The Use of the Interactive Platform VIMBOX in English Language Teaching: a Comparison of Traditional, Blended (flipped classroom), and online Models of Learning

Daria Zhdanova and Larisa Korneeva

Ural Federal University named after the first President of Russia B. N. Yeltsin,
Ekaterinburg 620002, Russia
jdanova.daria@gmail.com

Abstract. Rapid growth of learning platforms in the Russian higher education system is observed over the last decade. Online learning platforms are widely used in the educational process in the English language teaching. The Ural Federal University, Russia, and the online English Skyeng School conducted a joint experiment to choose an effective English teaching model in the context of the digitalization of education. In the paper, a comparative analysis of the blended learning model and online learning model on the online learning platform Vimbox is described. The study was undertaken with students of technical specialities of the Institute of Radio-Electronics and Information Technologies at the Ural Federal University while mastering the discipline "Foreign language" during the 2nd year of the bachelor degree course. They studied the same discipline in different teaching models: the traditional face-to-face learning, flipped learning, and online learning were compared. The advantages and disadvantages of each learning model were demonstrated. The results indicate some problems that show inefficiency of two experimental learning models offered by the Skyeng for higher institutions. Poor technical implementation, inappropriate curricula of the courses elaborated by the Skyeng School, and lack of attendance control have led to disinterest and decreasing the motivation among students.

Keywords: Blended Learning, Online Learning Platforms, Information and Communication Technologies in Education, Higher Education, Flipped Classroom, Digital Generation, Digitalization of Education.

1 Introduction

For the last decade, the system of higher education institutions in the Russian Federation is subjected to a number of major changes. One of the key trends is the digitalization of education caused by changeable demands of the information society and implementation of the information and communication technologies in education (ICT). The State program "Development of Education for 2018–2025 years" released by the

Ministry of Education and Science of the Russian Federation is setting the following goals [1]:

- achievement of high-quality education and its accessibility,
- implementation of online-learning in higher education,
- creation of e-learning environment and active use of the Information and Communication Technologies (ICT).

These enumerated goals demand changes in organization of the learning process in higher education institutions. It is necessary to develop new teaching methods and learning technologies on the basis of modern information technologies and e-learning environment for improving the quality of higher education and corresponding to needs of a new generation of students entering universities.

Current Russian students should be called the "Digital Generation" [2]. This definition combines students of two generations "Millennial generation" and "Generation Z" who were growing and socializing during the active development of the Internet in the Russian Federation. At the moment, their values are significantly determined by the processes of globalization, development of information technologies, mobile communication, and the Internet. They are accustomed to using the different technological devices (PC, laptops, cell phones, smartphones) in their everyday life. They have their unique characteristics, and other learning strategies are needed to teach them [3].

Students are not interested in the traditional way of learning and teaching any more when the educators transmit knowledge by giving lectures and students should do some practical exercises in a paper book to apply knowledge into practice.

Nowadays, to learn new information better and quicker, it is recommended to use various technological devices in the classroom [4]. The Information and Communication technologies in the learning process contributes to learners' rapid integration into the learning environment and increases their interest in a discipline.

The "Digital generation" has its own unique teaching characteristics, which we should take into account [5].

1. Work in groups (making projects, collaboration in groups).
2. Integration of technology into the learning environment.
3. Active and interactive learning activities.

According to the peculiarities of teaching the "Digital generation", the State Programs demand, the higher education institutions in Russia to be searching for new educational and digital technologies that could improve the efficiency of the learning process. Universities are interested in "producing" the competitive graduates, for whom a foreign language must be an instrument for professional communication.

The Ural Federal University named after the first President of Russia B. N. Yeltsin (UrFU, Ekaterinburg, Russia) and the online School for learning English Skyeng have conducted an experiment to find the best model of teaching English. The traditional, blended, and online models of learning were tested to find the best strategy for the students of the Institute of Radio-Electronics and Information Technologies to learn the English language.

2 Blended learning and flipped classroom technology

The term “blended learning” was started to use in the academic circle in the early 2000s by C. J. Bonk and C. R. Graham who defined the blended learning as a combination of the face-to-face instructions with the computer-mediated instructions [6]. The blended learning is a teaching approach, which combines the online and face-to-face instructions [7,8]. At the moment, the blended learning has become a big trend in higher education. In the Russian pedagogy, the term “blended learning” is defined as a technology combined the face-to-face learning and elements of the online-learning [9].

M. Horn, co-founder and Executive Director of Education of Innosight Institute, describes this notion like “a formal education program, in which a student leans at least in part through online delivery of content and instruction with some elements of student control over time, place, path, and/or pace” [10]. M. Horn distinguished 4 models of the blended learning. Between them, the flipped classroom model is the most common and popular.

The flipped classroom technology, first popularized in the USA by two chemistry teachers J. Bergmann and A. Sams, emerged from the K-12 education [11]. The flipped classroom is characterized by an inversion of educational process. The concept is based on the idea that the traditional teaching is inverted, and the exercises, which are initially done in class have been done at home and vice versa [12, 13]. Before classes, the students receive the lecture material and online exercises then familiarize with it at home and at their own pace. The classroom time is devoted to form different competences according to the curricula of a discipline.

Proponents of the flipped classroom have listed numerous advantages of the flipped teaching and learning in higher education either for students or for teachers. The flipped learning allows students to use information technologies and learn it in their own pace. So, it frees up the actual class time for more effective and interactive learning activities, and the learners take control and responsibility for their learning [14].

At the moment, the flipped learning is actively used in distributed learning, open learning, and e-education. Development and implementation of thedistance learning platforms, massive open online courses (MOOC) are in progress with the development of the flipped classroom. Therefore, in 2011, Salman Khan applied the flipped learning technology in the educational platform "Khan Academy" to watch theoretical materials via video lectures in advance and online practice with a teacher [15].

Activities in the flipped classroom are consisted of the following parts: warm-up activity (5 min), questions and answers time on video (10 min), and guided practice (75 min) [12]. The “Q&A time” is crucial because students need to put some questions for clearing up difficult moments or misunderstandings.

In this paper, we consider the flipped learning as an educational technology that uses the Information and Communication Technologies in the learning process and combines the face-to-face learning with the active learning. PC, tablet computer, mobile phone, electronic textbook, multimedia projector all of these devices are the es-

sential technological tools for conducting the flipped lessons and increasing the efficiency of the educational process in the information society.

3 Interactive platform Vimbox

The Vimbox platform is a modern environment for learning and teaching English online, especially elaborated for the online English Skyeng School, which provides the online English lessons with the tutorial assistance. One of the goal of this platform is to implement modern information technologies in teaching English predominantly in Russian schools. The “ecosystem” Vimbox contains a mobile application and browser extensions. The aim of these services is to help learners to form and develop competences in learning English, to increase the students’ motivation; and to encourage people to learn English language [16].

Originally, the Skyeng was created as an educational platform for the secondary education to teach pupils from Year 5 to Year 11. Now the Skyeng is going to establish cooperation with Russian higher education institutions and elaborate educational programs for universities. In 2017, the Expert Council of the Agency for Strategic Initiatives approved implementation of the interactive platform Vimbox to the educational process in higher institutions and institutions for further education.

The interactive platform Vimbox consists of the following components [17]:

1. System for collecting and analyzing data about each student: it also summarizes students’ overall progress.
2. Report on learners’ results and visualization of their progress.
3. Special homework system.
4. "Smart browser", which monitors the interests and search queries.

The teacher creates a classroom in a Vimbox account and invites learners to a virtual classroom sending them a link. In class, teachers and students are in an interactive classroom, they see each other via the videoconference Zoom. The teacher has a possibility to see all the actions and students’ responses and can help them at any moment.

The developers and methodologists of the Skyeng outline that all the interactive exercises correspond to the Federal State Educational Standards and are aimed at the development of two general competencies (General Competence-4, General competence-5).The ecosystem has a number of advantages: mobile application, interesting material, personal learning path, and ease of use.

The main advantage is the mobile application, which helps to learn new vocabulary and do interactive exercises. The student’s personal learning path controls several indicators (attendance, testing activities, homework, and interaction with the teacher during lessons). It is argued that the educational materials created by methodologists and educators of the Skyeng contain current and interesting learning materials and activities to improve the motivation.

The platform integrates the interactive learning assignments for students: podcasts; video clips; application to learn vocabulary; English speaking club (every month); a mobile application, and the Skyeng YouTube channel.

The platform is equipped with an easy-to-use interface for the teacher. The teacher has an access to virtual classrooms, academic programs, and a class register. The educator can also send interactive homework for developing listening, reading, writing, and grammar language skills [17].

4 The joint experiment

The Ural Federal University and the online Skyeng School for learning English have conducted a joint experiment during the second term of the 2018 – 2019 academic year on the basis of the Department of Foreign Languages and Translation. The mastering discipline was the "Foreign Language" (English), which is a basic subject for all technical programmes. It was implemented in three different models.

The students of radio engineering specialities of the Institute of Radio-Electronics and Information Technologies at the Ural Federal University were involved in this study. All participants were second-year students who studied the discipline "Foreign Language" (English) in the three learning models.

1. Traditional format (Model 1) – control group.
2. Blended learning (flipped classroom Model 2) – the first experimental group.
3. Online format (Model 3) on the interactive platform Vimbox – the second experimental group.

For the purpose of examining the efficiency of each model 72 students participated in the experiment, they were divided into 3 models (2 groups in each module) according to results of the entrance test conducted by the Skyeng School. 27 students were in the control group, 26 students were in the first experimental group and 24 students were in the second experimental group.

The students of Model 1 took the traditional face-to-face training without using the online courses. These students demonstrated low results during the entrance test, they had a level A2 (CEFR "Elementary"). The second and the third groups were experimental. The second group consisted of students with the levels A2-B1 (CEFR "Pre-Intermediate" and "Intermediate"). The lessons were conducted in the blended format (on the basis of flipped classroom model). The third group included the students who had demonstrated a high level of English language skills; therefore, they studied only on the interactive platform Vimbox with an online teacher.

The entrance test was compiled by the Skyeng School methodologists. It included exercises to test knowledge about Listening, Reading, and Use of English, it lasted 35 minutes.

4.1 Traditional face-to-face learning (Model 1)

Classes in traditional groups were conducted without any materials of the Skyeng School. It is necessary to note that the students of the Institute of Radio-Electronics and Information Technologies do not study English in the traditional face-to-face format. They have been doing a part of their homework (grammar) independently in the electronic educational environment the "My Grammar Lab" [18]. The grammar

tasks done in the “GrammarLab” are taken out of the in-class activities and are not checked in the classroom.

To form foreign-language communicative, intercultural, and technological competences, the English teachers of the Department of Foreign Languages and Translation use the five-level general adult authentic English course the Language Leader and some authentic materials from the My Grammar Lab with access to the electronic educational environment [19]. Having the access, students do grammar exercises remotely, which are not checked in the classroom.

4.2 Experimental groups

Two other experimental groups had one electronic textbook the New English File with different levels (Pre-Intermediate, Intermediate, Upper-Intermediate levels) and some Skyeng materials on the Vimbox for the students of the Ural Federal University. The New English File became the main textbook for students of the second and third models. The homework assignments were posted on the interactive platform Vimbox and were sent by the Skyeng methodologists. In the first lesson, each student received a login and a password to enter the platform. During the experiment, they were doing all the homework on the interactive platform.

The students had 2 academic hours for doing each homework, which consisted of lexical and grammar exercises, listening tasks, watching videos, or reading texts. The out-of-class work (homework) was not checked in-class. Each lesson began with a new topic and was conducted according to the flipped learning technology. The grammar part was accomplished by students themselves without any tutorial assistance. All the in-class work was aimed at developing the speaking skills. The communicative approach (CLT) was the main English teaching during the experiment.

The blended learning classes included the following speaking topics: Healthy Lifestyle, World Cafe, I have a dream, Celebrities, Summer Plans, and Superheroes and superpowers. At the final lesson, students had to make the project presentation “My university dream”. As for the technical equipment, the classrooms were equipped with a multimedia projector and speakers.

Students of the second experimental group were engaged into the online format of education. A teacher from the English Skyeng School sent students a link for each lesson, and they communicated twice a week for two academic hours via the videoconference Zoom. After each lesson, students did their homework on the Vimbox. The in-class activities were held in the form of English speaking club. 10 students gathered in the classroom, connected to a videoconference, using their mobile devices, and talked to each other and a teacher. They discussed the following topics*: Healthy Lifestyle, The World Around Us, Technological Advance, Russia.* In comparison with the students of the first experimental group, the students of the 3rd model did not make any project work.

It is necessary to mention that the classrooms for the online learning must be equipped with a multimedia projector, speakers, a desktop microphone (1 group), or each student has to have a workplace with a computer.

5 Results

To establish the rationale for teaching English to students of technical specialties using these learning models, it was suggested to write an essay on the topic "The pros and cons of the English teaching experiment" to determine the degree of their involvement and motivation in that project. We collected and analysed 37 essays: 8 works from the control group, and 29 essays from the two experimental groups (17 reviews of the flipped learning and 12 works about the advantages and disadvantages of the online learning experience).

Half of the students mentioned that during the entrance test they had not known about the goals of the test, and, therefore, many of them were not taken that test seriously, and, as a consequence, some students were distributed into groups with a lower level of English.

The students, who were participating in the traditional face-to-face learning (Model 1), did not notice any changes, apart from a new group and a new teacher.

Students, who were studying in the flipped classroom (Model 2) expressed a positive attitude towards the experiment (see Fig. 1). 23% of respondents emphasized interesting materials, selected by the methodologists of the Skyeng. The same number of students gave the preference to the grammar repetition in their homework. We collected some of their impressions: "we started with the basics of English language; this (the platform) allowed us to repeat and to get used to a new group".

The majority of students (82%) highly appreciated the Skyeng mobile application and the interactive platform Vimbox. These students used the means not only as a platform for doing homework, but, also, as an interactive dictionary that helped them quickly and easily to memorize new words. In addition to the advantages of the interactive platform, they also attributed: the presence of all homework in one place (interactive platform Vimbox), its implementation at any time and in any place, well-structured materials aimed at developing communication skills (28%). The absence of paper textbooks was also perceived positively (15%).

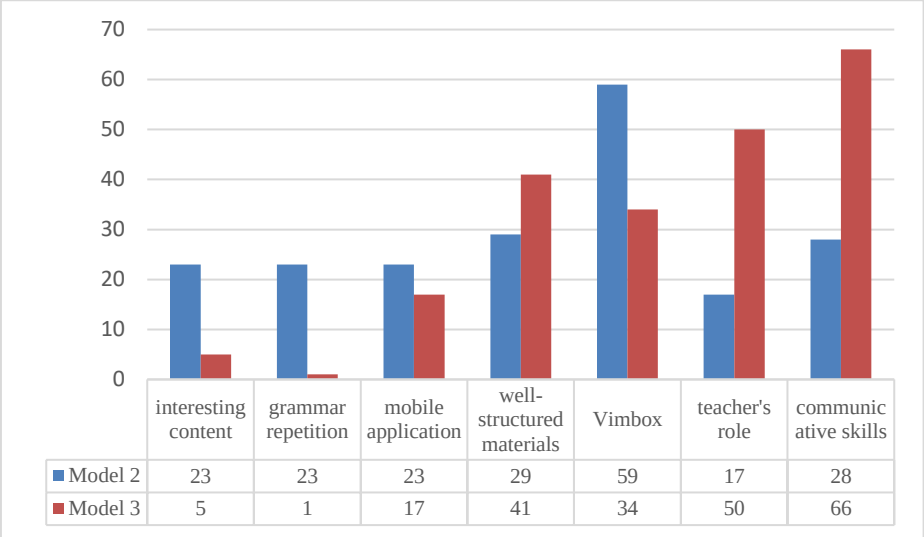


Fig. 1. The advantages of the experiment

Studying in the 3rd online learning model became a completely new format of learning for the 2nd year students studying English as a foreign language at the university. Most of the students (8 out of 12 respondents) admitted that the participation in the experiment was an interesting experience. However, the rest of the students were not impressed at all. They were focused on passing the exam and on getting an excellent grade, however, that project, did not prepare them for the exam.

Students of the second experimental group also noticed some advantages (see Fig. 1). All the tasks on the Vimbox were aimed at the development of communicative skills and contributed to the development of foreign language communicative competence (66% of the responses.) The course had a clear structure and contained a large number of exercises for the development of communication competence in English: vocabulary and grammar exercises, listening, reading, watching some educational videos, etc.

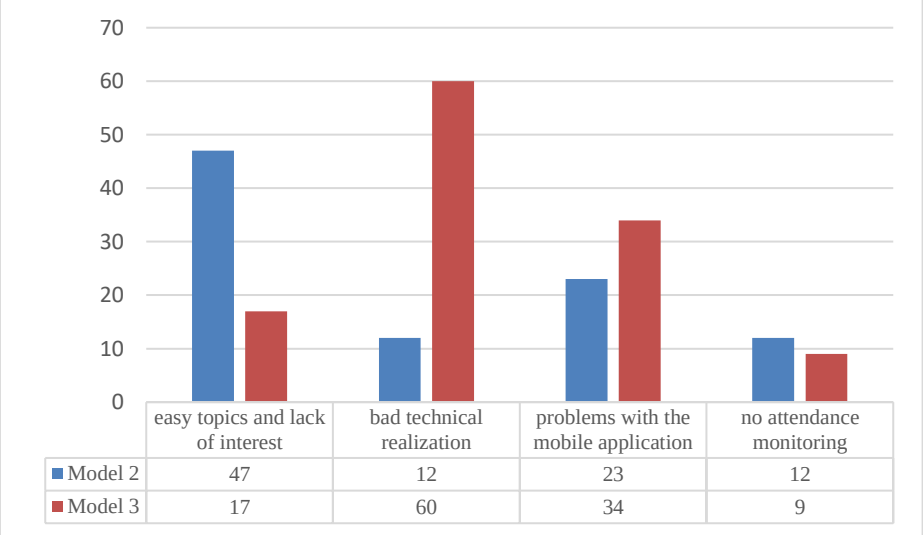
The teacher's role as a moderator and manager of the educational process was enormous. 50% of respondents noted the crucial role of the teacher in the online learning. The teacher was a moderator and a facilitator of the learning process, who was able to support students' motivation and active engagement in learning English in a virtual classroom.

Only one student mentioned that working in the e-learning environment contributed to the formation and development of technological competence. In addition, only one student underlined that the Vimbox increased the level of motivation and contributed to a greater involvement in the learning process. Only 2 students out of 12 wrote about the most important advantage of online learning, i.e., - the possibility of learning at any place.

The disadvantages (see Fig.2) of the 2nd model were connected with some organizational and technical implementation. 20% of the learners believed that the discus-

sion topics the in-class activities were too simple; therefore, they lost interest in studying and discussing it. There were some quotes of the students: “simplicity and naivety of topics”, “meaningless exercises”, “similar tasks”. A third of the students noted that during the experiment they did not improve their English skills: “there were a lot of videos and presentations, but this did not improve the learning process”. At the end of the semester, students would pass the English exam. According to their views, the tasks in that experiment wouldn’t help them to prepare for it.

There were constant mobile application crashes. The assignment was uploaded the day before lessons, and some students had no opportunity to prepare for it. The class attendance was not monitored. The educational program took into account only points for the homework. Points for the attendance and active class participation were not recorded; as a result, half of the students stopped attending lessons.



	easy topics and lack of interest	bad technical realization	problems with the mobile application	no attendance monitoring
Model 2	47	12	23	12
Model 3	17	60	34	9

Fig. 2. The disadvantages of the experiment

Disadvantages mentioned by 70% of the essays of the second experimental group were connected with the technical performance of the experiment. Moreover, the technical problems were fixed during the in-class and out-of-class activities: weak Internet connection, problems with sound and with the mobile application Skyeng: “the quality of learning suffered from a poor technical equipment”, “daily technical problems in-class”, "the program is not adapted for a mobile phone." Some recorded the lack of grammar rules (16%). There were several grammar exercises, but during the in-class time, the teacher didn’t explain the grammar rules. The students themselves highlighted that only interested and motivated students should have participated in such e-learning format of education.

6 Discussion

After the experiment, we have identified a number of problematic issues that require further discussion.

The theoretical basis of that experiment was the conceptual ideas of the blended learning, especially, the flipped classroom. However, we have to admit that this experiment was based only on the general idea of "flipping" the learning process and omits some important moments. Using the flipped learning technology in educational activities, the teacher should, first of all, explain the goals, objectives, motives, and intended results, which would be achieved at the end of the experiment, but this was not done. On the contrary, the students of the "Digital generation" were not aware of the goals and objectives in advance; therefore, they did not take it seriously.

Topics and materials for the in-class and out-of-class activities did not correspond to the curricula and did not contain any information on their future speciality. The Skyeng program did not take into account the Radio-Electronics and Information Technology topics.

The poor technical equipment of the classrooms and the bad technical implementation of the project. Due to the weak technical equipment of the Ural Federal University, not all lecture rooms are equipped with projectors and have necessary technical equipment for conducting lessons on the basis of online-learning. The students had to bring their own laptops and earphones to study.

There was no instrument of increasing motivation; moreover, we acknowledged the predominance of amotivation in 50% cases. Many students understood that this online platform did not record their attendance and classroom activity; so, stopped attending classes. The training exercises, instruments of control, and assignment did not correspond to higher education institutions.

The authentic programs of the online English Skyeng School was only aimed at the development of communicative skills. They did not contain sufficient vocabulary and grammar materials. Moreover, the programs were not aimed at the development of the general professional foreign language competences stated in the educational program "Foreign Language", especially, for students of non-linguistic specialties of the Institute of Radio-Electronics and Information Technologies at the Ural Federal University.

References

1. State programme "Development of Education for 2018–2025 years", http://static.government.ru/media/files/313b7NaNS3VbcW7qWYslEDbPCuKi6lC6.pdf, last accessed 2019/10/15.
2. Soldatova, G., Rasskazova, T.: Cifrovoe pokolenie Rossii. 2nd edn. Smysl, Moskva (2018).
3. Delahoyde, T.: Generational differences of baccalaureate nursing students' preferred teaching methods and faculty use of teaching methods. College of Saint Mary, Lincoln (2009).
4. Flavin, M.: Disruptive technology enhanced learning. Macmillan, London (2017).
5. Coates, J.: Generational learning styles. LERN, Wisconsin (2007).

6. Bonk, C. J., Graham, C. R.: The Handbook of Blended Learning: Global Perspectives. Pfeiffer, San Francisco (2006).
7. Rooney, J. E.: Blended learning opportunities to enhance educational programming and meetings. Association Management 55(5), 26–32 (2003).
8. Reay, J.: Blended learning – a fusion for the future. Knowledge Management Review 4(3), 6 (2001).
9. Skrypnikova, N.: Tekhnologiya smeshannogo obucheniya:aktual'nost' i problematika. Professional'noe obrazovanie i rynok truda 3, 74–78 (2018).
10. Skater, H., Horn, M.: Classifying K-12 Blended Learning. Mountain View, CA (2012).
11. Ash, K.: Educators evaluate “flipped classrooms”. Education Week 32(2), 6–8 (2012).
12. Bergmann, J., Sams, A.: Flip your classroom: Reach Every Student in Every Class Every Day. Eugene (2012).
13. Lebrun, M.: les classes inversées, un phénomène précurseur pour l’ecole à l’ère numérique, http://methodal.net/spip.php?article10, last accessed 2019/10/10.
14. Lebrun, M.: Dispositif hybride et flipped classrooms, https://lebrunremy.be/WordPress/?p=583, last accessed 2019/08/09.
15. Khan, S.: L’éducation réinventée. JC Lattès, NY (2013).
16. Andreeva, A.: Ispol'zovanie virtual'nogo klassa na platforme Vimbox v obuchenii anglijskomu yazyku. Pedagogicheskie nauki 3(24), 10–12 (2017).
17. Skyeng school: Interaktivnaya platforma Vimvox (2019).
18. Kovaleva, A., Anchugova, O.: Sistema inoyazychnogo lingvisticheskogo obrazovaniya dlya neyazykovyh napravlenij podgotovki v vuze s ispol'zovaniem informacionnyh tekhnologij. Pedagogicheskoe obrazovanie v Rossii 11, 108–114 (2018).
19. Kovaleva, A., Anchugova, O.: Metodika ispol'zovaniya elektronnoj obrazovatel'noj platformy My GrammarLab dlya obucheniya studentov inostrannomu yazyku. Pedagogicheskoe obrazovanie v Rossii 5, 90–95 (2018).