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THE ROLE OF BLENDED LEARNING IN FOREIGN LANGUAGE TEACHING FOR ENGINEERING STUDENTS

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Abstract

Taking into account the state program of the Russian Federation "The Development of the education" for 2013-2020 which proclaims the principles of integration of science and education, improvement of the whole system of qualified personnel training of all levels, the increasing requirements for the graduates of technical universities are becoming obvious. In modern socio-economic conditions of the development of the society, the competitiveness of specialists, especially engineers, is not possible without foreign language skills. This article considers the possibility of improving the quality of English language teaching. The authors focus on the advantages of blended learning technology, as well as its special features in the process of foreign language teaching for engineering students. The study takes into account some aspects of blended learning, such as Online Courses Touchstone and Viewpoint, "cloud" technologies and Moodle e-Learning platform. The authors show the advantages of each of the aspects of blended learning, and also come to the conclusion about the increasing resources of both contact and self-study work. Moreover, the correlation of learning situations with modern demands and needs in the exchange of information is visible, which makes the discipline more relevant. The study is based, on the one hand, on the communicative approach, in which the student becomes the subject of speech and learning activities, its active participant and, on the other hand, on the complex approach, in which all aspects of the language are studied in interrelation.

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Keywords: Blended learning, "cloud" technologies, engineering students, interactive activities, Moodle e-Learning platform, Online Courses Touchstone and Viewpoint.



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1. Introduction

The socio-economic development of the society determines the modernization of the higher educational system. The strategic objectives of the innovative development of the Russian Federation until 2020 are defined in the fundamental state normative documents of the Federal level, which present the objectives of the entry of Russian universities into the top 200 world universities according to the world ranking QS. The doctrine of the development of the Russian science proclaims the principles of the science and education integration, the improvement of the integrated system of qualified personnel training of all levels. The state program of the Russian Federation "The Development of the Education" for 2013-2020 (the order of the Government of the Russian Federation of November 22, 2012 № 2148-p) and the national doctrine of the education of the Russian Federation until 2025 focus on the leading role of education in public policy, with priority training of qualified specialists, competitive in the world labor market.

The tasks of reforming of the educational system of the post-industrial society have demanded adequate means and methods of education according to the processes of globalization, integration and informatization, which have led to the emergence of a new type of education – open, based on free unlimited access to educational resources. Open education can be implemented in a new teaching informational and educational environment that integrates electronic informational resources, informational and communication technologies (Hampel & Beatriz de los Arcos, 2013; Sidorenko, 2012).

On the other hand, it should be noted that the competitiveness of specialists, especially engineers, is not possible without foreign language skills. It is especially important to know English - the language of international communication. The main scientific and technical literature is written in English, as a rule, specialists communicate mainly in English, the use of a computer, in particular the Internet, is impossible without the knowledge of this language. Thus, the knowledge of foreign languages makes it possible to establish educational, cultural and professional contacts. However, despite the need for engineering students to know a foreign language, graduates of non-language universities often do not speak it well enough. There are many reasons for this phenomenon, but one of the main ones is a low level of foreign language proficiency at the entrance to the educational program and, as a result, low motivation to study this subject. According to the pedagogical and psychological researches the effectiveness of training depends on the motivation of learning. Without this aspect the students' activity will not be successful.

2. Problem Statement

According to the scientific literature (N. O. Ledneva, I. A. Solomakha, N. V. Dergunova, O. Yu. Iskandarova, V. N. Kruglikova, S. Popov, G. A. Sumin, F. P. Shpirko, O. I. Kobzar), the English language training of engineering students does not meet modern requirements of the society. The scientists have considered the formation of motivation during the study of a foreign language at a linguistic University, but the studies dedicated to the problem of the formation of motivation at a non-linguistic University, do not allow to solve some of the existing contradictions. The contradictions are between the need to study a foreign language by future specialists and the lack of techniques that

contribute to the positive dynamics of the motivation of the study of a foreign language; between the desire of a student to learn a foreign language and the lack of scientific and methodological support of the teaching process, which takes into account the individual characteristics and the level of foreign language proficiency. The importance to solve these contradictions has led to the search for tools that could stimulate students' cognitive activity.

3. Research Questions

One of the ways to improve the quality of the foreign language knowledge among engineering students is blended learning (blended learning or hybrid learning). The blended learning model is a combination of two types of learning environments: face-to-face trainings, when the teacher and the group are in contact in real time, and virtual trainings, when interaction (synchronous and asynchronous) takes place using electronic simulators and online communication tools (Figure 01) (Krasnova, 2014).

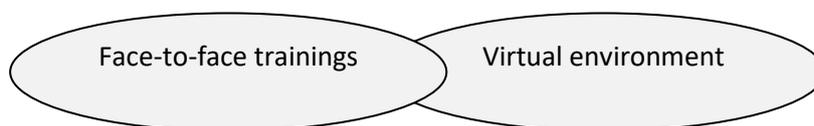


Figure 01. Blended learning

This model has obvious advantages for engineering students, since it brings future graduates closer to the realities of professional activities, where the model of project work in the electronic environment is widely used. One of the ways to introduce a blended learning model in a number of universities is the combination of a traditional training system and the Moodle e-Learning platform, which provides organizing the learning process easier. Besides, it has a logical structure at all its stages including monitoring of students. Training is based on a new way of presenting the course content electronically (web pages with hypertext markup, embedded sound and video, interactivity when working with data) and using Internet technologies to deliver electronic learning materials to students (Stracke, 2007).

The modular object-oriented dynamic Moodle e-Learning platform is free and allows solving several diverse challenges; its use is beneficial both for educational institutions and for lecturers and students. Thus, the administration of an educational institution has the ability to track the work of lecturers and students, automatically create electronic reports on the activities, monitor the activity of students on the site (the formation of logs for an individual student, for groups of students concerning the whole course and specific tasks), provide access to educational materials of the site and the work of students, establish different degrees of access and vary them widely, promptly receive and analyze the information about the educational process for decision-making management (Marukhina, 2013).

Focusing on face-to-face learning and a "cloud" data store, called Google Drive, is also considered as a blended learning model (Isiguzel, 2014). "Cloud" technologies may be used for storing files on the Internet, sharing these files with other users and accessing files downloaded from any computer, smartphone or tablet. In the educational environment, the proposed services allow one to develop and publish e-books and educational materials; build visual links to the articles and blogs, papers or

educational materials of other authors; develop tests, quizzes, crosswords and other play-based activities; post creative and design works for familiarization, communicate collectively and conduct joint development of projects, abstracts, papers, etc.

Thus, the above-listed blended learning formats (Moodle e-Learning platform, “cloud” technologies) provide an easy access to educational materials and manuals in electronic form directly from the learning environment and an objective and independent knowledge assessment system (electronic tests) including timely access to the teacher feedback and progress reports. They also lead to the improved creative and intellectual potential through the self-organization, the desire for knowledge, the ability to successfully interact with the computer technology and learning of latest information technologies (Waters, 2014; White, 2014).

4. Purpose of the Study

The purpose of this article is to consider the impact of informational technologies on the formation of professional and personal abilities of engineering students and motivation to learn English.

It is considered that blended learning in the course of foreign languages is particularly effective in training engineering students, since they are trained by the latest technologies which have already been used in other areas of their life. Consequently, it brings greater relevance, since the correlation of training situations with modern demands and needs for the exchange of information is evident. The fact that students work at their own paces and are responsible for the learning process seems to be very important. Depending on their needs, they can identify their own priority areas and select appropriate simulators for individual work (Surzhenko, 2015; Vorobel & Kim, 2012).

Training by the electronic environment provides using a wider range of technical solutions including audio and video simulators, which provides a variety of tasks, add some authenticity and creates additional motivation when working with these tools.

Test assignments for consolidation of vocabulary and grammar with automated testing and assessment will save class time and provide extra time for speech communication. Private viewing of videos will provide detailed work on language materials due to the self-pace learning which is very difficult to do in a classroom environment (Popova & Nenasheva, 2016). The potential and prospects for the development of blended learning are evident.

5. Research Methods

The technology of blended learning is based on an integrated approach in which all aspects of the language are studied together. For example, texts for reading and listening, monologues, dialogues, grammar exercises contain specially selected vocabulary (words) and grammar. Students practice them in all types of speech activity, combine them with each other. The work is organized in such a way that the same words, grammatical phenomena, are repeatedly found in the text and in exercises, played out in situations. Electronic resources materials and interactive activities during classroom sessions are integrated, supplemented, but not presented in separate formats. Due to this, the most effective learning of the language material takes place. Besides, the technology of blended learning is based on a

communicative approach that involves such methods and techniques that are refracted through the student's personality, his needs, motivation and abilities (Krasnova, 2014). The topics for the discussion are chosen in such a way that they correspond to the range of students' personal or professional interests and match their age.

The discussion of real life situations attracts students, arouses keen interest and desire to share their ideas. The teacher directs students to perform a language task. The main place in the communicative teaching of a foreign language belongs to game situations, work with a partner, the tasks that allow students to increase their vocabulary, and also teach them to think analytically. It is under these conditions that a student becomes the subject of speech and learning activity and an active participant as well.

6. Findings

A bright example of a blended learning model for teaching the English language is educational complexes of the new generation - Online Courses Touchstone and Viewpoint (by Michael McCarthy, Jeanne McCarten and Helen Sandiford). These educational complexes have several levels (Touchstone A1-B2, Viewpoint B2-C1), which makes them convenient for work in the framework of a multi-level language training program. Multimedia training complexes combine a guide for classroom work, electronic simulators and interactive tools (located in a virtual environment) combined by the Cambridge Learning Management System (LMS).

Electronic training aids under the general title Content (Course, Workbook, Reviews, Checkpoints, Games, Tests) are aimed at self-learning of language materials. Speaking skills can be practiced on dialogical speech simulators. Students listen to a question, record their answer and listen to an illustrative answer (Record and compare activity). Thus, they have several attempts to record the answer until the recording is satisfying. The next step is to record the response through voice messages and by a teacher (Voice tools activity). There are also dialogical speech simulators with an option of video recording (Video role play activity), which makes it possible to create a communication situation as real to life as possible.

It should be noted that electronic tools of the Moodle e-Learning platform, Google-disk or Online Courses Touchstone and Viewpoint, in addition to the development of all four skills of speech activity, have a great pedagogical potential. So, they make it possible to create communication situations in English as real to life as possible, promote mutual learning and academic autonomy, personalize the learning of new language material, as well as create an electronic portfolio. Table 1 demonstrates the features of each specific tool.

Table 01. Features of electronic interactive tools of a blended learning model

Tool	Use	Pedagogical potential
Blog	Writing: personalizing a new language material through writings	Development of creative potential
Forum	Writing: writing a short reasoned statement; personalizing the new language material in a situation of asynchronous interaction.	Development of critical thinking skills

Chat	Writing: writing a spontaneous dialogical communication; practice of conversation strategies in a situation of synchronous interaction	Typewriting speed development
Voice message	Speaking and listening a short monologue, understanding the reply: personalizing the new language material through speech	Development of self-correction skills
Wiki	Reading, writing: development of skills of revision reading and reading for specific information, compilation of texts in the written form	Development of critical thinking skills

Source: developed by the authors.

For example, the reading task in the self-study training may result in the discussion in the framework of the subsequent session. Consequently, the language drills and speech skills in the self-study training provide focusing on interactive activities in the classroom, which is one of the key points in the development of professional and personal abilities of engineering students. Interactive activities may include discussions, role-plays and business games, the use of psycho-drama techniques (“step into the future”, “return in time”, “tests on spontaneity”).

The use of basic psycho-drama techniques (D. Kipper’s classification), based on the manifestation of spontaneity, requires accelerated reasoning, making non-standard decisions, creating a large number of ideas. The ability to quickly change decisions, depending on the current situation and instantly accept new ideas aimed at improving the efficiency of professional activity, is a manifestation of professionalism (Bondareva, 2013).

The business simulation game, characterized by building logical utterances and the reasoned opinions, develops the ability to show intellectual activity (consistency, criticality, flexibility). Also, when using business simulation games, the learning process is most closely related to real activities of future specialists, which develops the ability to accumulate and focus interest in a particular professional field. Moreover, the favorable atmosphere of a business simulation game accelerates the assimilation of the new material, since there is no risk of failure in it and therefore students can afford to change their approach to the studied problems in whole or in part. It means they can make some changes in the settings and get previously unavailable information (Bakanova, 2013; Kargina, 2014).

The use of a drama action, or in terms of the educational process, a role-playing game, has the following objectives: enrichment of the role repertoire (or rejection of certain roles) and relevant expression of emotions. A role play has no pre-written script; it is the flow of creativity; realization of the communication verbally and non-verbally, based on the situations set by a teacher. The ability to play someone else's role helps students better adapt to the world around us and achieve their inner potential; challenge themselves to act in accordance with the plan of internal self-realization and express their emotions properly.

Consequently, the technology of blended learning can lead to a qualitative change in the content of foreign language training. Interactive activities during the contact work, a variety of resources of the electronic component open new opportunities for learning material in an accessible and interesting way, which makes the process of studying a foreign language more motivated.

7. Conclusion

Thus, it is obvious that the technology of blended learning is a completely new step in the development of teaching methods. It is becoming more and more popular, as it is in deep harmony with the concept of modern education. The use of this technology in the foreign language teaching can significantly improve the efficiency of the educational process and have a positive impact on the development of skills required for engineering students in their future professional activities.

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