

## Distance Learning at Higher Education Institutions: Results of an Experiment

Boris Kireev<sup>1</sup>, Aray Zhundibayeva<sup>2</sup> and Aiman Aktanova<sup>3</sup>

### Abstract

One of the most promising forms of implementing active teaching methods is distance learning or e-learning. During the last decade, e-learning was most often associated with the so-called mass open online courses, the MOOCs. At Russian and Kazakhstan universities, e-learning is often blended with the traditional type of in-class education and is known as "blended learning". A certain lack of research on the use of distance learning at Russian universities determined the topic of this paper. The initial assignment was to launch blended learning in 6 groups of students of general engineering at the Engineering and Technology Faculty of Elabuga Institute of Kazan Federal University and philology students at the Kazakh Philology Faculty of Semey State University named after Shakarim and to study the students' attitude toward distance learning during the 2017-2018 academic year. The methods of research involve a literature review, pedagogical observation, experiment, questioning, and theoretical analysis. The results of the research show some interesting observations on the attitude of students and institute professors toward the use of e-learning. Also, the research shows positive results of the use of the blended learning methodology in studying some general technical disciplines during the bachelor's degree program.

**Keywords:** *pedagogy, Kazakh Philology, methodology, electronic, presentation, lecture, experiment, survey.*

### Introduction

The modern information society is characterized by two patterns. First, most often after classical, formal education (primary school, secondary school, college, etc.), a person has a need to continue education; second, students need timing and a method of education adapted to their daily routine. This creates the need to put educational activities out of time and place. The question is, how can the standard educational process adjust to these requirements (Bozhkova et al., 2019). Experience shows that it's possible with the use of modern technological solutions in the learning process. In connection with the rapid development of information technology, which is used in almost all areas

---

<sup>1</sup>Assoc. Prof. of the Department of General Engineering Training, Kazan Federal University, Elabuga Institute, Russia, centurion05@bk.ru

<sup>2</sup> PhD, Head of the Department of Kazakh literature, Shakarim state University of Semey (SSUS), (State University named after Shakarim of city Semey), Kazakhstan, arayzhkz@gmail.com

<sup>3</sup> candidate of philology, Department of Kazakh literature, Shakarim state University of Semey, (SSUS) (State University named after Shakarim of Semey city) Kazakhstan, aiman@gmai.com

of human activity, education exceeds the boundaries of traditional education and becomes independent of time and place (Korableva et al., 2019a; 2019b; Vasilev et al., 2018).

European Council meeting in Lisbon in 2000 resulted in a "Memorandum on Lifelong Learning" (2000) which affirmed that Europe has moved into the Knowledge Age, with all its implications for the cultural, economic and social life. The European Council also concluded that the expansion of continuous education is necessary for a successful transition to a knowledge-based society and economy (Popova et al., 2019; Mueller et al., 2019; Magsumov, 2018; Rupeika-Apoga et al., 2019; Philippova et al., 2018). Continuous learning should become the guiding principle of the entire organization of education and training, as well as the main way of development of civil society, social interaction, and employment (Biserova and Shagivaleeva, 2019; Lehoux et al., 2018).

In practice, the provisions of the Memorandum on Lifelong Learning led to creation of massive open online course, MOOCs, beginning in 2008. In Russia, issues related to the MOOCs received the greatest attention in the Internet and mass media by the beginning of 2013 (Gaebel et al., 2014; Danilina, 2013; Krause & Love, 2014; Aziatzeva, 2016; Shah, 2018; Shaytura et al., 2018; Gabidullina et al., 2018; Peshkova et al., 2017).

### **Theoretical background**

By this time, higher education institutions are already represented in the market of mass online courses, but the educational community still has a small amount of information about the strategic importance of e-learning at higher education institutions (Kuznetsova et al., 2019; Thalassinou et al., 2011). This question served as the basis for a study conducted by the European University Association, designed to outline the overall picture on the level of introduction of innovative technologies in higher education and to predict future IT trends in education (Alajmi, 2019; Lysytsia et al., 2019; Volchik and Maslyukova, 2019; Batkovskiy et al., 2019; Adamczyk et al., 2019).

In other words, the study was aimed at understanding which methods were viable and which were not in this new and exciting perspective of e-learning. The results of the study were presented in the commission's report (Gaebel et al., 2014). From there it followed that e-learning was used by almost all European universities studied, mostly in the form of so-called blended learning, e-learning in conjunction with the classroom activities. Many of them were also interested in implementing the MOOCs. A large number of works were devoted to the use of e-learning in

training, both in the form of the MOOCs and blended learning (Porter, 2014; Pizzi, 2014; Veledinskaya et al., 2015; 2016; Mijares, 2017; Dunets et al., 2019; Kuderova et al., 2018; Frolov and Frolova, 2018; Natolochnaya et al., 2018; Gerasimova et al., 2018a,b).

In Russia, one of the most famous projects on the implementation of MOOCs into education is called "Open Education" (Open Education, 2018; Catalog, 2018). The project was organized as a modern informational platform to support non-formal education. It was created by the Association called "National Platform for Open Education", established by leading Russian universities such as MSU, St. Petersburg Pedagogical University, St. Petersburg State University, National University of Science and Technology (MISIS), Higher School of Economics, MIPT, Ural Federal University and ITMO University). Therefore, most of the presented courses cover the disciplines of the above-mentioned institutions of higher education (Kudlaev, 2018; Kabuldinov et al., 2016; Fayzullina, 2019; Nikolaeva et al., 2018).

Russia's transition to the digital economy, as repeatedly reported at various levels of government, involves the development and implementation of projects related to the digital educational environment (Shatunova et al., 2019). Over the past two years, a project called "Modern Digital Educational Environment in the Russian Federation" became a priority one (2016). This project assumes creation of online courses and online resources of general education, as well as a system of their quality assessment (2017). The informational portal, accessible to all categories of citizens, should provide each user with the opportunity to use the created online resources for mastering general subjects (Shaitura et al., 2018).

### **Blended learning**

Still, the attitude of students and teachers toward distance learning at many Russian universities is ambiguous (Andreev, 2018). As proponents of the introduction of MOOCs in education note, one of the main criteria for the success of distance learning is motivation of learners. In addition, a significant number of trainees cannot master electronic courses without active support of trainers, which ultimately leads to an insignificant number of enrollees successfully completing the course (Balabas, 2017; 2017).

If one talks about reforming the traditional educational process at some leading Russian universities by means of e-learning, it is primarily introduced in the form of blended learning, combining digital, distance, and traditional, or classroom, forms of education. At the same time,

universities create their own frameworks for "blended learning", using various solutions (such as LMS Moodle, etc.) within individual disciplines of the main educational program. The quality of blended learning is achieved not by the rejection of part of the classroom lessons, but by an active educational interaction in the electronic environment (Merzon and Ibatullin, 2017; Voronkova et al., 2019; Smirnova et al., 2014).

In June 2018, a message appeared on the Internet stating that one of the pioneers of using MOOCs in education, the Higher School of Economics (HSE), was moving to blended learning within three majors of bachelor training. Massive open online courses had failed to provide the effect previously expected (Prodanova et al., 2019).

At the Engineering and Technology Faculty of the Elabuga Institute of Kazan Federal University, we have been engaged for several years in the introduction of digital educational resources into the educational process for bachelors. A description of the used methods and some conclusions can be found in (Kireev, 2016; Kireev and Epaneshnikov, 2015; Zhundibayeva, 2013; Berdyguzhin, 2016; Shamshudinova et al., 2019).

The analysis of existing sources on the use of e-learning and blended learning during university bachelor's programs cannot provide a full picture of the effectiveness of these methods without addressing the issue from the inside. Things to be considered are students' attitude, issues they face while using the electronic sources, motivation to use them and other things which add up to the overall effectiveness. So was determined the subject of this experimental study. Subject of the research can be narrowed down to the relationship between students' willingness to use e-courses and other electronic material offered by blended learning and their academic progress.

## **Methods**

### **Research Design**

This pedagogical research is based on an experiment. At the first (theoretical) stage, the authors put forward a hypothesis that blended learning in preparation for the bachelor's degree may increase the efficiency of learning material. Prior to the start of experiment, electronic content was prepared for several technical courses, internally reviewed by university Department of Education and posted on the university website; the next stage aimed at choosing participants for the experiment and their familiarization with the conditions and timing of the experiment.

In the full-time department, the experiment suggested reduction of classroom activities by 20%, mainly due to reduction of number of lectures. Students were supposed to study lecture material

and do practical assignments out of class (home or computer class). Practical assignments are an important part of the evaluation of students' learning progress; they typically include testing on the studied topics, reports on solving typical problems, reports on laboratory work, etc.

In the part-time department, ratio of self-study to classroom activities was set at 70% to 30% of the time. Course website also provided forum for communication on the topics and general Q&A.

### **Data Collection**

The experiment was designed mostly as a field experiment. It took place at the university where the structure of the educational process did not allow having a control group along with the experimental one or randomly selecting participants. Nevertheless, some of the existing programs were chosen as experimental groups – students of pedagogical education with major profiles in transport, the technology of transport processes and vehicle operation. Longitudinal observation of the participants' academic progress together with administering surveys make the experimental design. Individual students who fell out of the experiment can't be attributed to a control group.

In our opinion, a classic type of experiment that requires a control group along with an experimental one, is not necessary in a socio - pedagogical research since it doesn't guarantee reliable conclusions and depend on how strictly conditions of the experiment are followed. All factors, except those tested, should be carefully balanced. However, a large number of factors affect the effectiveness of the pedagogical process. Teaching experience is characterized by uniqueness and irreversibility, where the researcher has to deal with another "material" when repeated, and the conditions of the experiment are never the same. Therefore, a "pure" experiment in pedagogy (unlike, for example, chemistry or physics) is impossible, no matter how carefully it is planned and implemented. The conclusions of a pedagogical experiment are drawn taking into account the experiment conditions as they appear in their averaged or generalized form. An important factor in assessing the findings of the experiment is the personal long-term experience of teachers and their qualification.

### **Participants**

At a significant part of Russian institutions of higher education, students are divided into two groups: a) those engaged in full-time education; b) those engaged in part-time education. The ratio of these two groups can be completely different. At Kazan Federal University, part-time students make up about a third of the total number. At Semey State University named after Shakarim,

students study by the Moodle program of distance learning technologies. Full-timers are engaged in traditional auditorium lectures most of the time, whereas part-timers spend in class about a third of the total number of credit hours of a particular subject. Finals are held twice per academic year and last for 3-4 weeks (usually in January and June, or November and April), according to the established schedule. In-class lectures with the presence of a lecturer are held prior to the tests and examinations. In the intervals between these sessions, part-time students study independently. Final papers, tests, examinations, and other evaluation activities are usually held during the next session after the students receive their assignments. This type of training is most favorable for the application of distance learning technologies.

During 2017 - 2018, we conducted an experiment on the use of blended learning in several groups of full-time and part-time students. It should be noted that this is a time-consuming activity which involved a large amount of preliminary work on preparing the necessary electronic content and placing it on the website of distance learning of the university ([edu.kpfu.ru](http://edu.kpfu.ru)). During the last two years all the necessary electronic content was prepared and placed first on the website for creating online courses ([do.kpfu.ru](http://do.kpfu.ru)) for the 4 subjects of technical disciplines: "Hydraulics and hydraulic machines", "Fundamentals of hydraulic drive. Hydraulic and Pneumatic Systems", "Transport Energy" and "Heat Engineering". Then, after passing methodological expertise held by KFU department of continuing education, the courses were allowed for use in the educational process and transferred to the e-learning site [edu.kpfu.ru](http://edu.kpfu.ru). Preparation of all the necessary online educational material was greatly assisted by faculty students.

At a significant part of Russian institutions of higher education, students are divided into two groups: a) those engaged in full-time education; b) those engaged in part-time education. The ratio of these two groups can be completely different. At Kazan Federal University, part-time students make up about a third of the total number. Full-timers are engaged in traditional auditorium lectures most of the time, whereas part-timers spend in class about a third of the total number of credit hours of a particular subject. Finals are held twice per academic year and last for 3-4 weeks (usually in January and June, or November and April), according to the established schedule. In-class lectures with the presence of a lecturer are held prior to the tests and examinations. In the intervals between these sessions, part-time students study independently. Final papers, tests, examinations and other evaluation activities are usually held during the next session after the

students received their assignments. This type of training is most favorable for the application of distance learning technologies.

In the 2017 academic year (September 2017 to June 2018), the authors decided to conduct an experiment on the use of blended learning in several groups of full-time and part-time students. It should be noted that this is a time-consuming activity which involved a large amount of preliminary work on preparing the necessary electronic content and placing it on the website of distance learning of the university ([edu.kpfu.ru](http://edu.kpfu.ru)). During the last two years all the necessary electronic content was prepared and placed first on the website for creating online courses ([do.kpfu.ru](http://do.kpfu.ru)) for the 4 subjects of technical disciplines: "Hydraulics and hydraulic machines", "Fundamentals of hydraulic drive. Hydraulic and Pneumatic Systems", "Transport Energy" and "Heat Engineering". Then, after passing methodological expertise held by KFU department of continuing education, the courses were allowed for use in the educational process and transferred to the e-learning site [edu.kpfu.ru](http://edu.kpfu.ru). Preparation of all the necessary online educational material was greatly assisted by faculty students.

## **Results**

KFU distance learning process is based on the learning management system Moodle (Modular Object-Oriented Dynamic Learning Environment, 2018).

Moodle is quite widely represented in the world market of distance learning. It combines flexibility, reliability, and ease of use. In this system, one can create and store electronic learning materials and set the sequence of their study (Polyakova et al., 2019). Due to the fact that access to Moodle is carried out through the Internet, students are not bound by a particular place and timing and they can move through the material at their own pace. The content in the LMS Moodle includes metadata on the subject of study, course framework by hours (lectures, laboratory activities and practice, materials for independent study, finals and other control assignments, launch timing of the course). Primary block displays the following information: work program of the course; list of competences mastered by students during the course; a brief summary; instructions for typical tasks and laboratory work; methodological recommendations to students and teachers; lists of sources used, a glossary, news and general forums, etc. Then there are blocks on specific topics, including methodological recommendations to students; lecture material;

presentations and videos; assignments for independent work; glossary on the topic; tests, etc. The final block contains control tasks and control questions for the final test or examination.

Control over the assimilation of educational material is important in the educational process. Kazan Federal University uses a rating system for assessing students' knowledge. According to the system, the student can score up to 50 points for the current work on each specific subject and up to 50 points for the exam (test). Total score is translated into an assessment according to a traditional five-point system: scores 56 to 71 equal to a "Satisfactory", scores 72 to 86 equal to a "Good" and for scoring over 86 points a student gets an "Excellent." A score less than 56 points requires re – examination. Students who scored less than 30 points must re-take the course. Such an evaluation system is convenient for "blended learning". Course teachers shall tailor the scoring system to the framework of their academic subjects. Students can use the edu.kpfu.ru website to control their scores and activities using the "evaluation" option on the site. In general, the scoring system is manual. The course lecturer evaluates and scores the tasks completed by students, or makes notes and provides feedback for correction of mistakes.

### ***Stages of the experiment***

#### ***Stage one: survey prior to program start***

Before the experiment, we conducted a survey among the students of the faculty (May and September, 2017 among full-time students and November, 2017, among part-time students). The purpose of the survey was to study the possibility of using distance learning both at the daytime and part-time departments of the faculty. The survey involved 153 students from various majors (pedagogical education, vocational education, technology of transport etc.) and 17 lecturers. The first group of questions evaluated technical possibilities for students to work from distance:

"How often do you use the Internet? ": 89.5% of respondents answered “daily”, whereas 1.6% do not use the Internet.

"Are you satisfied with the quality of the Internet (incl. speed and stability of connection)?: 49.2% chose "satisfied with stability of communication "; 58.7% - “satisfied with the speed of information transfer”; 7.0% are not satisfied with either one or the other.

Mostly, free Wi-Fi is not available in public places where students can study (classrooms or dormitories).

For Internet access, respondents mostly use: a) stationary home computer - 31.4%; b) laptop -49.7%; c) tablet - 22.9%; d) mobile phone - 73.2%.



The second group of questions concerned the use of e-learning tools. 71.9% answered they used the Internet for obtaining additional educational materials. 83.0% confirmed they use the Internet mostly for communication in social networks, such as VKontakte (popular Russian social network).

"In which form do you receive electronic resources from teachers? " a) 66.0% answered "in a text form on USB storage media"; b) only 13.7% answered they use educational information placed on edu.kpfu.ru. At the same time, 10 out of 17 faculty staff employees noted they have 19 courses posted on edu.kpfu.ru, which are nevertheless not used as a part of distance learning and are only recommended for additional information on the subject. One reason for this might be lack of material incentives for teachers for an additional amount of work. To the question: "In your opinion, how can university teachers be motivated to use more electronic resources in blended learning?", 76% of respondents supported the reduction of the academic load by 20%, the rest were undecided.

"How do you think the electronic educational resources received from teachers affect mastery of the educational material? ": a) 50.8% answered "positively "; b) 15.6% believe that their influence is insignificant; c) 34% noted that electronic resources increase interest in the subject; d) 11.7% found it difficult to answer.

As for the courses posted on the e-learning site edu.kpfu.ru, 36.7% of respondents noted that they provide permanent access to educational materials, 14.8% consider them an additional load, 10.2% do not understand benefits from their use in the educational process, and 38.3% were undecided.

"Do you consider it possible to use blended learning at the faculty? ": a) 53.1% answered "yes "; b) 18.8% - "no"; c) 27.3% found it difficult to answer.

Asked about the most effective, in their opinion, relationship between in-class and distance learning, 36.7% voted for the proposed ratio of in-class lectures to distance learning as 80/20, 32.8% voted for 60 / 40, 11.7 % were in favor of classroom lectures only, and 1.6% - in favor of distance classes only.

As for the use of MOOC courses in education, only a few of respondents had a vague idea about them.

To the question: "Do you intend to work on the chosen specialization after graduation?", only 36% of pedagogy students and about 50% of transport technology students answered positively, which also may affect motivation in learning.

### ***Stage two – blended learning***

At the second stage of the experiment, a whole semester was devoted to blended learning. At this stage was developed an evaluation system for individual performance of the participants. A cumulative total score was based on the ratings for each assignment, rating logic was posted on the website in the initial block of the e-course, making it available to the participants at any convenient time.

Another issue in e-learning is related to translating results of laboratory assignments to the electronic form (for example, with the use of MS Office programs). Providing answers to control questions using mathematical formulas and drawings requires students to develop certain skills in using informational technology and is often considered as time-consuming. Given that this could have a negative impact on students' attitudes toward distance learning, the authors widely used a system of templates for typical tasks and laboratory assignments, which allowed copying formulas and drawings from lectures and insert them into the answers to test questions.

### **Stage three – data analysis**

At the end of the experiment, a second survey was administered and the results were processed. Students got their grades which qualified for the final examination (Excellent, Good, Fair, Poor).

## **Discussion**

98 students (from 6 groups) took part in the experiment, both full-time and part-time departments.

### **Full-time department**

The experiment on blended learning involved 38 students out of 48 (79.2% of the total number of students in 3 groups). All the 38 students taking part in the experiment scored the appropriate number of points and passed final test, 30.8% receiving an "excellent", 38.5% ended up with a "good" and 30.7% with a "satisfactory". Students who did not take part in the experiment continued their education in the traditional in-class form, partly during the winter holidays.

### **Part-time department**

Out of three groups, 60 students out of 68 (88.2% of the number who appeared in person for in-class lectures, or 65.9% of the total number of students in groups) took part in the blended learning experiment. In-class participation resulted in a relatively high final score. Credit was given to 90% of those who appeared for lectures in person, or 59.3% of the total number of students in all three groups.

After the experiment, a second survey was conducted among the participants. 89.8% of the respondents answered they liked blended learning, others reported their attitude hasn't changed. As for the benefits, 54.1% of the respondents mostly liked the opportunity to work at a convenient time and to work in their home environment; 49.0% liked the opportunity to receive quick feedback on the results of their work and look up their scores at any convenient time; 30.6% answered blended learning helps to develop computer and technology skills; and only 2.7% found it difficult to see any particular benefits.

When asked about the most favorable ratio of classroom to distance learning, the majority of responses (85.6%) fell to the figure of 70%/30%.

There were other questions aimed at discovering the reasons for missing classes, the time devoted to the study of material, etc. 8.1% of the respondents answered they studied daily; 83.8% addressed the material upon receiving assignments from the lecturer; 2.7% confessed they began to study only a short time prior to the finals. 5.4% believe they can get positive grades without systematic studies.

### **Conclusion**

As the study shows, it is still premature to talk about the vast introduction of MOOCs into the educational process at full-time departments of Russian universities. Students are not yet ready for completely independent work and will not be able to learn complicated topics and do assignments without the personal assistance of a teacher. Automatic verification of all completed tasks will not provide real information about the level of students' preparation. As the experiment showed, almost all students obtained the best results in automatic testing for all the subjects listed above. This is doubtful, because results of manually completed assignments might be often different. Part-time students often have issues with attending final sessions, which makes it least possible to organize full-value blended learning. In addition, the average level of preparation of this category of students is lower than that of full-time students; thus, personal communication

with the teacher, especially on complex topics, is even more important for them. In the authors' opinion, which is confirmed by the results of the survey after the end of the experiment, it is necessary to introduce more blended learning and a system of material incentives and motivation is needed to encourage teachers to do it. The current system of quarterly bonus payments yet does not consider this type of workload. One-time bonuses at the end of the academic year are insignificant and do not correspond to the amount of additional workload on teachers involved in blended learning.

Based on the results of the experiment, we propose the following issues for future discussion:

1. The use of distance learning using electronic educational resources both within full-time and part-time departments of the university allows to activate learning process and improve efficiency of teaching.
2. In our view, blended learning should be considered as the most expedient form of education at the universities of Russia.
3. MOOCs (massive open online courses) currently do not play a significant role in many Russian universities. Their widespread introduction, which has been intensively advertised at the present time among university staff in Russia, in our opinion, will not yield significantly positive results.

### **Acknowledgments**

The work is performed according to the Russian Government Program of Competitive Growth of Kazan Federal University. The work is carried out in order to improve the scientific skills and competitiveness of scientists and to maintain the "Law of the Republic of Kazakhstan on Education".

### **References**

Adamczyk, M.; Betlej, A.; Gondek, J.; Ohotina, A. (2019). Technology and sustainable development: towards the future?, *Entrepreneurship and Sustainability Issues* 6(4): 2003-2016. [http://doi.org/10.9770/jesi.2019.6.4\(32\)](http://doi.org/10.9770/jesi.2019.6.4(32))

Alajmi, M. A. (2019). The impact of E-portfolio use on the development of professional standards and life skills of students in the Faculty of Education at Princess NouraBint Abdul Rahman University, *Entrepreneurship and Sustainability Issues* 6(4) 1714-1735. [http://doi.org/10.9770/jesi.2019.6.4\(12\)](http://doi.org/10.9770/jesi.2019.6.4(12))

Aziatzeva, T.V. (2016). The Review of existing Foreign courses that use the Technology of blended Learning. *PXXI*, 2, 178-182.

Andreev, I. (2018). Theses about digital education. Retrieved August 14, 2018 from <http://news.ifmo.ru/ru/blog/53/>

Balabas E. (2017). Digital education in Russia begins with #EdCrunch. Retrieved August 22, 2018 from <http://misis.ru/university/mediaroom/smi/2017-10/4953>

Berdyguzhin, L. B. (2016). New insights into the history of the kazakh khanate formation. *Analele Universitatii Din Craiova - Seria Istorie*, 30(2), 17-26.

Blended Learning Mastery Series. Online Learning Consortium. (2018). Retrieved June 02, 2018 from <https://onlinelearningconsortium.org/learn/programs-and-courses-for-the-instructional-designer/>

Biserova, G. K., & Shagivaleeva, G. R. (2019). Socio-psychological adaptation of international students to learning and professional activities. *Space and Culture, India*, 6(5), 99-114. doi:10.20896/saci.v6i5.411

Bozhkova G.N., Shastina E.M., Kalimullina O.V., Shatunova O.V. (2019) Study of literary images of gifted characters in optional activities as a means to develop capable and talented youth. *Space and Culture, India*, Vol. 7:1, pp. 264- 273. <https://doi.org/10.20896/saci.v7i1.463>

Batkovskiy, A.M.; Leonov, A.V.; Pronin, A.Yu.; Semenova, E.G.; Fomina, A.V.; Balashov, V.M. (2019). Sustainable development of Industry 4.0: the case of high-tech products system design, *Entrepreneurship and Sustainability Issues* 6(4): 1823-1838. [http://doi.org/10.9770/jesi.2019.6.4\(20\)](http://doi.org/10.9770/jesi.2019.6.4(20))

Conference of the German Forum for Higher Education in the Digital Age. WORKING PAPER 18. Retrieved May 23, 2018 from [https://hochschulforumdigitalisierung.de/sites/default/files/dateien/HFD\\_AP\\_Nr%2018\\_Discussion\\_Paper.pdf](https://hochschulforumdigitalisierung.de/sites/default/files/dateien/HFD_AP_Nr%2018_Discussion_Paper.pdf)

Danilina, A. (2013). Massive Open Online Courses become alternative to the traditional educational environment. Retrieved April 02, 2018 from <http://www.ug.ru/article/654>

Dhawal Sh. (2017). A Product at Every Price: A Review of MOOC Stats and Trends in 2017, 2018. Retrieved April 16, 2018 from Digital education is moving around Russia (2017). Retrieved May 29, 2018 from <https://www.metronews.ru/partners/novosti-partnerov-112/reviews/cifrovoe-obrazovanie-shagaet-po-rossii-1379502/> <http://www.class-central.com/report/moocs-stats-and-trends-2017/>

Dunets, A., Latysheva, O., Bitter, N., Vakhrushev, I., Shichiyakh, R., & Zhuruli, G. (2019). The economic and infrastructural basis for the development of tourist space: The essence, structure

and typology. *Journal of Environmental Management and Tourism*, 10(2), 319-327. doi:10.14505/jemt.v10.2(34).05

Fayzullina, O. R. (2019). Ways of international students' adaptation: Club of international friendship. *Space and Culture, India*, 6(5), 87-98. doi:10.20896/saci.v6i5.412

Frolov, S.V., Frolova, N.H. (2018). Incorporation of the blended learning in a number of universities of Nizhny Novgorod: comparative approach. *Historical and social-educational Idea*, 10 (1). Retrieved June 06, 2018 from <http://www.hist-edu.ru>.

Gaebel, M., Kupriyanova V., Morais R. & Colucci, E. (2014). Results of a mapping survey conducted in October-December 2013. Retrieved March 22, 2018 from <http://www.openeducationeuropa.eu/sites/default/files/news/e-learning%20survey.pdf>

Gabidullina, F., Zhundibayeva, A., Makarova, V., Galiullin, R., & Mubarakshina, I. (2018). The realization of the hermeneutical approach to the text in practical classes in the literature during the work with students of philological faculty. *Journal of Social Studies Education Research*, 9(3), 226-240. doi:10.17499/jsser.32940

Gerasimova, V. G., Melamud, M. R., Tutaeva, D. R., Romanova, Y. D., & Zhenova, N. A. (2018a). The adoption of e-learning technology at the faculty of distance learning of plekhanov russian university of economics. *Journal of Social Studies Education Research*, 9(2), 172-188. doi:10.17499/jsser.20153

Gerasimova, V. G., Romanova, Y. D., & Zhenova, N. A. (2018b). Russian market of LMS for higher education. *Astra Salvensis*, 6, 757-767.

Krause S., Lowe C. (2014). *Invasion of the MOOCs: The Promises and Perils of Massive Open Online Courses*. Grand Valleu State University, Parlor Press. Individual essays. San Francisco, USA. [http://www.parlorpress.com/pdf/invasion\\_of\\_the\\_moocs.pdf](http://www.parlorpress.com/pdf/invasion_of_the_moocs.pdf)

Kireev, B.N. (2016). The use of e-learning in Training Educational Graduates. *Higher Education in Russia*, 2, 148-153.

Kireev, B.N. (2015). The use of multimedia technologies in the study of engineering disciplines. *Interdisciplinary Behavior and Social Sciences*, Edited by Ford Lumban Gaol CRC Press, 121-124.

Korableva, O., Durand, T., Kalimullina, O., & Stepanova, I. (2019a). Studying user satisfaction with the MOOC platform interfaces using the example of coursera and open education platforms. *Paper presented at the ACM International Conference Proceeding Series*, 26-30. doi:10.1145/3322134.3322139

Korableva, O., Durand, T., Kalimullina, O., & Stepanova, I. (2019b). Usability testing of MOOC: Identifying user interface problems. Paper presented at the ICEIS 2019 - Proceedings of the 21st International Conference on Enterprise Information Systems, 2 468-475.

Kabuldinov, Z., Absadykov, A., Issenov, O., Aitmukhambetov, A., & Berdyguzhin, L. (2016). The customs of politeness among russian kazakhs. *Anthropologist*, 26(1-2), 52-56. doi:10.1080/09720073.2016.11892142

Kuderova, I. G., Ryumshin, A. V., Gayazova, S. R., Romanova, E. V., & Erzinkyan, E. A. (2019). Entrepreneurial skills development through distance learning. *Journal of Entrepreneurship Education*, 22, 1-12.

Kudlaev, M.S. (2018). The process of digitalization of education in Russia. *A young scientist*, 31. 3-7. Retrieved July 08, 2018 from <https://moluch.ru/archive/217/52242/>

Kuznetsova, I. G., Bulyga, R. P., Rakhmatullina, L. V., Titova, S. V., Shichiyakh, R. A., & Zakirov, R. A. (2019). Problems and prospects of human capital development in modern russia. *International Journal of Economics and Business Administration*, 7(2), 164-175.

Lehoux, L., Morozova, T.V., Safonova, E.G., Kalacheva, O.N. (2018). Adaptation of individual taxonomy in financial statements prepared in line with IFRS to XBRL format. Proceedings of the 32nd International Business Information Management Association Conference, IBIMA 2018 - Vision 2020: Sustainable Economic Development and Application of Innovation Management from Regional expansion to Global Growth, pp. 2048-2055.

LMS Moodle (2018). Retrieved August 28, 2018 from <https://docs.moodle.org>

Lysytsia, N.; Martynenko, M.; Prytychenko, T.; Gron O.; Us M. (2019). Prospects for innovations in marketing of economic educational services in Ukraine, *Entrepreneurship and Sustainability Issues* 6(4): 1771- 1783. [http://doi.org/10.9770/jesi.2019.6.4\(16\)](http://doi.org/10.9770/jesi.2019.6.4(16))

Magsumov, T.A. (2018). Apprenticeship in Secondary Vocational Schools During the Economic Modernization in Late Imperial Russia. Part 1. *European Journal of Contemporary Education*, 7(4): 918-926. doi: [10.13187/ejced.2018.4.918](https://doi.org/10.13187/ejced.2018.4.918)

Memorandum On Lifelong Learning. (2000). Retrieved March 12, 2018, from <http://www.znanie.org/docs/memorandum.html>.

Merzon, E. E., & Ibatullin, R. R. (2017). Architecture of smart learning courses in higher education. Paper presented at the *Application of Information and Communication Technologies, AICT 2016 - Conference Proceedings*, doi:10.1109/ICAICT.2016.7991809

Mijares I. (2018). Blended learning: Are we getting the best from both worlds? Literature Review EDST 561. Retrieved May 28, 2018 from <http://elk.libraru.ubc.ca/bitstream/handle/>

Mueller, J. E., Chikunov, S. O., Fedchenko, E. A., & Pronskaya, O. N. (2019). Innovative technologies in entrepreneurship education: The case of european and asian countries. *Journal of Entrepreneurship Education*, 22(1)

Natolochnaya, O.V., Miku, N.V., Zulfugarzade, T.E., & Médico, A. (2018). Highland schools in the Caucasus: Historical background. *European Journal of Contemporary Education*, 7(3), 608-614.

Nikolaeva, N. V., Aleksandrova, T. N., & Elbendari, A. M. (2018). Ore strength property evaluation in the design of ore preparation cycles. Paper presented at the *Geomechanics and Geodynamics of Rock Masses, 1* 333-338.

Peshkova, G., Antohina, Y., & Smirnova, N. (2017). Measures to improve russian federal strategy of the construction materials industry development. *Journal of Business and Retail Management Research*, 11(3), 39-46.

Philippova, N.V., Akhmadeev, R.G., Bykanova, O.A., Chaykovskaya, L.A. (2018) Social equity: A route to progressive taxation of individuals. *European Research Studies Journal*, 21 (4), pp. 317-330.

Porter, W.W. (2014). Blended learning in higher education: Institutional adoption and implementation. *Computers & Education*, 75, 185-195.

Polyakova, A.G., Loginov, M.P., Serebrennikova, A.I. & Thalassinos, E.I. (2019). Design of a socio-economic processes monitoring system based on network analysis and big data. *International Journal of Economics & Business Administration*, 7(1), 130-139.

Pizzi, M.A. (2014). Blended Learning Pedagogy: The Time is Now! *Occupational Therapy In Health Care*, 28, 333-338.

Priority project "Modern digital educational environment in the Russian Federation" (2017). Retrieved July 20, 2018 from <https://minobrnauki.rf/projects/modern-digital-educational-environment>.

Prodanova, N., Plaskova, N., Popova, L., Maslova, I., Dmitrieva, I., Sitnikova, V., & Kharakoz, J. (2019). The role of IT tools when introducing integrated reporting in corporate communication. *Journal of Advanced Research in Dynamical and Control Systems*, 11(8 Special Issue), 411-415.

Popova, L. I., Demina, I. D., Stepanenko, Y. S., Tran, Q. N., Meshkova, G. V., & Afonassova, M. A. (2019). Regional aspects of sectoral digitalization: Problems and prospects. *International Journal of Economics and Business Administration*, 7(2), 176-188.

Rupeika-Apoga, R., Romanova, I., Bule, L. & Thalassinos, Y. (2019). The Impact of Population Ageing and Social Stratification: The Case of Latvia. *International Journal of Economics & Business Administration*, 7(1), 49-63.

Shamshudinova, G., Altybassarova, M., Seifullina, G., Turlybekova, A., & Dyussebekova, G. (2019). State model of interconfessional tolerance in modern multiethnic societies. *Space and Culture, India*, 7(1), 117-127. doi:10.20896/saci.v7i1.374



Shatunova O., Anisimova T., Sabirova F., Kalimullina O. (2019). STEAM as an Innovative Educational Technology. *Journal of Social Studies Education Research*. Vol. 10 (2), 131-144.

Shaytura, S. V., Knyazeva, M. D., Feoktistova, V. M., Vintova, T. A., Titov, V. A., & Kozhaev, Y. P. (2018). Philosophy of information fields. *International Journal of Civil Engineering and Technology*, 9(13), 127-136.

Shaitura, S. V., Ordov, K. V., Lesnichaya, I. G., Romanova, Y. D., & Khachaturova, S. S. (2018). Services and mechanisms of competitive intelligence on the internet. [Servicios y mecanismos de inteligencia competitiva en internet] *Espacios*, 39(45)

Smirnova, N. N., Nikolaeva, N. V., Brichkin, V. N., & Kuskov, V. B. (2014). Analytical solutions of some heat transfer problems in mining practice. *Journal of Mining Science*, 50(1), 81-86. doi:10.1134/S1062739114010128

Veledinskaya, S., Dorofeeva, M., Andreev, A. (2015). Blended learning: setup of a learning process. *Open and distance education*, 2, 14-21.

Voronkova, O. Y., Iakimova, L. A., Frolova, I. I., Shafranskaya, C. I., Kamolov, S. G., & Prodanova, N. A. (2019). Sustainable development of territories based on the integrated use of industry, resource and environmental potential. *International Journal of Economics and Business Administration*, 7(2), 151-163.

20 Theses on Digital Teaching and Learning in Higher Education. (2016). Retrieved October 30, 2018 from <https://hochschulforumdigitalisierung.de/en/20-theses-digitalisation-higher-education>

The educational environment is digitized (2017). Retrieved July 28, 2018 from <https://Ministry of Education and Science / m / news /11875>.

Thalassinos, I.E., Stamatopoulos, V.T. and Arvanitis, E.S. (2011). Gender wage gap: Evidence from the Hellenic maritime sector 1995-2002. *European Research Studies Journal*, 14(1), 91-101

Vasilev, V. L., Murtazina, D. A., Aleynikova, O. S., Averianova, T. A., & Aleksyuk, I. O. (2018). Problems of digitalization of higher education in a small town. Paper presented at the Proceedings of the 32nd International Business Information Management Association Conference, IBIMA 2018 - Vision 2020: Sustainable Economic Development and Application of Innovation Management from Regional Expansion to Global Growth, 1710-1716.

Volchik, V.; Maslyukova, E. (2019). Trust and development of education and science, *Entrepreneurship and Sustainability Issues* 6(3): 1244-1255. [http://doi.org/10.9770/jesi.2019.6.3\(27\)](http://doi.org/10.9770/jesi.2019.6.3(27))

What is Blended Learning? (2017). Retrieved August 24, 2018 from <https://www.blendlearning.org/basics>