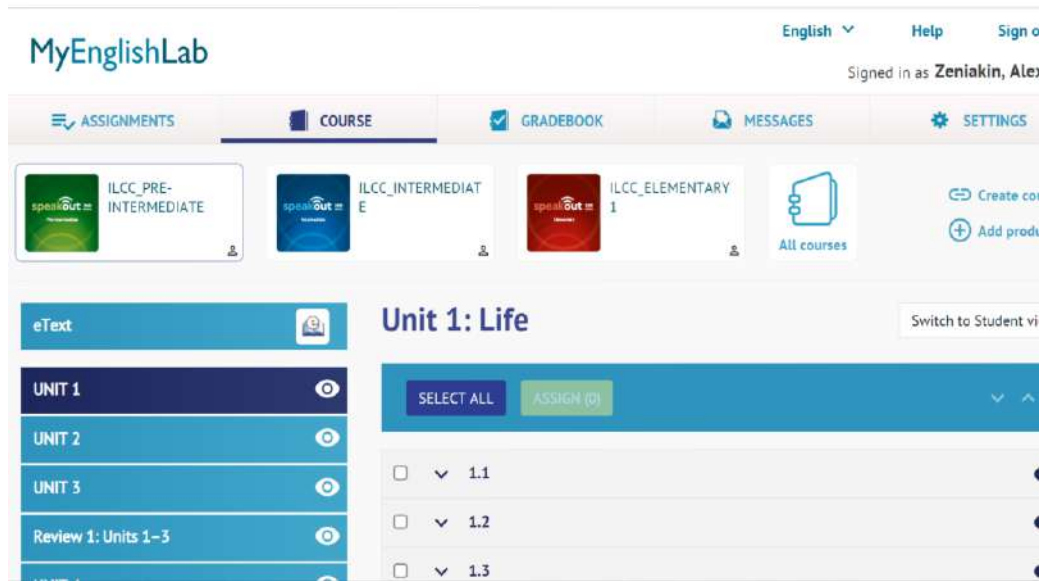
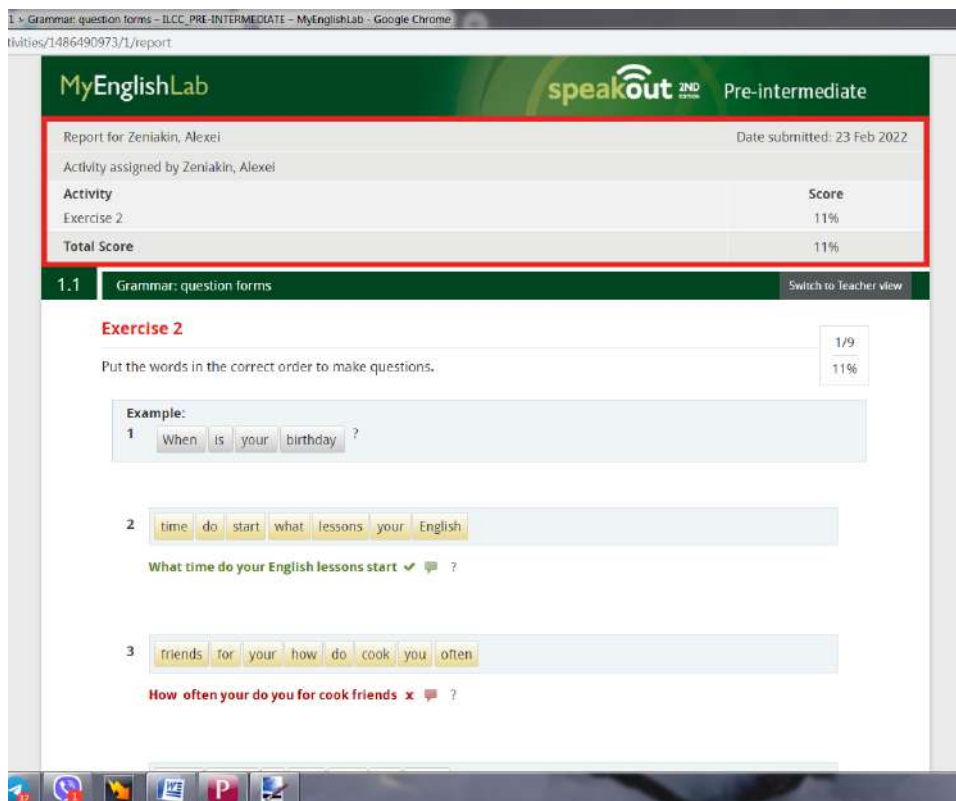**Figure 4:** The menu of the online platform

Figure 5: Colour indication of the task results

Figure 6 shows a standard menu of the platform where a student can even choose the appropriate language of elements' display, so it is a multilingual platform designed to simplify the learning of English.
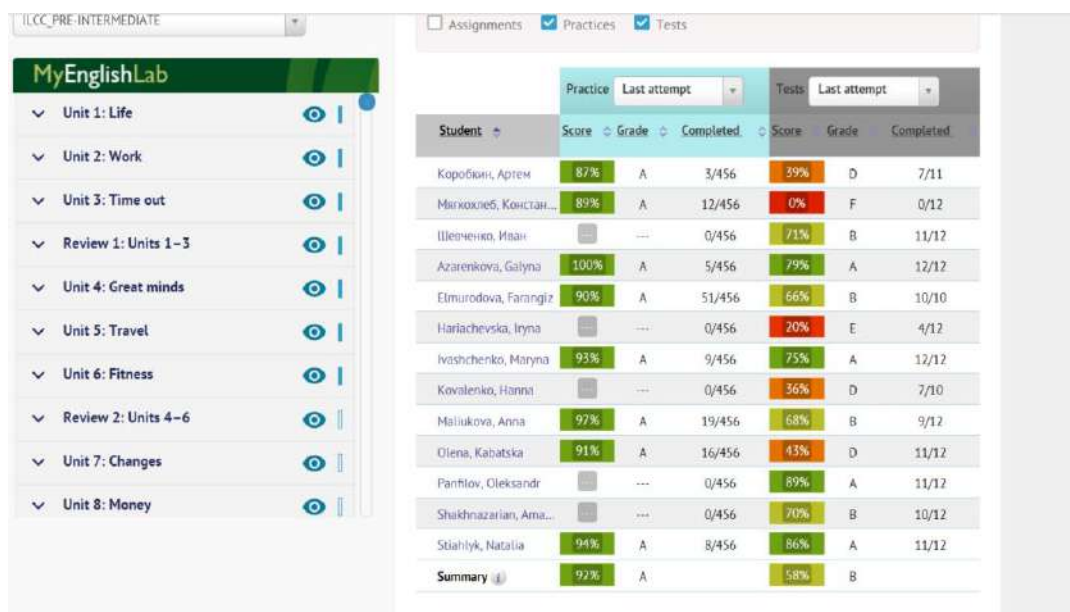
Figure 6: Teacher's gradebook

Depending on teacher's preferences or students' performance there is a possibility to set a number of attempts to complete the task or set the time period if it is a test. The exercises here have a various nature, starting from gap-filling and finishing with recording your own voice as you speak sentences. The system that is equipped with artificial intelligence can grade automatically the majority of exercises in no time, leaving for an educator only two tasks to be checked in personal: marking and grading written exercises or listening to students' pronunciation or intonation. This greatly expands the teacher's free time that can be used for getting prepared for new lessons and decreases the time period for checking the homework in class as students discuss only the problematic points with the lecturer.

Provided an exercise is done correctly, the system indicates it with a green tick, if not – with a red cross (Figure 5). If a student feels the necessity to repeat the exercise once again, but they have no assignments, it is always possible to do it independently in the "Course" section of a menu where one can practice on their own or look what is awaiting for them in the nearest classes. Both teachers and students can control the performance in the "Gradebook" section (Figure 6). The only difference is that a student sees their progress only whilst an educator can control the whole group. What is more, the system provides the teacher with a detailed analysis / diagnostics of how long a student was completing the assignment, or what skills were developed more successfully in the correspondent module of a course.

When it is necessary to communicate with students (for educators) or with teachers (for students) in a written way, "MyEnglishLab" provides for messaging amongst the participants of the course and thus creating an online ecosystem of communication [21] that is crucial in terms of ecolinguistic nature of the "Equilibris" ESL/EFL teaching method that is used as the key theoretical input when working with PEMT.

4.2. Elaboration of Grammar and Vocabulary Difficulties with the help of BYOD

4.2.1. BYOD for Grammar Training

Module 1 starts with the revision of grammar terms because lack of this kind of knowledge creates misunderstanding throughout the whole teaching course. The skill of word type identification can be trained by BYOD tools like Quizziz [41] as illustrated below in two different interfaces (Figure 7).

Figure 7: Words and Terms in Quizziz

The same skill of recognizing grammar terms can be mastered in Quizlet [42]: after making matching cards, e.g. he – pronoun the teacher starts a game. There are 2 technical conditions needed: students' devices with an internet connection, and 8, 12 or 16 students to make several teams of 4. When the game starts, one of the students gets one of the 2 matching words highlighted. The challenge is, another team member has the second word of the matching pair. This game not only trains some grammar or vocabulary material but also upgrades blitz reaction needed for the job of an interpreter and develops team spirit – one of the most necessary soft skills for every person. The students can also train this kind of matching alone with the help of the Quizlet "time test" (Figure 8).
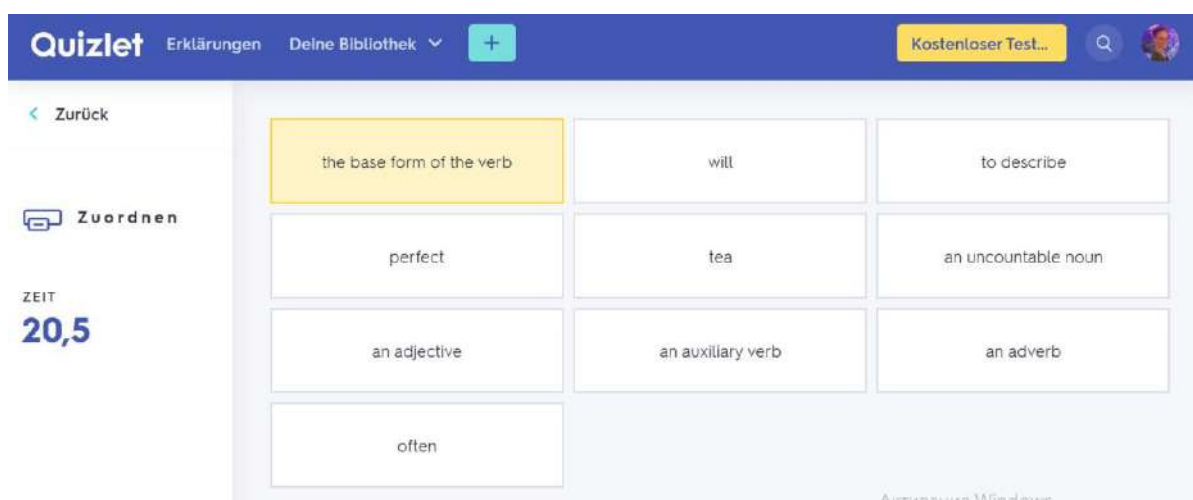

Figure 8: Time test Matching Words and Terms in Quizlet

As mentioned above, it is sometimes difficult for Ukrainian students to put an English verb into proper form, e.g. the 3rd person singular with its ending -s. LearningApps [34] (as well as LingoFox [35]) offers a wide typology of exercise templates, among them puzzles, "Millionaire" quiz, matching words, crosswords, filling in gaps. The latter combines training vocabulary (verb semantics) and using the correct verb form (Figure 9).
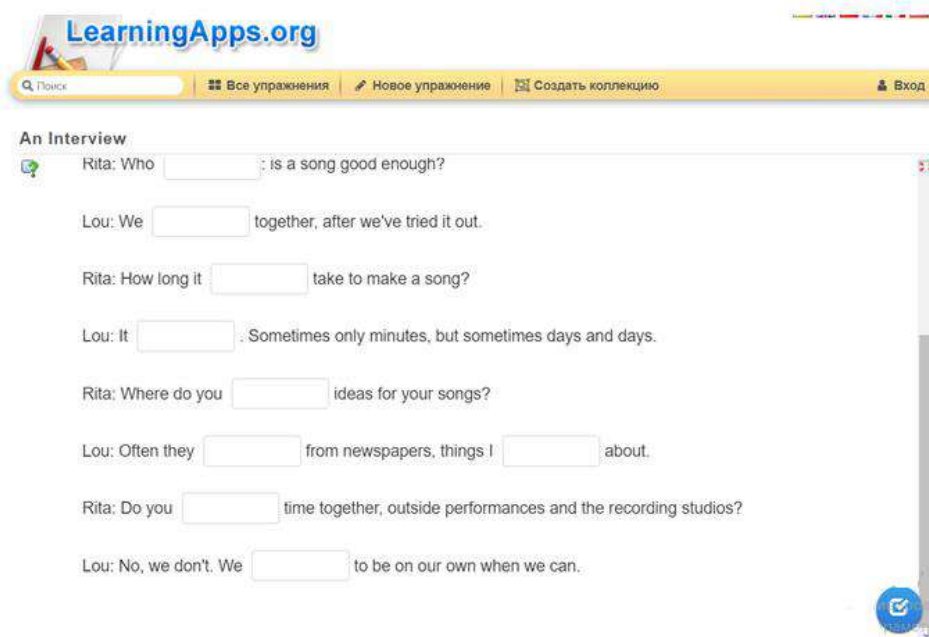
Figure 9: The product of the "filling in gaps" exercise in LearningApps

Another type of exercises possible to create with the help of LearningApps is one for word order ("Making questions" in Module 1). E.g. *Which part of Ukraine do you come from?*

Figure 10: Making questions in LearningApps

4.2.2. BYOD for Vocabulary Training

As mentioned above the specifics of the vocabulary in New Cutting Edge Intermediate is a wide range of nouns presenting people in their different social roles determined by their relations, occupations, hobbies, situations etc. The method of visual memorizing words and their meaning is well known and proved. The students can make their own memory cards in Quizlet [43] choosing pictures they like or find proper, e.g. a photo of their own brother or sister for the word "sibling".

Quizlet offers teachers a wide base of suggestions for vocabulary notes and proper pictures for training the active vocabulary testing it by matching cards and pictures, Figure 11).
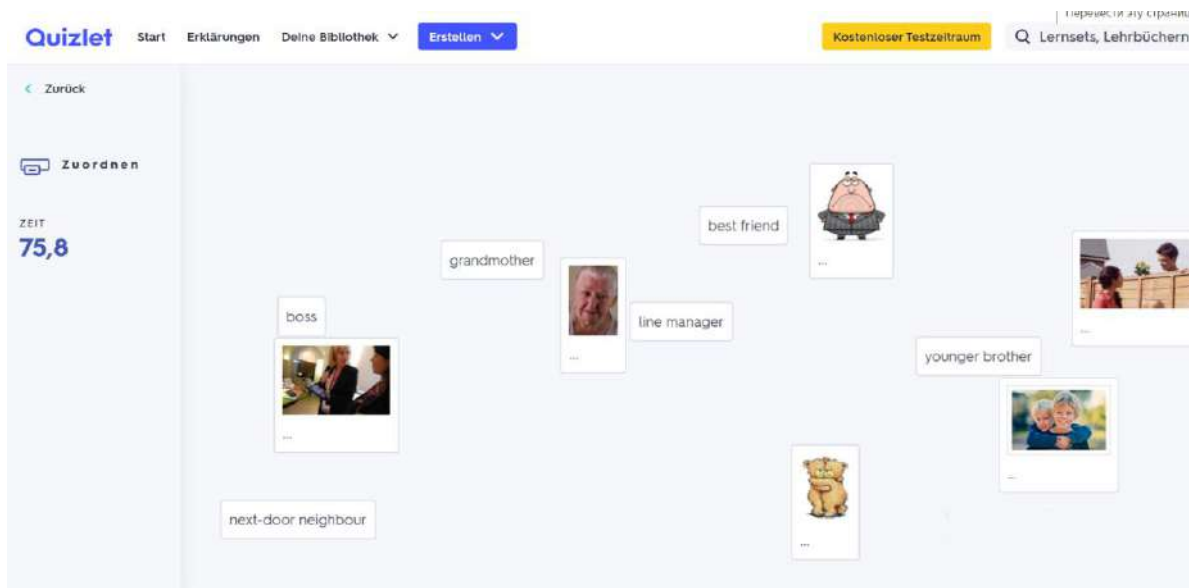

Figure 11: Training and testing vocabulary with cards and pictures in Quizlet

It is necessary for language learners to be aware of paradigmatic relations in the active vocabulary. LearningApps [34] makes it possible to create exercises involving synonyms, antonyms, hypo- and hyperonyms, LS-groups etc. An example of a LearningApps exercise for classifying words according to their semantic categories can be found below (Figure 12).

Figure12: Classifying words according to their semantic categories in LearningApps

The students' vocabulary training done with the help of Quizlet and LearningApps can be checked by different types of tests in Quizziz [41]. This tool offers not only the possibility to create drill exercises and tests, but also to conduct post-topic (exit) surveys, to save individual and group test results in a data base, to contact parents or tutors for discussions. Quizziz allows the students unlike such a similar tool as Kahoot to work autonomic via their own gadgets and with their own tempo independent from the class progress and the beamer in the classroom. Hereby the team work is not excluded. So Quizziz offers a modern and student-centric model of inner differentiation for the work in the classroom and beyond.

Taking into account the fact that upcoming translators and interpreters are trained, the teacher can create an exercise or a test involving translation skills within vocabulary training. E.g. a multiple choice exercise to find proper translation for family relations (Figure 13).
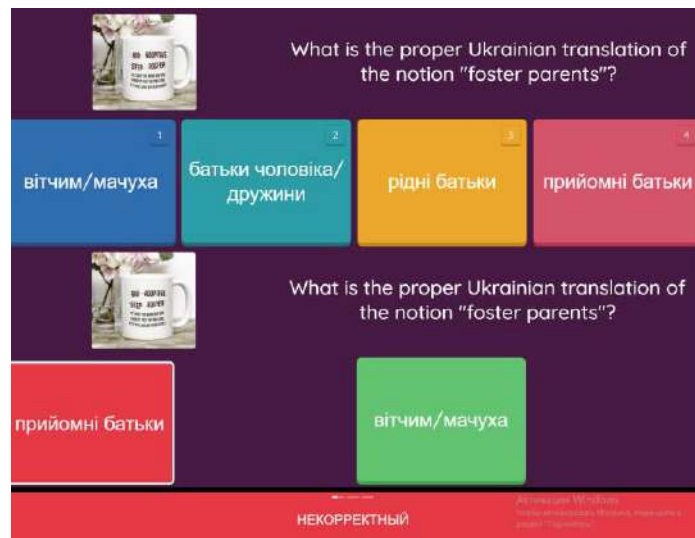

Figure 13: Translational vocabulary test (multiple choice) in Quizziz

4.2.3. BYOD for Training Communication Skills

Padlet [31; 39] and ThinkLink [45] are the most complicated and multimedial tool for training communication skills via creating an artificial "native speakers' environment". This is provided by the conception of Padlet as a multimodal notice board featuring images, links, videos, and documents, all collated on a "wall" that can be made public or private" [2]. The teacher can choose the mode the students work with the "wall" by opening access, providing functions of creators, editors or commentators for the students. The whole features an interactive collaboration with the students both in a real-time mode and a prolonged one with a remote access.

A padlet wall combines text posts, images, hyperlinks and other media [26], so the students can post their small essays. New Cutting Edge, Modul 1 involves the topic "People around you". The teacher is able to create a Padlet wall with a photo to comment on (Figure 11) with some restrictive questions (part "Questions" in the centre of Figure 14) as follows.
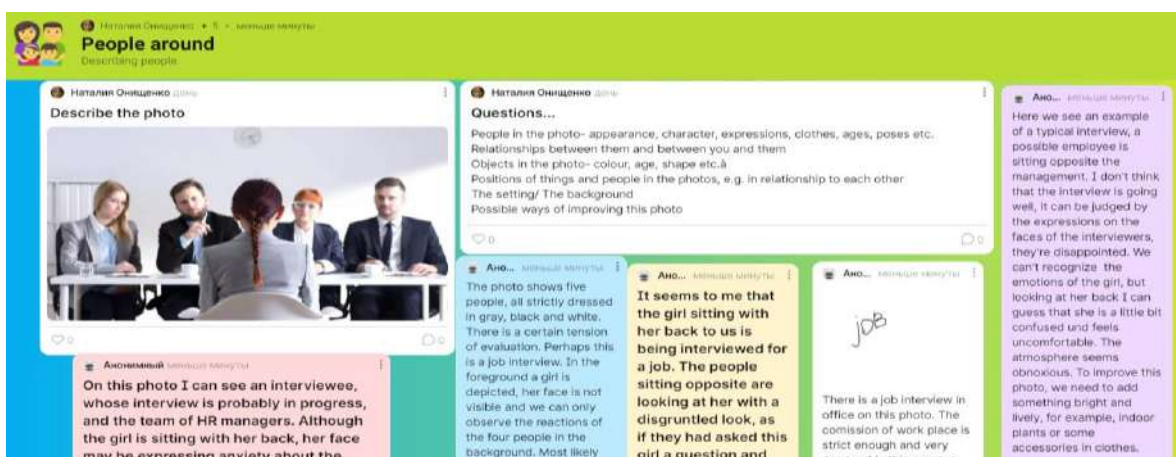

Figure 14: Communication impulse "Photo description" in Padlet

An advantage of ThingLink is a wide range of forms for presentation of interactive contents: 360° images and virtual tours, showrooms and galleries, maps and aerial views, infographics, floor plans, presentations, product demos, virtual reality experiences, introductions, CVs, timelines and even 3D models. All the interactive forms can be used for the development of student's communication skills.

To those belong among other things finding and identifying proper questions for a typical communicative situation which is an essential part of successful communication.

The situations according to New Cutting Edge Intermediate are e.g.: job interview, sending a parcel at the post office, arranging for removals men to come, immigration, airport check in, airport security check, medical check up, blind date/ speed dating, dating agency, joining a gym, chatting with an old friend, chitchat before a business meeting, meeting your boyfriend's or girlfriend's parents for the first time, placement test for a language school, television chat show, radio news interview, speaking exam, opening a new bank account, a telephone questionnaire on work and leisure.

So the students can be asked to choose one of the situations and create a ThingLink tour or presentation etc. viewed by the group or just one communication partner. The ThingLink product must contain typical questions for the chosen situation and the viewers have one guess about which situation the author is thinking of. An example of a ThingLink virtual tour shows the communicative situation "Airport check in" and contains such questions as "Can I see your passport, please? Would you like an aisle seat or window seat? How many bags do you have to check in?". The viewers can see the questions by clicking on the central start button which makes the first step of the exercise.

After the communication partner has expressed his or her suggestions about the type of the communicative situation (the choice may be restricted to a list by the teacher/moderator) comes step 2. By clicking the button one more time the viewer can see a picture or a video downloaded by the author illustrating the correct answer.

Figure 15: Virtual tour in ThingLink. Situation Airport check in, Step 1 and 2

All the BYOD tools can be used in the educational process both online and offline in the mode of blended learning.

5. Results

To prove all the theses that are set forth above, there were conducted surveys featuring questionnaires 1 and 2 among two groups of participants that have been studying both at the monoschool of English "English Level", at Kharkiv National Polytechnic University and Vasyl Karazin Kharkiv National University for more than 1 year. In order to simplify the description of the results obtained, we will call those who study at universities **students**, and those who attend language courses **learners**.

They were asked to complete a questionnaire featuring 10 questions in the form of statements about the efficiency of digital tools (DT). The results are shown in percentage in Table 1.

The other groups consisted of students who are much younger than the learners (in this context it becomes even more interesting how the respondents answer the questions posed as their age and world perception vary in a great way, correspondingly).

Table 1
Questionnaire 1

No.	Thesis	Learners	Students
1	Usage of MMS+DT saves students' time	100%	97%
2	It is convenient under online or blended learning to watch, listen to, or see the answers to the material under study	100%	100%
3	MMS+DT enhances the demonstrativeness of the material under study	100%	100%
4	Built-in games, flashcards, and a dictionary provide for efficient learning	98%	95,5%
5	MMS+DT improves learner's digital literacy	80%	97%
6	MMS+DT creates a space for honing skills	76%	70%
7	Usage of MMS+DT is relevant under online or blended learning	100%	100%
8	Interactive exercises trigger students' interest in learning	84%	95,5%
9	Students' level of knowledge has increased thanks to usage of MMS+DT	88%	82,5%
10	It is possible to continue learning without MMS+DT	36%	70%

The second table represents results of the second questionnaire that was focused on "before/after" allocation of results. Thus, in all cases the younger groups showed a moderate increase whilst the older group said that their results improved sufficiently. We do believe it can be accounted for by the age gap in-between two focus groups and the initial level of multimedia proficiency. Nonetheless, they both agreed that usage of MMS and DT enhanced their language proficiency in the aspect of grammar and active vocabulary, too.

Table 2

Questionnaire 2

No.	Thesis	Learners (0-10) average	Students (0-10) average
1	How do you rate your knowledge of grammar before using MMS+DT?	5,8	6,3
2	How do you rate your knowledge of grammar after using MMS+DT?	8,4	7,2
3	How do you rate your knowledge of active vocabulary before using MMS+DT?	2,6	5,1
4	How do you rate your knowledge of active vocabulary after using MMS+DT?	6,3	7,5
5	How would you rate your DT skills before the start of the course?	1,4	4,6
6	How would you rate your DT skills after completing the course?	5,2	9,1

6. Discussion

Both learners and students answered almost unanimously that MMS and DT save their time, provide for convenient immediate access to all learning materials and amplify the demonstrativeness. They also agree that it is more than relevant to use these tools under pandemic or in blended learning. Interestingly, the older groups argued that their digital literacy didn't grow that much in comparison to the younger, student group of respondents whose position on the possibility to continue learning without MMS and DT is stronger (70%) whilst the older participants disagree (36%).

The majority of those who answered (the options were "yes/no") said that the authors' hypothesis about high efficacy of MMS and DT as instruments that trigger students' interest is right and all of the points presented in sections above have a strong empirical support as the least majority comprised 70% reaching much further than trivial 50%-barrier.
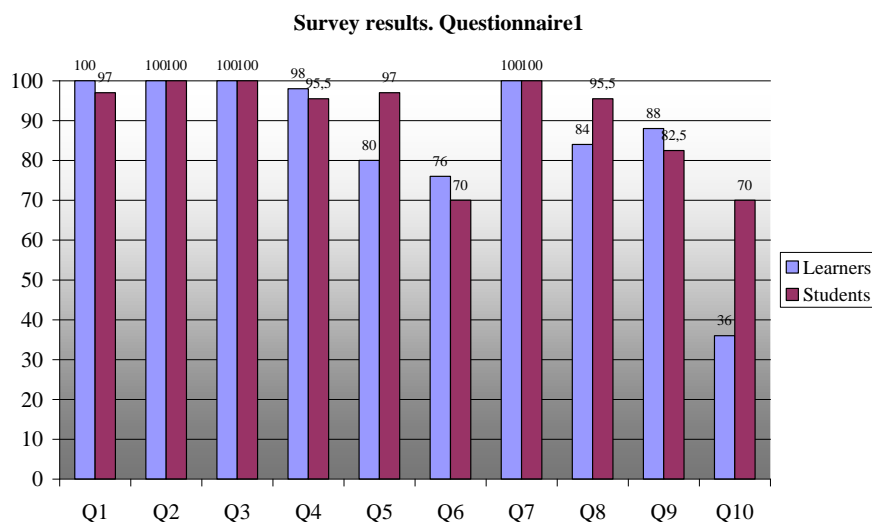

Figure 16: Survey results, Questionnaire 1

The demonstrativeness of DT provided for a high level of active vocabulary knowledge rate amongst the learners (6.3 points out of 10). This can be explained by the thesis that DT enable a bigger visual comprehension of abstract things that can be found everywhere right now, but could be just impossible two decades ago. This interactive nature of multimedia is the thing the younger generation of students has already encountered, yet the older generation has not. Hence, comes this reliability of visual information as a core input for vocabulary learning. Another thing that both learners and students have in common is their rate of DT skills comprising 5.2 points for learners and 9.4 for students respectively. Compare this with the initial rate of 1.4 for the former and 4.6 for the latter. We can observe an increase of approximately 5 points in each situation that helps understand that DT skills boosting is also another important point that can be used in other spheres of learning beyond language analysis only. Interestingly, the media literacy amongst students rendered by DT skills index has sufficiently increased in comparison to results before pandemic (c.f. 1] reaching 9.1. points in the present study.
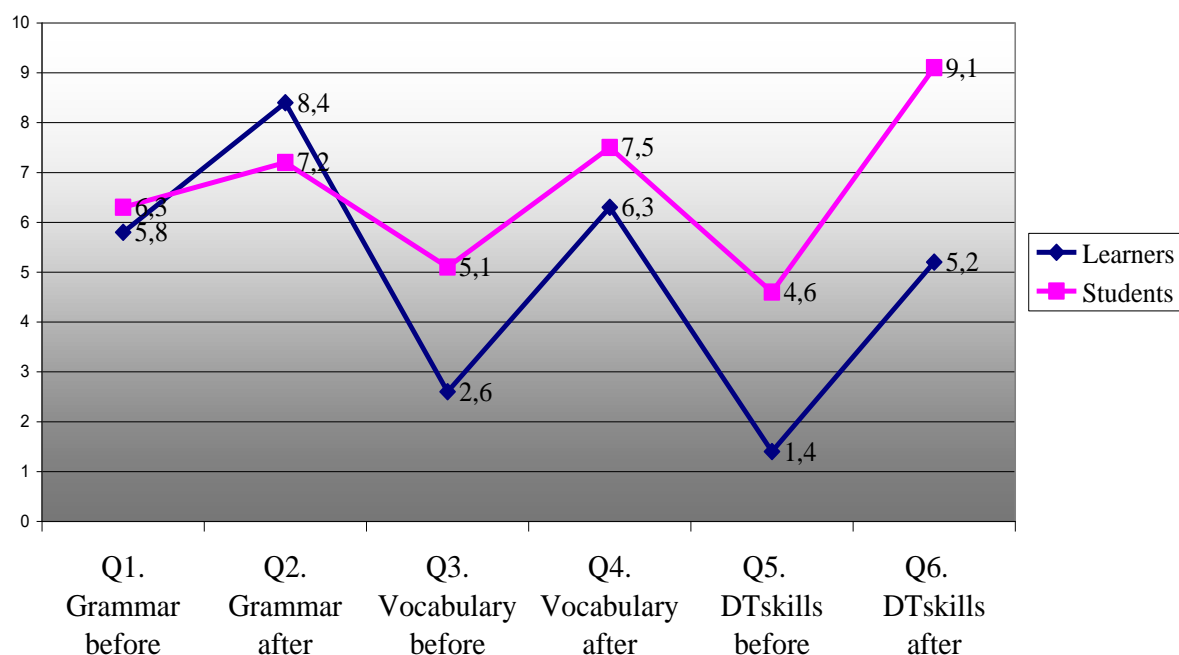
Survey results. Questionnaire 2

Figure 17: Survey results, Questionnaire 2

7. Conclusions

Language acquisition requires communicative competence of the target language. In the case of foreign language learning in the absence of native-speaking environment it is of paramount importance to create similar surroundings that would mirror the "natural way" of a language acquisition. It is called communication simulation that has been around for some decades.

With the appearance of digital tools communication simulations were rapidly expanded to what we term here as MMS. These are broader and more exciting then "artificial" simulation, since they possess the whole world of resources and real-life itself to be used for either individual or class learning.

With the introduction of MMS the traditional forms of foreign language learning have undergone crucial changes and had to be adapted to and incorporated with the multimedia techniques. The term coined for such combination is "blending".

Blended teaching technologies called for restructuring the teacher-student relationship in favour of student-centered approach. The role of the teacher as guide and instructor has acquired new forms of a problem-setter prompter, facilitator, initial material provider, evaluator. The student enjoys substantial

freedom in surfing the Internet, search of the necessary reading & video materials, procession & compression of the material, organizing in-class discussion and then evaluation by peers.

The same MMS are easily transferred into online learning under pandemic with video and oral presentations delivered on their computer screen. Even more so MMS brings more fun and excitement compared to purely traditional learning and gives the student the new freedom of being the master of online class proceedings. These techniques have proved more efficient in teaching audition and speaking compared to traditional ones.

The present-days mode of MMS embraces classroom activities with the use of a plasma screen, the BYOD technologies, DT, and PEMT that provide for a sufficient increase of learners' academic performance and simplify educators' role within the framework of quality philological education.

A monoschool (with "English Level" as a testing ground) as a new type of education institutions has a right to exist for the method "Equilibris' that has been introduced there has proved to be of real efficacy when using PEMT under blended learning. This new experience shows that provided an educator uses an integral multimedia toolkit comprising both teachers' and students' applications as a part of a course/level/topic that is being studied, the academic performance of learners will increase.

The advantages of the methods used are explicated in two main strands: firstly, it is the students' and learners' success in studies that conditions the truthfulness of the stance taken; secondly, this approach is very productive in both theoretical and practical spheres for "Equilibris"-and-monoschool technology is the product of setting MMS and use of PEMT & BYOD as the key basis for new teaching techniques evolution. This paper is pioneering in disclosing the theory of MMS resulting in a real experiment when a great contribution to the both students' and learners' success was made with the help of multimedia tools (PEMT and BYOD) backed by "Equilibris" EFL / ESL teaching method. Deriving from this, the research has a number of prospects amongst which it is crucial to set down the following future tasks: 1. comparing students' and learners' results in terms of "before pandemic / after pandemic" ratio; 2. presenting a solely-dedicated research of "Equilibris" EFL / ESL teaching method and a monoschool as a new example of educational space organization; studying the use of national multimedia technologies.

8. Acknowledgements

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