

An Approach To Understanding The Essence Of Blended Learning Technology In Universities

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ABSTRACT

In recent years globalization processes have been taking place in the world, so more and more information technologies are being introduced into the educational process. Blended learning is an important tendency in modern education and, according to experts who make forecasts for further development, will remain so in the next decade. This is an educational approach that combines face-to-face instruction with the teacher and online learning, involves elements of independent control by the student of the educational route, time, place and learning pace, as well as the integration of learning experience with the teacher and online, this is a combination of traditional forms of classroom learning with elements of e-learning, which uses special information technologies such as computer graphics, audio and video, interactive elements.

The authors consider blended learning as a technology that allows more efficient use of the advantages of both full-time learning and e-learning, and to level or mutually compensate for the disadvantages of each of them. The authors offer pedagogical conditions for the effective implementation of this direction in the educational process, as well as identify barriers that impede the implementation of this project. Also they reveal the interactive properties of individual elements that can more effectively implement online learning in blended learning technology, possible options for implementing blended learning in the educational process based on an analysis of existing models and methods of organizing blended learning in educational organizations.

Keywords: conditions, barriers, blended learning, e-learning, control organization.

1. Introduction

The current socio-cultural situation in Russia is characterized by the desire of society to return to universal values, the main of which are the real world and man. This requires new tasks, educational goals, approaches to build the educational process. In these conditions the need for the maximum stimulation of the high-quality mastery of knowledge of future professionals with the help of blended learning and personal education, which should become a model and ideal of a 21st century person, has increased,

The relevance of this study is in the fact that more and more people in the world wish to get an education with minimal time losses, because the pace of life gives less and less time for traditional full-time study. In this regard nowadays it has pushed both theoreticians and practitioners - university professors - to revise their views on this problem, unlike many other pedagogical technologies, as a result of numerous attempts to change existing teaching methods and principles (Karmanova, 2015).

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For the first time the teaching community learned about the basic principles of blended learning in the sixties of the last century, but the term itself first has been used in scientific literature from the late 90s of the XX century after the release of software designed for teaching via the Internet.

Blended learning is one of the modern educational technologies, which is based on the concept of combining the technologies of the “class-lesson system”, e-learning, and distance learning technologies (Kitchenham, 2011).

The Russian term “smeshannoye obuchenije” is a literal translation of the English words blended learning. We want to draw attention to the fact that the word learning is used in English. We, in turn, decided to interpret this in the following way: the process of obtaining knowledge and skills, in which the student is an active subject (Mukhametshin, Salekhova, & Mukhametshina, 2019).

2. Methods

In our work we relied on the following principles: the unity of historical and logical, systematic, determinism, personality-activity approach.

Theoretical analysis of philosophical, psychological, pedagogical literature; element analysis of educational, research and creative activities of students and teachers; pedagogical observation; modeling; questionnaire of students and teachers; variable pedagogical experiment; expert method; qualitative and quantitative methods for processing experimental results. The choice of methods was determined by the goals and objectives to be solved at each stage of the study (Mayorova, Karamova, Myhtarova, Fahrutdinova, & Hakki, 2018).

The integrated use of a variety of research methods has let to describe the reliability of the results obtained by collecting the actual material and its processing.

3. Results and Discussion

In Russia the Federal Law No. 273 “About Education in the Russian Federation” was adopted (ed. from 02/03/2014): "When implementing educational programs whatever the form of education, e-learning and distance learning technologies can be applied." This allows teachers to use distance education along with traditional (Hameed et al., 2017; Hassan et al., 2020; Shahzadi et al., 2020). A strategic plan was developed, a concept was written, and in our country a course on digital education was taken.

There was an opportunity for teachers to apply this strategic plan within their disciplines and integrate it into existing curricula. Thus, disciplines were transformed into electronic form and began to be taught in a blended format. This training model allows teachers to radically restructure the educational process in accordance with the characteristics of the new generation of students

brought up on the Internet and new forms of social communication (Karamova, Mukhametshin, Ivanova, & Usmanov, 2019).

Students' attendance in traditional and blended learning was examined. The results of the study show that the blended form of training contributes to the formation of a high level of attendance as compared with a traditional one.

The use of blended learning technologies in improving the effectiveness of teaching in the training of teachers is also considered. It is suggested to use the combined digital and traditional forms of training more widely, to strengthen the laboratory and practical component, relying on interdisciplinary communications and information technologies. This means the formation of such important competencies among graduates as a readiness to organize the educational process in secondary schools with using interactive technologies (Kadyjrova, Akhmetshina, Zaripova, & Peremislov, 2019).

Problems of an administrative, psychological, pedagogical and methodological nature related to the use of electronic educational resources at the university were raised. A favorable psychological component of the process of using electronic technologies in education, in the general case, can become a starting point for the effective design and practical implementation of the system of blended learning for students in the educational process of the university (Ibrahim & Nat, 2019).

Some results of the experiment on the use of blended learning in different universities of the country were presented. More suitable at the present stage of development of higher education in Russia is the use of blended education in the percentage ratio of 80/20 or 70/30.

From our point of view, a comprehensive study of the proposed blended learning models is necessary, as well as a generalization of the usage experience and testing the model in various disciplines during blended learning.

The creation of online courses and the implementation of blended learning in the educational model allow teachers to solve the problem of significantly improving the quality of students' training. But an integrated approach is important in introducing blended learning and providing the necessary material and technical base for universities.

For more effective use of this direction it is necessary to create favorable conditions that will contribute to its more successful promotion, during which there should be a more accelerated rate of assimilation of the stream of information broadcast by the teacher, student mobility, and as a result, high students' academic achievement (Dziuban, Graham, Moskal, Norberg, & Sicilia, 2018).

In our study we understand pedagogical conditions as the purposeful selection, stating and usage of elements of content, methods and organizational forms of training for the formation of subject, professional and universal competencies to achieve didactic goals and principles of blended learning (Ogurtsov, 1986).

The principles of blended learning are: sequence, visualization, practical application, continuity, support.

To get an effect the sequence in teaching is important: first, the student learns the studying material by his own, receives theoretical knowledge from the teacher and only then applies it in practice. In many ways this principle crosses with the “turned class” model.

Thanks to modern e-learning tools it is possible to create a knowledge base that will be always ready to use for students. In contrast to the classical model of teaching, with blended learning the student has access to teaching materials - video lessons, books or training exercises, to which he will have an opportunity to access at any time (Means, Toyama, Murphy, Bakia, & Jones, 2009).

Practical exercises are required to learn the theory.

Blended learning is partly based on the principles of micro learning. Due to the availability of studying material a student can always log in the training portal and get a “new portion” of studying material.

In the system of distance learning a student can always ask a teacher a question and quickly get an answer without waiting for the next full-time lesson.

Thus, the definition of “pedagogical conditions” can be formulated as a set of measures aimed as pedagogical conditions for the success of achieving set goals, which interacts and complements each other.

For the successful and high-quality functioning of any educational model it is necessary to use a certain set of pedagogical conditions while developing it (Karatayev, Tlemisova, Aidarov, Bitemirova, & Saipov, 2020).

Thus, the main conditions for organizing the educational process in the blended learning are: organizational: documentary support for the learning process (local acts, regulations on blended learning, job descriptions, etc.); technical: the availability of computers at home or other technical electronic means for students (tablets, smartphones with Internet access), the availability of computers in the audience with Internet access; technological: the teacher's ability to work in the distance learning system and in the learning process management system; work individually and in groups; perform other functions (of tutor, consultant, moderator, teacher); methodological: scientific and methodological support of the learning process (teaching books, electronic resources: Electronic Educational Resource (EER), electronic forms of textbooks, electronic teaching books, interactive educational resources,

scientific and methodological communities on the problems of blended learning, etc.).

The antonym of the term “conditions” is the term “barriers”. This concept can be applied in pedagogy to designate everything that interferes, restrains and, ultimately, reduces the effectiveness of training, education and personal (Safarova, 2019).

One of the barriers to the introduction of blended learning may be a low level of ownership of information and communication technologies by both students and teachers. In addition, different levels of ownership of these technologies can complicate the teamwork process.

The next barrier is the lack of technical support for the classroom. This is a very strong obstacle to the teacher’s interaction with students, both the translation of the studying material and its further development. Blended learning requires constant technical support and certain costs for the creation of video materials, training programs and testing modules.

4. Summary

In the course of a detailed study of the issue the obvious advantages and disadvantages of blended education were identified. From the point of view of online learning, the advantages of a blending model are the provision of great freedom for students: they can choose the studying material, pace, time and place of training, and the teacher, in his turn, has more freedom in the presentation of teaching studying materials, and finally - control and evaluation. There is an opportunity to reduce the time for testing the assimilation of knowledge, due to the fact that students can do testing online.

As a result of the introduction of blended learning in the educational process, first of all, the most inefficient and at the same time the most routine types of work were optimized: face-to-face consultations; check of control tasks.

Face-to-face consultations: students often come with questions that they did not try to solve on their own. Methods of tracking student's independent work in modern blended learning systems allow teachers to take questions only from those who have worked diligently on their own (Muhametzyanova, Pushkar, Emanova, & Yao, 2018).

Checking process of control tasks (in blended learning, checking process can be automatically performed by testing systems).

Achievements in information technology have contributed to the development of blended learning due to the ability to share information via the Internet. Questions for exams, samples of project tasks, study materials can simply be uploaded to the university portal or sent to students by e-mail.

It is important to start with the development of tests and then move on to creating the training materials. With this approach at the very beginning of the development of the e-learning phase it will be clearly defined what the learner should know after passing it. This will allow the most effective way to build the training (Ahmetshina, Kadyjrova, & Musina, 2016).

5. Conclusions

We tried to consider the modern process of informatization of education as a fundamental process of transformation of the education system, which gave contributes the development of such new effective teaching technologies as e-learning technologies, blended learning technologies, etc.

We have given a brief description of blended learning and shown its capabilities in overcoming the crisis situation in education related to these challenges. Blended learning is seen as a form of organization of the educational process based on anthropological and humanistic approaches. The experience of using blended learning at a pedagogical university is presented.

The proposed model contains 3 stages of design: stage 1: design of learning results; stage 2: development of methods for assessing learning results; stage 3: development of a plan for the integration of classroom and electronic components (Veledinskaya & Dorofeeva, 2015).

Studies show that such an informational and pedagogical approach becomes predictably effective if it is implemented through the interaction of the pedagogical content of electronic educational resources with a certain architecture and innovative technology of the information-project educational cycle, provided with applied software in the form of electronic resources with the certain pedagogical content.

Thus, the main conditions for the organization of the educational process in blended learning are: organizational: documentary support for the learning process; technical, i.e. the availability of technical electronic means; technological; work individually and in groups; methodical: scientific and methodological support of the learning process.

Barriers met in the way of blended education: low level of knowledge of information and communication technologies for both students and teachers, poor technical support of the place gave for classes; the requirement of constant technical support and certain costs for the creation of video materials, training programs and testing modules.

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