

Development of communicative competencies of students in the context of blended learning

Desarrollo de competencias comunicativas de los alumnos en el contexto de aprendizaje mixto
Desenvolvimento de competências comunicativas dos alunos no contexto da aprendizagem combinada

Recibido: 16 de enero de 2019. Aceptado: 06 de febrero de 2019

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Abstract

This article explores students' communicative competencies development in the context of blended learning. The relevance of the work is the need of new conditions for students' communicative competencies development. The goal of the work is to prove the effectiveness of blended learning for the development of communicative competences. The article offers recommendations for teachers on competencies development in the implementation of blended learning, and also presents the levels of communicative competences development. In the process, the essence of the application of e-learning in higher educational institutions is revealed.

Keywords: communication skills, blended learning, high school, e-learning, e-courses.

Resumen

Este artículo explora el desarrollo de las competencias comunicativas de los estudiantes en el contexto del aprendizaje combinado. La relevancia del trabajo es la necesidad de nuevas condiciones para el desarrollo de las competencias comunicativas de los estudiantes. El objetivo del trabajo es demostrar la efectividad del aprendizaje combinado para el desarrollo de competencias comunicativas. El artículo ofrece recomendaciones para maestros sobre el desarrollo de competencias en la implementación del aprendizaje combinado y también presenta los niveles de desarrollo de competencias comunicativas. En el proceso, se revela la esencia de la aplicación del e-learning en las instituciones de educación superior.

Palabras claves: habilidades de comunicación, aprendizaje mixto, escuela secundaria, aprendizaje electrónico, cursos electrónicos

Resumo

Este artigo explora o desenvolvimento das habilidades de comunicação dos alunos no contexto da aprendizagem combinada. A relevância do trabalho é a necessidade de novas condições para o desenvolvimento das competências comunicativas dos alunos. O objetivo do trabalho é demonstrar a eficácia da aprendizagem combinada para o desenvolvimento de competências comunicativas. O artigo oferece recomendações para professores sobre o desenvolvimento de competências na implementação da aprendizagem combinada e também apresenta os níveis de desenvolvimento de competências

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comunicativas. No processo, a essência da aplicação do e-learning em instituições de ensino superior é revelada.

Palavras-chave: habilidades de comunicação, aprendizado misto, ensino médio, e-learning, cursos eletrônicos.

Introduction

One of the main features of modern higher education is the development of learning process based on the requirements of the new Federal State Educational Standards. This document established the introduction of a competency-based approach which is designed to develop students' competences. Thus, they should be able to apply the acquired amount of knowledge and skills in practice in the professional sphere creatively and independently in order to expand their own employment prospects and maintain competitiveness in the labor market. In addition, with the introduction of new Federal State Educational Standards, another important requirement emerged, without which higher education institutions will not be able to prepare qualified graduates — the mandatory use of e-learning (Bulaeva, 2018). For all its merits, there is a risk of reducing the level of formation of communicative competences, since most of the tasks are performed by students in the electronic environment without direct interaction with the teacher and classmates (Chaikina, 2018). The most effective way today that can solve this problem, in our opinion, is the use of blended learning. In the process of work, the task of testing the effectiveness of communicative competencies development in the context of blended learning is solved. That is, the relevance of the topic is due to both the insufficient theoretical elaboration of the problem and the need for practical substantiation of the benefits of blended learning in communicative competences development.

Literature review

Competence approach

The goal of a competence-based approach is to ensure the quality of education by creating students' competencies that a future graduate can independently apply in professional activities. That is, students receive a large amount of practice during their time in higher education. Besides, they do not only receive a certain amount of theoretical knowledge, but also get opportunity to apply them in real professional

conditions. Many scientists believe that competencies are acquired actions that ensure independent and creative implementation of professional activities (Hamitowa, 2017).

The federal state standard of higher education defines them as a complex characteristic of the student's readiness to use the knowledge, skills and personal qualities obtained in standard and changing situations of professional activity (Ilyashenko et al, 2018a). B.I. Hassan asserts that competences are goals, competence is a result, and the measure for achieving them is an indicator of competence. That is, to date, there has been a transfer of priorities from the content of training to the results of educational activities, which students must demonstrate at the end of training. The focus of competence is to assess the competitiveness and relevance of graduates in the labor market (Tosolt 2010). The general problem of the formation of competencies has been studied by researchers for several years. This question is presented in the works of E.F. Zeer, G.K. Selevko, G.S. Trofimova, A.V. Farmhouse. The topic of the formation of competences with the use of e-learning tools is addressed by PK Petrov, O.A. Kozlov, T.A. Avalanche, A.A. Andreev, I.V. Sergienko. In our opinion, the acquisition of communicative competences is a prerequisite for the formation of a diverse personality, a competent professional (Garina, 2018). However, the issue of their formation remains open, since compliance with the requirements of the Federal State Educational Standards of Higher Education forces higher schools to reduce the amount of classroom pressure. We cannot fail to note that in order to preserve the quality of the educational services provided, electronic educational resources are important, since the use of traditional learning is losing its relevance (Ilyashenko et al, 2018b). Blended learning (using electronic technologies) has the most positive effect on graduate training in the context of the competence approach. Blended Learning is a combination of traditional forms of e-learning with e-learning elements that use special information technologies such as computer

graphics, audio and video, and interactive elements (Ilyashenko et al, 2018c).

General professional communication skills, such as mastering the basics of speech, possessing basic communication skills, the ability to establish, maintain and develop interpersonal and business relationships, the ability to discuss business problems and defend their point of view are formed through direct interaction in the classroom setting. It is possible to organize the formation of communicative competences, for example, through project activities in electronic conditions. The formation of communicative competencies in the preparation of students with the support of electronic technologies, in our opinion, opens up new ways of becoming qualified professionals.

The value of the competence-based approach has been identified in practice and many authors emphasize its importance in their work, showing the results of training graduates, who, being already adapted to possible problems in the professional sphere, are easily guided in the workplace, showing excellent performance, due to which in turn, it increases competitiveness (Ilyashenko et al, 2018d). Modern graduates due to acquired competencies become in demand in the labor market.

Higher education e-learning

Professional education in Russia has always been based on the needs of the state and society. A few years ago, these requirements changed and higher education was subject to reform. One of the reasons was the fact that graduates of Russian higher educational institutions abroad demonstrated a high level of factual knowledge, but at the same time they were quite weak in solving problems of a problem-oriented, practice-oriented nature. Federal state educational standards have identified new goals that define the content of education. E-learning has become an integral element (Ivanova et al, 2017). This is a promising type of training that provides quick access to resources and services, their exchange and active joint work of participants in the educational process. It allows you to save training time, focuses teachers and researchers on the use of innovative methods, technologies, development tools and the use of e-learning solutions. Its active use has greatly enhanced the capabilities of teachers and students (Kochetova et al, 2017). In high schools, large-scale electronic tools are used, including electronic courses that allow to intensify the

learning process and to form the inherent competencies that a graduate can use in his life and professional activities. E-learning is part of blended.

That is, complementing the traditional forms of e-learning, we get an educational process, fully equipped with the necessary tools, allowing us to form a competent graduate. The educational process is lined up with alternating phases of traditional and e-learning.

Experts identify several reasons for the active implementation of this type of training: the struggle for students (economic reason), the desire to improve the quality of education (qualitative reason), desire to improve the efficiency of the university (the reason for efficiency).

In Russia, many educational institutions choose Moodle among other electronic educational platforms. The e-learning system (e-learning) using the universal software platform Moodle allows you to implement e-learning using information and communication technology tools; transmission and reception of information presented in any form, maintaining an interactive dialogue, while ensuring the possibility of collecting, processing, transmitting, archiving and broadcasting information. Moodle allows teachers and students to interact both individually and in large quantities. For several years now, Russian universities have enjoyed the benefits of this platform. Educational institutions choose Moodle for reasons of openness, gratuity and convenient management system. In this case, the feature and advantage of using such a platform is the ability to organize participation in the interaction of students and teachers of other domestic and foreign universities. E-learning is characterized by several indicators: the presence of a computer network, bidirectional communication, the use of an educational environment based on information technology (Tiedt, 2010).

Describing the level of implementation of online education in the world all analysts point undoubted leadership of the United States in this area. It was in America that scientists were the first to realize the enormous potential that ICTs have in expanding to the education market. In the United States, 81% of institutions of higher education offer at least one distance learning course (Banks, 2013), while 67% of all US schools consider distance learning to be a

strategically important area of development (Grant&Sleeter, 2013). An analysis of the trends in the development of higher and secondary education in the United States published by Ambient Insight research firm indicated that in 2015 the number of students online in America was equal to the number of people attending lectures.

Methodology

The study allowed elaborating the issue of the formation of communicative competencies in blended learning. Based on the analysis of information and synthesis of the identified characteristics of e-learning in the framework of the competence-based approach, we determined the basic provisions of the study. We also investigated scientific literature on the topic of blended learning in the formation of competencies. The generalized experience led to the conclusion about a good degree of knowledge of the problem of the formation of the competencies in question. However, we also noted that not so much work is devoted to the formation of communicative competences in the context of blended learning. The successful experience in the implementation of blended learning, which proved its advantages over traditional and fully distant learning, is considered.

We have shown the feasibility of using blended learning in the formation of communicative competences with the help of a study to identify the effectiveness of training in blended learning in the formation of communicative competences.

Students of Nizhny Novgorod State Pedagogical University named after KozmaMinin and the Surgut Institute of Oil and Gas were invited to complete the project, divided into subgroups. The project involved 67 students (the direction "Vocational training (by industry)" profile "Construction", the direction "Oil and Gas Business"). To determine the degree of "increase" in the effectiveness of the formation of communicative competences in the context of blended learning, the average quantitative indicators in percent and in points in the control and experimental groups (CG and EG) were compared. Also, students were asked to answer some questions about the degree of influence on their blended learning activities, to identify their own attitude to this type of training. ("In your opinion, did electronic tools help you in communicating with partners?", "In your

opinion, is the proposed form of training convenient?").

The peculiarity of the organization of the modern educational process as a means of forming communicative competences was analyzed; revealed the peculiarities of the age of young people (focus on rationalism, self-awareness, self-esteem, the need for achievements).

The work was carried out under the supervision of specialists. Project activities for students served as special conditions in which they could feel and determine how well they can interact with each other. The experiment was conducted in the first and second semesters of the 2016-2017 academic year and in the first semester of the 2017-2018 academic year. The trainees were divided into groups. In the first group, the training was conducted in the traditional form (control group), in the second - in the mixed (experimental group) in order to trace the dynamics of change in the results and on its basis draw conclusions about the effectiveness of blended learning in the formation of communicative competences.

After that, the effectiveness of the formation of communicative competencies in the context of blended learning for the same students was tested.

The verification of the formation of communicative competencies was carried out in the context of blended learning for the following levels and the following attached criteria:

Incompetence. It is characterized by such indicators as: difficulties in independently assessing and interpreting the information found, difficulty in arguing one's own opinion; poor ability to explain complex ideas in an accessible language, persistent difficulties in interacting with different people, inability to achieve the stated goals of interaction.

Insufficient level. It is characterized by such indicators as: minor difficulties in independently assessing and interpreting the information found, the opportunity to prove one's own opinion appears only in the case of personal interest, frequent difficulties in explaining complex ideas in simple language, frequent difficulties in interacting with other people, interaction with other people rarely leads to achieve the goals set in communication.

Average level. Characterized by indicators such as: there are almost no difficulties in

independently assessing and interpreting the information found, often builds her own reasoned opinion on any issue, explaining complex ideas in her own language does not cause particular difficulties, difficulties in building interaction with other people occur rarely, interaction with other people often leads to the achievement of goals set in communication.

High level. Characterized by indicators such as: there is no difficulty in independently assessing and interpreting the information found, building up reasoned answers easily explains complex ideas in simple words, easily builds relationships with other people, interaction with other people almost always leads to the achievement of communication goals (Berry et al, 2012).

The following methods were used as innovative control methods for checking competency formation: case method, project method, electronic testing, portfolio. The use of electronic systems allowed us to quickly obtain objective data on the assimilation of the controlled material by students.

The students had to determine the formulas for calculating the position of the centers of gravity of the bridge elements. It should be noted that in the educational literature for these figures there are no ready-made formulas, and for their derivation the students had to independently apply the whole complex of knowledge from the "center of gravity" section and the corresponding sections of mathematics. In the process, students actively interacted with electronic tools.

Analysis and discussion

Consideration of the aspects of the formation of communicative competences in the context of blended learning requires an additional analysis of the essence of the competencies in question, as well as methods of their formation using electronic means.

Note that Russia introduced blended learning relatively recently (for example, in the USA this practice is quite common), but interest in its dissemination increases every year (Prokhorova&Semchenko, 2018).

Blended learning allows you to control and analyze the educational process, which is why there is practically no threat for the incomplete formation of communicative competence

(Vaganova, 2017b). The teacher selects the necessary content in accordance with the level of training of students or uses authoring, using multimedia content. The role of the teacher is to direct students and influence them with the aim of encouraging self-development (Skatovaet all, 2018). Constant online access to e-course tools increases student engagement and thereby ensures their participation in communication with the benefits of this type of training (Perovaet all, 2017).

The educational process for blended learning is lined up with alternating phases of traditional and e-learning. At the beginning, students should be properly prepared for this type of training (Smirnova, 2018). Therefore, the teacher provides special information letters, gives advice, conducts in-person briefing and a brief overview of the course using video materials, makes an overview of the technologies used (Smirnova, 2017b). Further, he conducts conceptual presentations in the audience, demonstrates virtual seminars and case studies (Vaganova&Ilyashenko, 2018). After that, students conduct experiments under the supervision of a teacher, search for solutions using simulation systems, perform exercises on the example of the tasks that they had previously performed (Pavlov, 2016). The teacher must provide students with continuous access to the course on an electronic platform, provide guidance and guidance on the course that students may need during the assignment. The teacher (tutor) must support students on-line. As we have already noted, e-learning should complement the traditional. Tasks should be performed electronically in electronic form only after instructing the teacher in direct interaction with the students, since already at the first stages clarifying questions may arise that are easier and best for the teacher to ask personally for better perception of information (Vaganova, 2017a).

The structure of communicative competence includes the following elements: knowledge of the necessary languages (using them to achieve the stated goals of communication); knowledge of ways to interact with others and remote people and events; group work skills; Possession of various social roles in a team (Nikolai, 2017a). In the future, the teacher can already actively implement the tools offered by the Moodle system to continue the formation of communicative competencies. Among them: wiki, blog, chat, forum, webinar (Nikolai, 2017b). Communication skills can also be trained through

various tasks performed in small groups. The electronic platform allows you to successfully accomplish this task. The degree of use varies depending on the year of study and the direction of training, since the creation and content of the course depends on the faculty of the educational institution (Smirnova, 2017a).

The formation of communicative competences can successfully pass through project activities (Myalkina et al., 2018). In this case, the teacher puts a real problem before the students. Students independently collect and analyze information, summarize the facts and are engaged in the choice of methods for solving a design problem. Communicative competencies formed in the process of project implementation include: the ability to participate in the creation of an effective communication infrastructure of an organization (enterprise), to ensure internal and external communication, the ability to participate in the formation and maintenance of corporate culture, the ability to participate in planning, preparing and conducting communication campaigns and events (Britzman, 2013).

Speaking about e-learning, one should not forget that, first of all, the student should have the opportunity of equal access to e-courses from any device, including mobile, which also has a direct bearing on the formation of communicative competences, therefore, the requirements for their developing. In addition to text format, you should use audio materials, videos with a duration of no more than 6-9 minutes, as well as adaptive interactive illustrations and infographics, use structured texts (on cards), provide tests not only for verification, but also as a way of presenting information.

A group of 4th year students studying "Construction" was divided into teams of 3-4 people, each of which was asked to develop a case on one of the topics, based on a real architectural object. Students themselves assigned roles and tasks to be solved in a team, and the result was a presentation at a student's scientific conference and mandatory participation in the discussion.

Despite the fact that the proposed objects (Folker wheel and Millennium Bridge) are completely different in function and construction, the explanation of the principle of their work is based on one of the general

theorems of the dynamics of a mechanical system - the theorem on the motion of the center of mass.

As part of the preparation of the case, students were asked to solve the following tasks: to carry out a search for general information and technical characteristics of the objects under consideration; to formulate the main engineering problem that was solved during the construction of the object; describe the mathematical model underlying the design decision; to identify and formulate a mechanic-mathematical apparatus, with which you can perform a design calculation; perform your own calculation and compare the results with the actual work of the structure; formulate conclusions and recommendations; prepare a report and presentation; make a large-scale model of the object (if possible). For the Millennium Bridge, the main source was information from the Internet, some of which are in English only, but for students this was not a hindrance. Since the determining problem was the search for the center of gravity of the structure, the necessary characteristics of the steel were: the shape and dimensions of the bridge elements, their mass, drive characteristics and operating time. It was possible to find the following characteristics: mass: $M = 750$ t; span = 123 m; height in the lowered condition: $H_1 = 57$ m; height in the folded state: $H_2 = 24$ m; angle of rotation $\alpha = 40^\circ$; power of each of 6 electric motors $P = 55$ kW. The students had to determine the formulas for calculating the position of the centers of gravity of the bridge elements. It should be noted that in the educational literature for these figures there are no ready-made formulas, and for their derivation the students had to independently apply the whole complex of knowledge from the "center of gravity" section and the corresponding sections of mathematics. In the process of work, students actively used e-learning tools and led correspondence in chats. Work on the case in each team using electronic means was more harmonious, with the result that students coped with the task rather quickly. The students were able to establish communication links both within their subgroups and in the general group.

As we noted, to date, there has been a shift of priorities from the content of training to the results of educational activities, which students must demonstrate at the end of training. That is, competencies should reflect the specific achievements of students, according to which it is possible to determine the degree of

preparedness of the student (graduate) after completing part or all educational programs.

To determine the degree of "growth" of learning performance, the average quantitative indicators in percent and in points in the control and experimental groups (CG and EG) were compared according to the selected criteria. The evaluation was conducted on the basis of oral responses and written statements. The calculation was carried out according to the formulas:

average level of communicative speech skills

$$= \frac{cp.P}{U} \times 100\%$$

cp. P – the average result obtained in points, U – the ultimate goal, the maximum possible number of points. Testing the level of training of students, groups were asked to write an essay that determined the ability to evaluate and interpret the information found earlier, to build their own reasoned opinion on the issue, to explain complex ideas in their own language. Grade

$$\text{Essay Score} = \frac{\sum \text{points}}{\text{number of students}}, \Sigma - \text{total score for the essay.}$$

Table I: Evaluation of the effectiveness of student learning in groups according to selected criteria

Criterion	Group 1		Group 2	
	CG	EG	CG	EG
The average assessment of the level of communicative speech skills of students (%)	68	72	79	83
Essay (average score)	17	19	19	22

The table shows that according to the selected criteria, there is an increase in the effectiveness of the formation of communicative

competences. Then the students were asked to answer the question "Do you think electronic tools helped you communicate with partners?"

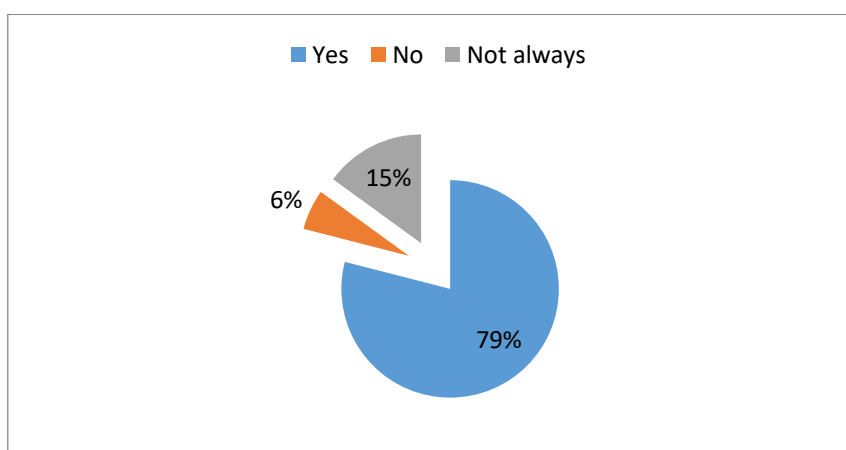


Figure I- The results obtained on the basis of an analysis of students' answers to the question: "In your opinion, did electronic tools help you in communicating with partners?"

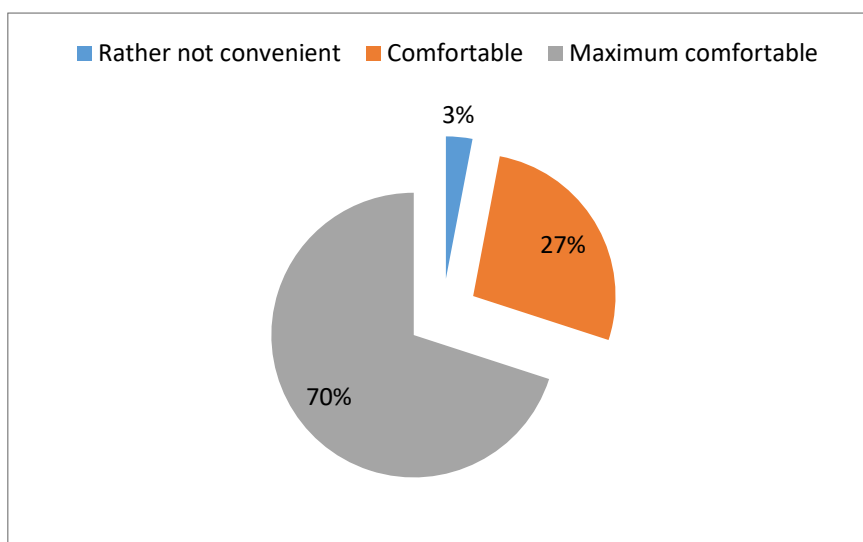


Figure 2- The results obtained on the basis of an analysis of students' answers to the question: "In your opinion, is the proposed form of education convenient?"

The presented results directly indicate the demand for and the need for blended learning in the formation of communicative competences, since the results of the second group (trained as part of a mixed model) are higher than those of the first, traditional group. In addition, the students themselves highly appreciate the role of electronic tools that provide significant assistance in preparing for the control events.

Conclusion

A comprehensive review of communicative competencies development in the context of blended learning is presented. We found that the implementation of the project within the framework of blended learning forms a mass of communicative competences: the ability to participate in the creation of an effective communication infrastructure of the organization (enterprise), provide internal and external communication, the ability to participate in the formation and maintenance of corporate culture, the ability to participate in planning, preparing and conducting communication campaigns and events. According to the criteria established by us, an increase in the effectiveness of communicative competences development is observed. Moreover, after analyzing the answers to the question "In your opinion, is the proposed form of education convenient?", We can talk about the relevance of blended learning among students.

The aspects of the competence approach are revealed, the essence of e-learning is analyzed. In the course of the study, we identified the basic

concepts and essence of communicative competences. The possibilities of electronic educational platform are considered. Thanks to the use of Moodle resources, communicative competences development is more intensive. Among the tools that help build competencies wiki, blog, chat, forum, webinar. We found out that communication skills can also be trained through various tasks performed by small groups. The electronic platform allows you to successfully accomplish this task. Almost all students (79%) are ready to work with electronic tools and find their application useful. The study confirms that blended learning allows you to expand the boundaries of graduate' competences development. The obtained data allowed us to establish a high performance of communicative competences development in the context of blended learning.

Taking into account all the above, we can talk about the need for blended learning, because within the framework of the competence-based approach, it manifests itself in the best way for the development of a diversified and qualified graduate. Through the use of electronic courses, communicative competences development is more intense.

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