FEATURES OF E-LEARNING ORGANIZATION IN A MODERN UNIVERSITY

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One of the most important areas of the educational system today is the widespread use of e-learning methods based on advanced information and telecommunication methods, modern pedagogical technologies The article discusses the relevance of e-learning, its possibilities in the formation of a large number of students' skills necessary for their successful professional development. The necessity of using the e-learning management system in order to provide high-quality education is shown in the example of the developed e-course «Foreign language» for students – future engineers. Besides the article shows the possibilities of LMS (Learning Management System) of the Moodle educational content management system for implementing the priority goal of the higher education system. Moreover, both positive and negative sides of using LMS are summarized in the paper. Then it gives practical suggestions for high-quality integration of e-learning in the process of teaching and learning in the educational institution of higher education «Samara State Transport University» on the basis of effective management of the e-learning process and good management.

Keywords: e-learning, distance learning technologies, information technologies, LMS Moodle, individual educational trajectories.

ОСОБЕННОСТИ ОРГАНИЗАЦИИ ЭЛЕКТРОННОГО ОБУЧЕНИЯ В СОВРЕМЕННОМ ВУЗЕ

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Широкое использование методов электронного обучения на основе перспективных информационных и телекоммуникационных, современных педагогических технологий является одним из значимых направлений функционирования системы образования сегодня. В статье рассматривается актуальность применения электронного обучения в данный момент времени, его возможности в формировании у обучающихся большого количества компетенций, необходимых для их успешного профессионального становления. Представлены возможности LMS (Learning Management System) системы управления учебным контентом Moodle для реализации приоритетной цели системы высшего образования. Показана необходимость использования системы управления электронным обучением в целях предоставления качественного образования на примере разработанного электронного курса «Иностранный язык» для студентов – будущих инженеров.

Ключевые слова: электронное обучение, дистанционные образовательные технологии, информационные технологии, LMS Moodle, индивидуальные образовательные траектории.

Introduction

Rapid changes that are taking place these days are a real challenge for our educational system and as a result require it to transform its traditional model. At the same time, much attention is focused on positive opportunities that were previously insufficiently developed. Thus, we are witnessing a new reality, which is based on the technological revolution and the achievements of industry 4.0. E-learning (e-learning, from the English. electron learning), which was previously one of the possible forms of the educational process, is becoming one of the most significant functional technologies. So, according to Similarweb, the Russian online educational platform Uchi.ru became one of the top ten sites in the world in the category «Education» in April 2020. According to the Zoom video conferencing service, the number of daily paid and free users in March 2020 exceeded 200 million, while in December 2019 the maximum number of users per day was 10 million [15].

Therefore, in the near future, the development of e-education will largely depend on the quality of information technology. According to the report «State of Technology in Education», presented by Promethean analysts, in the next 1-3 years, the leading position will be taken by cloud tools for organizing and conducting classes (35.8%). This is followed by online student assessment resources (31.4%), virtual and augmented reality (25.3%) is in third place, followed by programming and robotics technologies (21.8%), and distance learning is the final link (21.6%). Researchers are convinced that the absence of borders will be a characteristic feature of future education [9].

The purpose of the research is to show the positive aspects of using e-learning in contrast to the traditional format in a modern university, as well as the importance of using e-learning in the educational process because of the digitalization of our society. Moreover, the authors justify the effectiveness of e-learning management on the example of the «Foreign language» course in LMS Moodle.

1. Literature review

Today, the pedagogical community is actively discussing the issue of the education system in the «post-viral era». According to the expert assessment of the HSE rector Kuzminov, there will be a total transition of University education and office work to an online format [12]. Taking into account the wider possibilities of transmitting materials in an electronic form, it is difficult to disagree with the changes that await the classical model, which translates knowledge only in the classroom.

E-learning as a new form of education is fixed in the Federal Law «On education in the Russian Federation» № 273-FZ dated 29 December 2012, according to which «e-learning means the organization of the educational process with the use of databases and information presented in educational programs, information technologies, technical means, as well as information and telecommunication networks for the transmission of this information and interaction of participants of the educational process» [21].

E-learning became widespread in the mid-2000s, although, according to the foreign publication «Research on the Russian market of online education and educational technologies», in 2017 the share of online education in the world market was only 3% [17].

E-learning is considered as the acquisition of knowledge in an electronic form using personal computers, smartphones, tablets. In general, it means processing of the information presented in a text or multimedia form, communication and interactive communication. [15].

From a scientific point of view, a unified e-learning paradigm has not been developed yet. Many experts agree that it is possible to combine and modify existing theories and adapt them to e-learning. According to the majority of scientists, one of the most popular existing concepts about using e-learning are considered to be cognitivism (R. Mayer) and constructivism (A. Panzh and D. Panj) [16]. The theories of digital media and active learning are also relevant. So, according to A.V. Gartsoev, e-learning is seen as a set of approaches: system-based, object-oriented, communicative-activity, cognitive, and personality-oriented. Moreover, the author draws attention to the possibility of self-selection of content learning resources, control and self-control, and methods for facilitating the development of students' autonomy [4]. A.V. Solovov considers e-learning as a new form of the educational process, the main feature of which is independent work of students through a variety of electronic educational resources. Despite the fact that students and teachers work remotely, they can interact and communicate on the basis of electronic means of communication at any time [18]. Some researchers (R. Andrews) believe that e-learning requires the organization of a new learning concept [1]. Significant issues of implementing e-learning in the educational process are handled by O.M. Babanskaya, S.M. Veledinskaya, V.A. Slepukhin, V.A. Starodubtsev, A.I. Chuchalin, R. Mayer, R. Andrews, A. Panzh, and D. Panj and others. From the point of view of educational technologies, e-learning is considered as a part of mixed or distance learning technology. Taking into account the data of a recent survey conducted by Houghton Mifflin Harcourt [9], the majority of teachers (approximately 85%) view the potential of technologies that help them make the learning process more accessible and expand its capabilities very positively.

2. Materials and methods

A systematic approach to the development of the concept of «interview» allows us to conclude that there is a certain structure of interacting components. The term «system approach», which has become extremely common today, came into scientific use more than a decade ago.

The concept of «approach» can be defined «as a fundamental methodological orientation of a research, as a point of view from which the object of study is considered, as a concept or principle that guides the overall strategy of research» [20, p. 105]. According to its representatives (I.V. Brauberg, A.A. Ignatiev, E.M. Mirsky, V.N. Sadovsky, B.A. Starostin, E.G. Yudin, A.I. Yablonsky and others), a systematic approach is a methodological orientation of a research which considers the objects of a study in the form of systems, that is, sets of elements connected by interaction, and therefore acting as a single whole [6, p. 319]. N.G. Gorbushin characterizes the system approach as an explicit expression of procedures in the representation of objects as systems and methods of their research [8, p. 340].

Thus, a systematic approach to the development of the complex allows us to conclude that the structure of interacting components can develop in the process of personal development, ensuring its effective functioning, taking into account the specifics of the tools of the complex.

Taking into account the fact that a foreign language is both a goal of learning and a means of communication, obtaining information and self-expression, we consider the content of teaching a foreign language in accordance with an integrated approach, the scientific and methodological basis of which is the synthesis of academic disciplines, specific activities of teachers and students. An integrated approach is considered (V.V. Levchenko) as an effective model for developing learning techniques and allows you to rely on various subjects [13].

Training begins with the consideration of the role of a foreign language in the life of society, allows you to awaken interest in a foreign language. Thematic sections aimed at developing interests, emotional sphere, knowledge in various fields corresponds to the trend of continuing education and strengthening inter-subject relations.

The principle of accessibility when structuring thematic sections allows you to take into account the increasing complexity, the need for gradual involvement of students in the discussion of various communicative topics. An integrated approach based on the didactic principle of connecting learning with life demonstrates the importance of knowledge of a foreign language for practical purposes, as it helps to strengthen knowledge of different disciplines.

3. Research results

E-learning becomes particularly significant because of the introduction of the FSES in 3++, for which it is important to increase the independent content of students and reduce classroom work. According to the FSES HE 3++, e-learning is seen as one of the leading functions of the electronic information and educational environment of a university [15].

Therefore, one of the most valuable characteristics of e-learning is, the improvement of a large number of competencies among students (digital skills; the

ability to analyze information, information management; awareness of the importance of information and information technologies in modern society). Secondly, e-learning helps develop independence, self-control, and creative activity when performing group projects. It is also good to improve the skills of effective use of knowledge and skills in practice when creating new competitive, high-tech products. Moreover, e-learning particularly contributes to getting the higher level of learning through «the use of rapidly growing global educational resources. Besides, e-learning and distance learning technologies increase the share of students' independent work» [2].

Moreover, intelligent e-learning systems leave a «digital footprint» in real time, i.e. they monitor the academic behavior of students, namely, how and how many times they complete the test, whether they redo the task in case of failure, and how much time they spend studying each page. Based on the digital footprint, you can see the analytics of each participant and group work. Therefore, big data allows you to support the educational process, showing students the maximum possible achievements in the learning process [10].

Students can actively analyze the problem situation and errors, independently choose the way to solve problems, i.e. reflect. The flexibility of e-learning allows students to count on their own pace of work, repeatedly view the material, and return to it if necessary. High-quality e-courses today tend to be personalized, i.e. they are accompanied by surveys, questionnaires, and other feedback tools that allow students to influence the course content. Communication tools and cloud technologies provide an opportunity for teachers and students to interact together and complete group projects. The combination of e-learning and network communication allows students to build individual educational trajectories in accordance with the cognitive characteristics of their personality, knowledge and existing training, motivation, values, and planning time for training. Students become the subject of their own educational activities. E-learning also helps to organize students' personal educational environment, since it offers a large number of electronic resources [14].

The basic systems that implement e-learning in higher education institutions are LMS and moocs. LMS – Learning Management System) is a learning content management system that allows you to organize the learning process, grant access rights, keep track of students, show analytical reports, results of tasks and testing, use external information systems and apply mechanisms for both synchronous and asynchronous communication, and organize personalization. Moocs – mass open online courses) – platforms for open e-courses based on leading universities in Europe, the United States, and Russia that allow you to get education remotely using the global Internet. Moocs can be integrated as a part of e-learning in the LMS [11].

No doubt that only effective management of the e-learning process can contribute to the high-quality implementation of e-learning. A system for managing e-learning in the higher education institution «Samara State Transport University» based on the modeling method was developed. In the scientific literature, modeling is considered» as a process in which the researcher studies the sides of an object of interest (including its hidden properties) and builds a model that reflects the features, properties, and connections of the object of study in a simple and visual form that is convenient for analysis» [4]. The basis of the developed e-learning management system in Samara State Transport University is a systematic approach, according to which e-learning management process is seen as a system that includes a set of elements.

Higher education institution «Samara State Transport University» uses LMS Moodle, which is a part of the electronic information and educational environment of the university.

However, the provision of quality education, and consequently, the implementation of the priority goal of the higher education system, outlined in art. 69 of the Federal law «about education in the Russian Federation» – «training of highly qualified personnel in all main areas of socially useful activities in accordance with the needs of society and the state, meeting the needs of the individual in intellectual, cultural and moral development, deepening and expanding education, scientific and pedagogical qualifications» [15] is accompanied by a number of difficulties in the educational institution of higher education «Samara State Transport University». Extremely effective management of the e-learning process and good management can contribute to the high-quality implementation of e-learning. We have developed a system for managing e-learning in the higher education institution «Samara State Transport University» on the example of the e-course «Foreign language» for students-future engineers [5].

This complex includes three types of tools:

Administration and monitoring tools. These tools include Student Progress, which tracks the completion of tasks on electronic simulators. The Gradebook tool allows you to compare results among all students at once. Calendar allows the teacher to announce information of an organizational nature, inform students about upcoming classes and their content, and about exercises for independent work. You can use the Announcements tool to send messages with instant notification of group members by email, as well as upload additional materials.

Students can independently improve their grammatical and speech skills in mastering language material using electronic simulators. All simulators are characterized by a step-by-step construction of the learning process to achieve the desired result. Simulators are named Content and have such sections as: Tests, Reviews (simulators for identifying problem areas for each section), Checkpoints (simulators for improving the material in three sections), Games (game content that includes the material of the section), Course (interactive tasks of the main course), Workbook (time-based material development) [3].

The course of study consists of sections beginning with the introduction Before you begin, which introduces the learning goals and introduces the topic. All sections include lessons A, B, C, and D.

Thus, the purpose of independent work of students is to focus on learning new material, its consolidation and, most importantly, personalization while working with tools for interactive communication, as well as communication within the study group when discussing educational topics.

Group work of students and teachers is carried out through interaction in the group and with the teacher in an online format by sending voice messages, writing blogs, participating in chats, forums, and wikis. These tools can be used synchronously and asynchronously, which is especially important for group project activities.

Electronic tools for group work have a great pedagogical potential. In addition to developing all four skills of speech activity, these tools allow you to create close to real situations of communication in English, promote mutual learning and learning autonomy, and provide the ability to personalize new language material.

For additional practice of speaking skills, especially for low levels, we recommend using simulators-simulators of Dialogic speech, which are an example of classes within the electronic lesson. Students listen to a question, record their answer, and listen to a sample response (Record and compare activity). This way, they can record their response several times until they are satisfied with the response they receive. The next step is to record the oral response via voice messages, making the statement available for listening by other students and the teacher (Voice tools activity). There are also simulators of dialog speech with the possibility of video recording (Video role play activity), which allows you to create a communication situation as close as possible to the real one. It is important to note that the work on these simulators is not evaluated by a teacher, i.e. students fully control the amount of work they need to do with these electronic simulators to achieve their learning goals.

Interactive tools (blogs, forums, chats, wikis, and voice tools) with the most effective techniques and learning strategies, promote intensive development of mutual learning unlike traditional education in which members have strict rules on time and place of learning that does not give enough opportunities to work in study groups and have discussions.

The «e-learning» educational model promotes the application of the inverted class principle, i.e. experimental learning, when new information is received through electronic and video presentations, open source web content, and not in the form of traditional lectures and oral presentations. Moreover, tasks such as an experiment using the obtained information, correlation with existing facts, and conceptualization are actively used in the format of group interaction, i.e., tasks that were performed outside the classroom in the traditional education system. Due to the fact that students can get acquainted with the new language material in advance, understand it at the individual level, the educational model of «E-learning» significantly changes the role of the teacher, who is now more of a mentor and guide, rather than an instructor and a source of knowledge.

An important characteristic of this educational complex is the use of the communicative method and three principles of mastering the material: illustration, induction and interaction. The lexical and grammatical basis is represented by real examples from natural speech (illustration). students take into account the patterns of language use and come to conclusion about the rules of language use (induction). Then the language material is used in personalized and meaningful contexts (interaction). Moreover, the e-course offers students various situations of language use (formal, semi-formal and informal use). Therefore, these educational materials do not introduce students to individual grammatical structures and lexical units, but allow them to master the principles of written and oral communication [4].

Discussion and conclusion

The main goal of the development of an e-learning management system in the higher education institution «Samara State Transport University» is the development of innovative education, active use of e-learning in modern education in accordance with international standards, dissemination of scientific knowledge through the use of modern educational technologies in the educational process, popularization of the University in the market of educational services, the competitiveness of its graduates.

Language training in Samara State Transport University takes into account the fundamentally new, innovative approaches to learning. The main feature of this training is seen in the personalization of the program content, which is based on the interest of students. It is thanks to the familiar context that semantic connections are established within communicative situations, as well as patterns of new language units, which, in turn, contribute to more effective use of rules and grammatical units. Moreover, new language units and structures are developed in an important context for students in the form of group or pair work, where the final personalization of the language material is observed during the discussion. Students themselves, not teachers, are responsible for the success of training and have the ability to track the result using online learning tools and focus on more detailed study. Consequently, the flexible use of electronic content and interactive communication tools makes it possible to personalize learning and, as a result, contributes more to the effective learning process.

Thus, the e-learning management system in the higher education institution «Samara State Transport University» is considered as an information management system, the main goal of which is to use modern electronic educational technologies in the educational process, in the preparation of a methodological base of electronic educational resources, and in the improvement of electronic educational technologies in the format of distance education.

REFERENCES

1. *Andrews R.* Does e-Learning Require a New Theory of Learning? Some Initial Thoughts. Journal for Educational Research Online. 2011. Vol. 3. No. 1. Pp. 104–121. https://www.pedocs.de/volltexte/2011/4684/pdf/JERO_2011_1_Andrews_Does_e_learning_require_a_new_theory_S104_D_A.pdf (accessed April 08, 2020).

2. *Babanskaya O.M., Mozhaeva G.V., Serbin V.A., Feshchenko A.V.* Sistemnyj podhod k organizacii elektronnogo obucheniya v klassicheskom universitete [System approach to the organization of e-learning in a classical University]. *Luchshie praktiki elektronnogo obucheniya: materialy I metodicheskoj konferencii.* Tomsk: Izd-vo Tom. un-ta, 2015. Pp. 5–12.

3. *Bakanova I.G.* Metodologicheskie osnovy smeshannogo obucheniya inostrannomu yazyku studentov tekhnicheskih special'nostej [Methodological foundations of mixed teaching of a foreign language to students of technical specialties]. *Nauka i kul'tura Rossii.* 2016. Vol. 1. Pp. 226–229. https://www.elibrary.ru/item.asp?id=26537065 (accessed April 04, 2020).

4. *Bakanova I.G.* Formirovanie kommunikativnoj kompetentnosti studentov tekhnicheskih special'nostej na osnove modeli smeshannogo obucheniya [Formation of communicative competence of students of technical specialties on the basis of the mixed learning model]. *Vestnik Samarskogo universiteta. Istoriya, pedagogika, filologiya.* 2016. No. 1. Pp. 75–81. https://www.elibrary.ru/item.asp?id=27215659 (accessed August 4, 2020).

5. *Bakanova I.G., Yelizarova E.A., Kapustina L.V.* Significance of the Organization of E-Learning Management System in a Modern University. In: *Ashmarina S.I., Horák J., Vrbka J.,* Šuleř *P. (eds).* Economic Systems in the New Era: Stable Systems in an Unstable World. IES 2020. Lecture Notes in Networks and Systems. 2021. Vol. 160. Pp. 467–475. Springer, Cham. https://doi.org/10.1007/978-3-030-60929-0_60 (accessed May 29, 2020).

6. *Blauberg I.V.* Blauberg I.V. Problema tselostnosti i sistemnyy podkhod [Problem of integrity and systematic approach]. Moscow: Editorial URSS Publ., 1997. 450 p.

7. *Garcoev A.D.* Elektronnaya lingvodidaktika v sisteme innovacionnogo yazykovogo obrazovaniya: dis. … dokt. ped. nauk [Electronic linguodidactics in the system of innovative language education: thesis ... cand. of ped. sci.]. Moscow, 2009. 398 p.

8. *Gorbushin N.G.* Ot obshchey teorii system k iskusstvennym intellektualnym sredam [From the General theory of systems to artificial intelligent environments]. *Sistemnyi podchod v sovremennoy nauke*. Moscow: Progress-Traditsiya, 2004. 560 p.

9. Houghton Mifflin Harcourt: HMH's 5th Annual Educator Confidence Report. 2019. https://www.hmhco.com/educator-confidence-report (accessed August 24, 2020).

10. *Kapustina L.V.* Digital footprint analysis to develop a personal digital competency-based profile. In: *Ashmarina S., Mantulenko V.* (eds.) Current Achievements, Challenges and Digital Chances of Knowledge Based Economy. Lecture Notes in Networks and Systems. 2021. Vol. 133. Pp. 591–596. Springer, Cham. https://doi.org/10.1007/978-3-030-47458-4_68 (accessed August 24, 2020).

11. *Krechetova A*. The future of online education in Russia: growth and cautious investment. 2017. http://www.forbes.ru/tehnologii/342961-budushcheeonlayn-obrazovaniya-v-rossii-rost-i-ostoroznye-investicii (accessed September 24, 2020).

12. *Kuzminov Y*. Virusnaya revolyutsiya: kak pandemiya izmenit nash mir [Viral revolution: how the pandemic will change our world]. 2020. https://www.rbc.ru/opinions/society/27/03/2020/5e7cd7799a79471ed230b774 (accessed May 20, 2020).

13. *Levchenko V.V.* Integrirovannyj podhod k professional'no-pedagogicheskoj podgotovke studentov [Integrated approach to professional and pedagogical training of students]. *Moskovskij psihologo-social'nyj institut*. 2007. 282 p.

14. *Mantulenko V.V*. Prospects of digital footprints use in the higher education. In: *Ashmarina S., Mantulenko V. (eds.)* Current Achievements, Challenges and Digital Chances of Knowledge Based Economy. Lecture Notes in Networks and Systems. 2021. Vol. 133. Pp. 581–589. Springer, Cham. https://doi.org/10.1007/978-3-030-47458-4_67 (accessed September 26, 2020).

15. *Ol'hovaya T.A., Prihod'ko O.V*. Organizaciya elektronnogo obucheniya v sovremennom vuze [Organization of e-learning in a modern university]. *Sovremennye problemy nauki i obrazovaniya*. 2020. No. 3. https://science-education.ru/ru/article/view?id=29860 (accessed August 4, 2020).

16. *Pange A., Pange J*. Is E-Learning Based on Learning Theories? A Literature Review. World Academy of Science, Engineering and Technology. 2011. Vol. 5. No. 8. Pp. 56–60. https://publications.waset.org/12654/is-e-learning-based-on-learning-theories-a-literature-review (accessed September 27, 2020).

17. Issledovanie rossijskogo rynka onlajn-obrazovaniya i obrazovatel'nyh tekhnologij [Research of the Russian market of online education and educational technologies]. Russia Beyond the Headlines, VB Profiles, «Netologiya Grupp», FRII, VSHE, Somscore, FOM. 2017. http://edumarket.digital (accessed May 05, 2020).

18. *Solovov A.V*. Elektronnoe obuchenie: problematika, didaktika, tekhnologiya [E-learning: problems, didactics, technology]. Samara: *Novaya tekhnika*, 2006. 462 p.

19. *Tamm S*. Disadvantages of e-learning. 2019. https://e-student.org/disadvantages-of-e-learning/ (accessed September 30, 2020).

20. *Yudin E.G.* Sistemnyj podhod i princip deyatel'nosti. Metodologicheskie problemy sovremennoj nauki [A system approach and the principle of activity. Methodological problems of modern science]. Moscow: Nauka Publ., 1978. 392 p.

21. Federal'nyj zakon «Ob obrazovanii v Rossijskoj Federacii» ot 29.12.2012 N 273-FZ [Federal Law: "On education in the Russian Federation" of 29.12.2012 N 273 (2012)]. https://www.consultant.ru/document/cons_doc_LAW_140174/ (accessed May 20, 2020).

22. *Zemlyanskaya E.N*. Modelirovanie kak metod pedagogicheskogo issledovaniya [Modeling as a method of pedagogical research]. *Teach. XXI Century*. 2013. No. 1(3). Pp. 35–43 https://cyberleninka.ru/article/n/modelirovanie-kak-metod-pedagogicheskogo-issledovaniya-1/viewer (accessed August 13, 2020).

СПИСОК ЛИТЕРАТУРЫ

1. *Andrews R.* Does e-Learning Require a New Theory of Learning? Some Initial Thoughts. Journal for Educational Research Online. 2011. Vol. 3. No. 1. Pp. 104–121. https://www.pedocs.de/volltexte/2011/4684/pdf/JERO_2011_1_Andrews_Does_e_learning_require_a_new_theory_S104_D_A.pdf (accessed April 08, 2020).

2. *Бабанская О.М., Можаева Г.В., Сербин В.А.,* Фещенко *А.В.* Системный подход к организации электронного обучения в классическом университете // Лучшие практики электронного обучения: материалы I методической конференции. – Томск: Изд-во Том. ун-та, 2015. – С. 5–12.

3. *Баканова И.Г.* Методологические основы смешанного обучения иностранному языку студентов технических специальностей // Наука и культура России. – 2016. – Т. 1. – С. 226–229 [Электронный ресурс]. – URL: https://www.elibrary.ru/item.asp?id=26537065 (дата обращения 04.08.2020).

4. *Баканова И.Г.* Формирование коммуникативной компетентности студентов технических специальностей на основе модели смешанного обучения // Вестник Самарского университета. История, педагогика, филология. – 2016. – № 1. – С. 75–81 [Электронный ресурс]. – URL: https://www.elibrary.ru/item.asp?id=27215659 (дата обращения 04.08.2020).

5. *Bakanova I.G., Yelizarova E.A., Kapustina L.V.* Significance of the Organization of E-Learning Management System in a Modern University. In: *Ashmarina S.I., Horák J., Vrbka J.,* Šuleř *P. (eds).* Economic Systems in the New Era: Stable Systems in an Unstable World. IES 2020. Lecture Notes in Networks and Systems. 2021. Vol. 160. Pp. 467–475. Springer, Cham. https://doi.org/10.1007/978-3-030-60929-0_60 (accessed May 29, 2020).

6. *Блауберг И.В.* Проблема целостности и системный подход. – М.: Эдиториал УРСС, 1997. – 450 с.

7. *Гарцоев А.Д.* Электронная лингводидактика в системе инновационного языкового образования: дис. … докт. пед. наук. – М., 2009. – 398 с.

8. *Горбушин Н.Г.* От общей теории систем к искусственным интеллектуальным средам // Системный подход в современной науке. – М.: Прогресс-Традиция, 2004. – С. 560.

9. Houghton Mifflin Harcourt: HMH's 5th Annual Educator Confidence Report. 2019. https://www.hmhco.com/educator-confidence-report (accessed August 24, 2020).

10. *Kapustina L.V.* Digital footprint analysis to develop a personal digital competency-based profile. In: *Ashmarina S., Mantulenko V.* (eds.) Current Achievements, Challenges and Digital Chances of Knowledge Based Economy. Lecture Notes in Networks and Systems. 2021. Vol. 133. Pp. 591–596. Springer, Cham. https://doi.org/10.1007/978-3-030-47458-4_68 (accessed August 24, 2020).

11. *Krechetova A.* The future of online education in Russia: growth and cautious investment. 2017. http://www.forbes.ru/tehnologii/342961-budushcheeonlayn-obrazovaniya-v-rossii-rost-i-ostorozhnye-investicii (accessed September 24, 2020).

12. *Кузьминов Я.* Вирусная революция: как пандемия изменит наш мир. 2020 [Электронный ресурс]. – URL: https://www.rbc.ru/opinions/society/27/03/2020/5e7cd7799a79471ed230b774 (дата обращения 20.05.2020).

13. *Левченко В.В.* Интегрированный подход к профессионально-педагогической подготовке студентов. – М.: Московский психолого-социальный институт, 2007. – 282 с.

14. *Mantulenko V.V.* Prospects of digital footprints use in the higher education. In: *Ashmarina S., Mantulenko V. (eds.)* Current Achievements, Challenges and Digital Chances of Knowledge Based Economy. Lecture Notes in Networks and Systems. 2021. Vol. 133. Pp. 581–589. Springer, Cham. https://doi.org/10.1007/978-3-030-47458-4_67 (accessed September 26, 2020).

15. *Ольховая Т.А., Приходько О.В.* Организация электронного обучения в современном вузе // Современные проблемы науки и образования. – 2020. – № 3 [Электронный

ресурс]. – URL: http://science-education.ru/ru/article/view?id=29860 (дата обращения 04.08.2020).

16. *Pange A., Pange J.* Is E-Learning Based on Learning Theories? A Literature Review. World Academy of Science, Engineering and Technology. 2011. Vol. 5. No. 8. Pp. 56–60. https://publications.waset.org/12654/is-e-learning-based-on-learning-theories-a-literature-review (accessed September 27, 2020).

17. Исследование российского рынка онлайн-образования и образовательных технологий. Russia Beyond The Headlines, VB Profiles, «Нетология Групп», ФРИИ, ВШЭ, Comscore, ФОМ. 2017 [Электронный ресурс]. – URL: http://edumarket.digital (дата обращения 20.05.2020).

18. *Соловов А.В.* Электронное обучение: проблематика, дидактика, технология. – Самара: Новая техника, 2006. – 462 с.

19. *Tamm S.* Disadvantages of e-learning. 2019. https://e-student.org/disadvantages-of-e-learning/ (accessed September 30, 2020).

20. *Юдин Э.Г.* Системный подход и принцип деятельности. Методологические проблемы современной науки. – М.: Наука, 1978. – 392 с.

21. Федеральный закон «Об образовании в Российской Федерации» от 29.12.2012 № 273-ФЗ [Электронный ресурс]. – URL: http://www.consultant.ru/document/cons_doc_LAW_140174/ (дата обращения 20.05.2020).

22. *Землянская Е.Н.* Моделирование как метод педагогического исследования // Преподаватель XXI век. – 2013. – № 1(3). – С. 35–43 [Электронный ресурс]. – URL: https://cyberleninka.ru/article/n/modelirovanie-kak-metod-pedagogicheskogo-issledovaniya-1/viewer (дата обращения 13.08.2020).

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