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PROBLEMS AND PROSPECTS OF DISTANCE LEARNING IN KAZAKHSTAN

Abstract. The article mentions that today distance learning is intensively integrated into the field of education. The article considers the state of distance learning in Kazakhstan, as well as analyzes the difficulties of the modern period of development of the distance education system. Recommendations have been developed for the development of distance learning teaching tools and digital educational resources. The financial, technical, legal, methodological problems of the development of distance education, the problems of training teachers for the development of electronic didactic tools are determined. Requirements for electronic and multimedia textbooks and manuals are set out.

Keywords: distance learning, electronic textbooks, teaching aids.

Introduction. Today, more than ever, the task of higher education institutions to form a global educational space is coming to the fore in the international context. The development of telecommunications and the promotion of digital, information and telecommunication technologies in education have become a prerequisite for the establishment an open educational system, that made it possible to involve all members of the international community in the process of learning. The article will deal with the development of distance learning in Kazakhstan, the problems that have arisen and ways to overcome the difficulties that have arisen.

The goal of the work is to expand suggestions for the improvement of didactic approach of learning from home, digital educational resources particularly based on the analysis of literature and the experience of distance learning.

Research methods. The student-centered approach at the heart of distance learning helps to unleash the potential of each student. Systems, design, activity approaches, theories of program learning, distance learning, connectivism (connectivism is the theoretical basis for comprehension learning in the digital age), theory of actor networks, etc. The research model included an analysis of psychological and pedagogical literature on the issues of digital pedagogy and digital didactics, e-learning, distance education; generalization of pedagogical experience in dealing with electronic textbooks, training programs, digital educational resources, mass online open courses to increase recommendations for creating powerful learning tools, digital educational resources.

Research result. The use of the Internet has created a global information infrastructure that corresponds to the "open model of education" paradigm, and which includes: openness to the future; the possibility of obtaining the necessary information not only within the country, but also in universities and academies around the world; promotion in the educational space of various information

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systems, electronic teaching devices, digital educational resources, their free use; personal-oriented learning with the possibility to design your own learning trajectory using domestic and foreign resources; development of digital competence, human information culture; heutagogy design of the educational process, i.e. self-education and constant search for new information resources, e-learning and development tools; as a consequence, a change in the psychology of learning, new attitudes, new goals and orientations; a change in the roles of the educator as he becomes more of a facilitator, manager, coordinator of the training process.

Distance learning technologies have become one of the promising technologies. Distance learning refers to education in which the subjects of research (learners, educators, students) are separated from each other and from educational centers, and the process of learning is done by means of telecommunications, including the Internet.

With such an institution of the learning process, it is quite obvious that it can go beyond the borders of one state. Therefore, such an education system has become very common in many countries of the world, for example, in the UK - the British Open University, in the USA - the National Technical University, in France - the National Center for Distance Learning, in Spain - the National University of Distance Education, etc. Almost all countries of the world are actively using distance learning technologies to obtain not only the first or second profession, but also for advanced training and retraining.

Examples of open universities around the world include: in the People's Republic of China - the Chinese Television University, in India - the Indira Gandhi University, in the Republic of Korea - the Korean National Open University, and others [1]. In the near abroad, distance education is actively promoted in Russia - for example, M.V. Bauman Moscow State Technical University, Moscow Social and Humanitarian Institute, Moscow Power Engineering Institute, Tomsk State University and others.

In Kazakhstan, many universities also use distance learning technologies for advanced training and retraining. Moreover, since 2018, by order of the Ministry of Education and Science of the Republic of Kazakhstan, it has been determined that distance technologies and the part time system will become an alternative to part-time education. The prohibition of distance learning came into effect on January 1, 2019. Consequently, distance learning therefore becomes a form of learning.

Distance learning is used in many ways. Currently, there are many courses of additional education, advanced training, certification, for example, the well-known Khan Academy, Courser courses, and others. It is interesting; many of these educational systems are far ahead of those established at universities, both in complexity and in number. Today, many companies General Motors, IBM, Ford are reviewing the status of educational divisions in their structures. Enterprise management is increasingly looking at investment in learning in the same way as investment in research and development [2, p.37]

The reach of a methodological structure for learning from home is one of the most significant tasks, the decision of which is crucial for the institution of quality distance education. First of all, it is essential to recognize:

What is the meaning of distance learning: form or technology? What pedagogical techniques are used in the educational process of distance education? It is also necessary to answer such questions as: conducting a constructive alignment of objectives and expected learning outcomes in pre-school education; prompt delivery of educational information to the student; providing feedback from

the teacher and assessment of learning outcomes; providing remote individual or group work.

Discussion of scientific results. Let's consider the concepts such as learning, distance learning and distance education. Learning is the process of interaction between the educator and the learners with the aim of forming knowledge, skills and competencies. Education is (1) both the learning process and the learning outcomes; (2) the value of an individual and society, (3) a social institution, (4) a set of educational programs of educational organizations, etc. Therefore, we distinguish between the meanings of distance learning and distance education. Therefore, we distinguish between the key meanings of distance learning and distance education.

Distance learning is a distance learning method in which the teacher and the trainees are physically located in different places and different technologies and methods are used in the course of training. Although distance learning is characterized as distance learning, it is a purposeful process of interactive interaction between teachers and students. While the first forms of distance learning were associated with the use of mail, TV, modern forms are provided through information and communication technologies, digital educational resources. The construction of distance learning has a specific didactic system. Since the system is didactic, it is subject to the same requirements as traditional teaching, but with some amendments. Distance learning can be carried out in conjunction with traditional classical learning.

In Kazakhstan, distance learning is currently recognized as a learning technology that uses for the educational process along with educational information on paper - audio, video educational materials, electronic and multimedia textbooks, television training and computer training programs that can be transmitted through communication channels, including the Internet.

As we have already noted, education as a concept is broader. Education is both a learning process, results, the value of the individual and society, a social institution, a set of educational programs, etc. Distance education is therefore broader than distance learning. Distance education as a system has clear distinguishing features from traditional education. Distance education is an integral quality unit of educational systems, in which each component of the process is the goal, objectives, content, methods and forms, and the results of education; educational situations and its components have an electronic digital manifestation. Distance education is an integral quality unit of educational systems, in which each component of the process is the purpose, objectives, content, methods and forms, results of education; educational situations and its components have an electronic and digital manifestation. Distance education has a fully completed electronic-digital format.

In the digital age, distance education is used for the digital generation of students. The book Helen Beetham and Rhona Sharpe (2013) describes significant differences in digital education: connectivism in didactics, actor-network interaction theory, rhizomatic pedagogy [3], flow theory (from M.Chiksentmikhai to flows in the network), etc. The new direction is called by analogy with pedagogy - Heutalogy – Eutagogy [4]. We conditionally call this current "digital pedagogy", because we take into consideration it to be a extension of the development of pedagogical science, on the other hand, oriented to a new generation - digital generation, permeated and connected with digitalization, some "spontaneity", "situational awareness" or "chance" of the learning process or self-learning in the network. These theories somewhat change the learning process, the process of its

construction, the educational situations themselves. Moreover, digital pedagogy changes the requirements for didactic tools.

We have previously written that distance learning is a process of knowledge transmission, formation and development of competencies (it is the responsibility of the teacher and the training centre) and distance learning is the process of acquiring knowledge [5, p. 197].

While Case and TV technologies were the main technologies of the XX century, then in the XXI century network and Internet technologies are developing most productively. Let's consider the characteristics of these technologies from the V.M.Gordievskikh's manual [6].

Case technology is the most common type of learning from home technology based on the use of cases of text, audio-visual and multimedia teaching materials and their distribution for self-study by students with regular consultations with tutors in the traditional or remote way. The name of the technology comes from the Latin word casus-confusing unusual case; as well as from the English case-briefcase, suitcase.

A course situation is a set of educational and methodological materials for all disciplines provided for in the working curriculum for a given speciality and course, on an electronic media. The set must include an electronic textbook for the course, the content of which must be divided into modules (the module is a logical-structural diagram that fully reflects the subject curriculum for the entire academic year), contain hypertext, interactive assignments and test questions. In learning, from home where the educational material is studied individually, its assimilation is controlled by indirect feedback. Therefore, it is of great significance to present educational material in the form of electronic editions using all possible means, in addition to text, tools (images, animation, sound, etc.) and competent structuring of information in order to reach maximum assimilation. In a multimedia study guide or a textbook intended for self-study, you can also include "multimedia lecture accompaniment", which is material, intended to support the teacher's story with effective video and audio materials [6].

Case study is not a correspondence course. Unfortunately, there is such a stereotype. Case is a structured set of knowledge that gives the student a total illustration of the discipline being studied. At the identical time, the case technology has its drawbacks. These include the difficulty of updating the course material, the lack of interactivity.

TV technology. Satellite-based television technology is based on the use of television systems to deliver teaching materials to learners and to provide regular consultations with instructors. It is also possible to organize live seminars using satellite television and teleconferences. With TV technology, the main training procedures are based on listening to and watching TV lectures. The disadvantage of these technologies is the lack of feedback from the trainees to the lecturer. TV training has recently become quite often used for learning from home, since almost every family has a TV. Educational TV programs are widely used all over the world and are a prime example of the implementation of distance learning. Lectures can be broadcast on television to a wide audience of listeners, both to increase the overall development of this audience and to distance-learning students. The control of the assimilation of knowledge can be checked using tests and exams in training centers and through network technologies.

Network technologies include Internet technology and technologies that use the capabilities of local and wide area networks. Internet technologies and technologies that use the opportunities of local and global computer networks have

become a tool for "networking" education allowing achieving high growth of the knowledge economy [7].

In Internet technology the World Wide Web is used to provide students with educational and methodological material, as well as for interactive interaction between the teacher and students. The ability to connect "many-to-many" is a fundamental difference between Internet technology and other distance learning technologies.

Internet technologies are used to organize direct and indirect networking of teachers and trainees and to provide online access to training materials with distance learning monitoring and final certification.

Recently, Internet technologies have become more complex and replacing other distance learning technologies. This is due to three circumstances:
- technical development of Internet technologies that allow to simulate any educational model with cheaper and more convenient means;
- ease of connection to the Internet;
- relatively low connection cost.

Using the Internet is the ability to communicate with the teacher, pass the midterm and final tests.

Today in Kazakhstan, due to the emergency situation, all students were transferred to distance learning. This was not particularly difficult for University students, since almost all universities have a distance learning portal and educational platforms where you can conduct both online and offline training. Although the massive, virtually 100% training revealed many technical delays, difficulties in passing signals in remote rural areas, instability of technical communication, etc.

In 2019, researchers Tazhigulova A., Artykbaeva E.V. conducted a survey in the form of a survey of 128 teachers of universities in Kazakhstan. They found that, unfortunately, "on average, more than 90% of the teachers surveyed have no idea about MOOC ("massive open online course"), platforms". Further, they found that Skype is the most popular program for remote communication with students among teachers (27.3% systematically use it, 7.8% use it occasionally); ZOOM (5.5% use it systematically, 6.3% use it occasionally); TrueConf and Microsoft NetMeeting are occasionally used by 6.3% and 10.2% of respondents, respectively; for webinars, teachers use CommFort (3 teachers), Adobe Connect, Cisco WebEx, YouTube, Mirapolis Virtual Room, ClickMeeting (1 person each). It can be predicted that at the moment in may 2020, due to the emergency transition to the remote format, more than half of the teaching staff of universities in Kazakhstan have mastered ZOOM, Microsoft Tims, YouTube, etc. Thus, following the massive introduction of distance learning in Kazakhstan and the world, the information and digital literacy of teachers has increased significantly.

Since March 18, 2020, the system of secondary school education in Kazakhstan has switched to distance learning in a test mode, and since April 1, 2020 in a mass format. It should be pointed out the operational coordination of this process by the top management - Ministry of Education and Science of the Republic of Kazakhstan, also the mobility of teachers in developing the content for lessons. At the same time, there were some obstacles with the use of network technologies for schoolchildren. This is first and foremost due to the fact that many families, especially in villages, did not have the necessary material base (stationary and mobile devices for working with the Internet). The second reason was that the simultaneous connection to the network caused a decrease in access, signal stability, and network hardware performance. The third reason, in our view, was

the different levels of knowledge and skills needed to work on the Internet for both educators and learners. In other words, the Internet resources provided for training could not cope with the large traffic. Under these conditions, the transition to TV training was very correct at the suggestion of the Minister of Education and Science A.K.Aimagambetov, since TV was available in almost every family and lessons broadcast by the country's leading teachers using video inserts were easier for students to perceive.

In our opinion, in the context of distance learning, a large role in the assimilation of educational material can be played by didactically well-developed electronic textbooks, equipped not only with textual material, but also with video and audio intros on the subject matter, interactive activities and test questions to reinforce knowledge and competencies. Well-developed electronic textbooks and digital educational resources can not only provide training on the subject, but also motivate learners to acquire new knowledge and develop competencies.

In the literature there are other suggestions for the improvement of the digital educational resources (DER), for example, in the works of Mozhaeva G. [8], Artykbaeva E.V. [9], Tazhigulova A.I. [10] and others.

Conclusion. The development of digitalization of society, the need to comply with digital generation of students contributes to the improvement of the didactic foundations of e-learning, the expansion of distance learning in the world. Digital didactics relies on new theories of e-learning and self-education.

Summarizing all of the above, experience and analysis of scientific literature allowed us to identify the following current problems of distance education: financial, technical, legal, methodological problems, as well as problems of training teachers and teachers for the creation of electronic means - digital educational resources (DER), massive open online courses (MOOC). We see a new challenge and great prospects in the development of the pedagogical design of distance learning tools. Modern electronic and multimedia textbooks and digital educational resources should meet the following requirements: course information should be well structured; textual information should be presented both in the form of a video lecture, and in the form of necessary information on this subject, giving the opportunity to take it by separating the main and additional reference material; in a multimedia tutorial, you can use a multi-window interface, where in each window related information is presented, or certain information zones are highlighted on one screen; the text part must be accompanied by numerous cross-references, allowing to reduce time of search of the essential information; videos or animations should be accompanied by sections that are hard to comprehend in the ordinary version. In this case, the time spent by pupils and students will be five to ten times less than that spent on paper textbooks (a traditional textbook).

Thus, the role of electronic textbooks, digital educational resources, MOOCs in the self-preparation of students in the context of distance learning is extremely important.

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ҚАЗАҚСТАНДАҒЫ ҚАШЫҚТЫҚТАН ОҚЫТУ МӘСЕЛЕСІ МЕН БОЛАШАҒЫ

Аңдатпа. Мақала бүгінгі таңдағы қашықтықтан оқытудың білім беру саласына қарқынды енгізілгені туралы баяндалған. Қазақстандағы қашықтықтан оқыту жағдайылары қарастырылып, қазіргі кезеңдегі қашықтықтан білім беру жүйесін дамытудың қиындықтарына талдау жасалған. Қашықтықтан оқытудың дидактикалық құралдарын дамыту, цифрлық білім беру ресурстарын әзірлеу ұсынылған. Электронды дидактикалық құралдарды жасауға педагогикалық кадрларды даярлау, қашықтықтан білім беруді дамытудың қаржылық, техникалық, құқықтық, әдістемелік мәселелері анықталған. Электронды және мультимедиялық оқулықтарға, оқу құралдарына қойылатын талаптар айқындалған.
Тірек сөздер: қашықтықтан оқыту, электронды оқулықтар, дидактикалық құралдар.

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ПРОБЛЕМЫ И ПЕРСПЕКТИВЫ ДИСТАНЦИОННОГО ОБУЧЕНИЯ В КАЗАХСТАНЕ

Аннотация. В статье рассматривается нынешнее состояние дистанционного обучения, интенсивно вошедшего в образовательную сферу. Проанализированы трудности современного периода развития системы дистанционного образования. Разработаны рекомендации по развитию дидактических средств дистанционного обучения, цифровых образовательных ресурсов. Определены финансовые, технические, юридические, методические проблемы развития дистанционного образования, проблемы подготовки педагогических кадров к разработке электронных дидактических средств. Изложены требования к электронным и мультимедиа учебникам, пособиям.
Ключевые слова: дистанционное обучение, электронные учебники, дидактические средства.