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Призначено для науковців, юристів-практиків, працівників правоохоронних органів та всіх, хто цікавиться питаннями науки і права.

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DISTANCE EDUCATION IN HIGHER EDUCATIONAL INSTITUTIONS: TODAY'S CHALLENGE OR REALITY

Abstract. The article studies of the problem of distance education in higher education institutions and its impact on the quality of the learning process. The essence of the concept of "distance education" and its categories are specified. The authors consider Moodle, Zoom and Google Meet to be the most popular distance learning tools due to their relative ease in use and cost-effectiveness.

Surveys and analysis of the theoretical literature allowed to identify the main advantages and disadvantages of the introduction of distance education. Prospects for further research in this area are the need to improve the legal framework and scientific and methodological framework, ensuring an appropriate level of computer skills, competences in working with interactive technologies both teachers and applicants.

Key words: *distance education, higher educational establishments , Moodle, Zoom and Google Meet.*

Relevance of study. The current global economic and social crisis caused by the global pandemic has forced most people to think about remaining an in-demand specialist even within a tough competition of labor market. Today's new realities create their requirements for a XXI century-specialist, this person should be able to improve his/her professional level or even change a profession throughout life**.**

The era of innovative technologies significantly expands the possibilities of professional self-realization through almost unlimited access to acquire new knowledge and skills important for practical application in professional activities. Higher education in the modern world is becoming more widespread and no longer serves as a specialized training for various fields of life. Modern education focuses on the perception of the world in its complexity. In order to connect knowledge and actions, one should have constant training, supplementing and expanding one's knowledge and developing skills regardless of the circumstances. This is the goal of distance education.

At the same time, the expansion of access to higher education has been one of the urgent problems in the development of higher education institutions. Bringing educational activities closer to the residence of people, including the widespread introduction of distance learning is a common world trend. Eliminating the problem of distance between an applicant and an educational institution location, independence from the teacher, educational materials providing anywhere in the world, the possibility of creating a virtual classroom or laboratory - all these factors create the preconditions for mass use of distance education using modern educational technologies.

Recent publication review. The analysis of scientific and psychological-pedagogical sources, thesis research, which have appeared recently, are evident of significant attention to the problems of introduction of distance technologies in the educational process of higher

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education institutions. Scientific and pedagogical principles of distance learning were developed by native scientists V. Kukharenko, V. Oliinyk, V. Rybalko, N. Syrotenko, P. Stefanenko, M. Besedina, Y. Blinov, K. Vlasenko, V. Hura, N. Datsun, M. Us, T. Koicheva, V. Zhulkevska, S. Avdoshin, V. Domrachov, V. Zinchenko, M. Karpenko, T. Koshmanova, K. Korsak, E. Polat, P. Talanchuk, E. Verenich, V. Gritsenko, A. Hurzhiy, O. Dovgii, H. Kozlakova, I. Kozubovska, V. Kolos, S. Kudriavtseva, V. Saharda, O. Pichkar, P. Stefanenko, B. Shunevych and others.

Problems of distance learning have been considered by such foreign scientists as S. White, S. Guri-Rosenblit, R. Bell, J. Bloomstock, J. Blumenstock, D. Keegan, J. Koumi, J. Andersen, St. Wheeler, T. Edward and Russian scientists O. Andreiev, M. Moisieieva, Y. Polat, V. Soldatkin, A. Khutorskaia and others.

N. Korsunska, Yu. Pasichnyk, T. Smovzhenko, P. Stefanenko, V. Toroptsov considered the problems of using information technologies in pedagogical practice. The works of V. Oliinyk and V. Hravit are devoted to the organization of distance learning in postgraduate education. The work of V. Kukharenko and V. Bondarenko is devoted to the problem of emergency distance learning.

The article's objective is to consider the results of mass use of distance education in higher education institutions, to explore the most popular tools of distance education, to check the readiness of teachers and applicants to study at a distance, to identify positive and negative consequences of distance education.

Discussion. The trigger for the widespread use of distance education in educational institutions over the past year has been a global pandemic. Quick implementation of distance learning tools without negative influence on educational process became a great challenge for teachers and applicants.

Distance education as a form of learning appeared due to the development of postal services in the late 19th century. In 1969, the world's first distance learning university was founded in the United Kingdom. When developing teaching technologies for this university, English scientists carefully studied the work of European correspondent schools and distance learning of Soviet institutes. The resulting combination of these two forms of education is designed for independent work of applicants on an individual plan [10].

The term "distance education" was first officially used in the title of the International Conference on Distance Education, which was held in Vancouver, Canada in 1982. The term "distance" replaced the term "correspondent", which is why the International Council on Correspondence Education changed its name to the International Council on Distance Education [5, p. 30].

According to research by V. Kukharenko and V. Bondarenko, distance learning in Ukraine was first initiated at the National Technical University "Kharkiv Polytechnic Institute", Kharkiv National University of Radio Electronics and Lviv Institute of Management in 1997 [6].

In 2008, by order of the Ministry of Education and Science of Ukraine, the Ukrainian Center for Distance Education was established on the basis of the National Technical University "Kyiv Polytechnic Institute". The creation of the above-mentioned center was the beginning of experimental implementation of distance learning in Ukraine and contributed to the opening of a number of distance learning centers, namely: the National Academy of Public Administration under the President of Ukraine and its Regional Institutes in Kharkiv, Dnipro, Odessa and Lviv.

Sumy State University and Khmelnytsky National Technical University became the first universities to receive permission from the Ministry of Education and Science of Ukraine to conduct a distance learning experiment [6].

Recently, for obvious reasons, the attention of many scientists is focused on the problem of distance education. Most interpretations of this term are directed to the fact that modern distance education should be understood as a new organization of education based on the use of best traditional methods of acquiring knowledge and new information and telecommunications technologies, as well as the principles of self-education [9].

We agree with the opinion of N. Ivanshena that all modern technologies of distance education can be divided into three categories:

-non-interactive, including printed materials, audio and video media;

- computer training tools, which include electronic textbooks, computer testing and knowledge control, the latest multimedia tools;

- video conferencing, which are advanced means of telecommunications on audio channels, video channels and computer networks [2].

Under quarantine conditions, higher educational institutions are actively implementing distance education through Moodle, Zoom and Google Meet systems. Unfortunately, the choice of these means is due to their prevalence and absence of payment, rather than their educational potential.

The Moodle course management system is a specially designed system for creating distance courses by teachers and publishing them on the Web.

The word "Moodle" is an acronym for "Modular Object Oriented Dynamic Learning Environment". From the name of the system it is clear that it consists of a set of functional elements called modules and which are responsible for performing certain functions.

The system was first developed by Australian Martin Dougiamas and is now an open project involving a large number of other developers. The Moodle system is used in 175 countries around the world and is constantly evolving. According to research by a number of researchers, Moodle is distributed as an open source software under the GNUGPL license (General Public License) and is protected by current international and national copyright. However, the use of this system provides a number of additional freedoms and opportunities compared to conventional commercial software.

The availability of a wide range of modules, which are inherent in e-learning platforms, course management systems (CMS), learning management systems (LMS) or virtual learning environments (VLE) allows you to customize Moodle easily for the learning process of higher education [3].

During lectures, laboratory and practical classes in real time, the vast majority of teachers use Zoom and Google Meet, because they are free and easy to use.

Zoom and Google Meet are video conferencing services. Zoom was developed in 2011 and Google Meet was released in 2017.

There are some differences between the services regarding the number of participants and the required software, namely: the Google Meet service exists only in the form of web and mobile versions, and to run the Zoom system on a computer requires a desktop program. The maximum number of participants during the conference in Zoom is 100 people, in Google Meet - 250 people.

Zoom has the ability to create a conference and the ability to join it via a link. During the conference, teachers and applicants have the opportunity to chat, transfer files, change the background and show off their screen. During the screen demonstration, the teacher has access to the "Boards" function, where he/she can draw or make notes alone or together with conference participants. In addition, Zoom has a high quality transmitted image.

Among the minor disadvantages of Zoom conferences is that in the free version there is a limit of 40 minutes on the duration of the conference and the number of participants.

Google Meet allows you to create a new appointment, schedule it, or launch it instantly. In order to get to the "meeting", the applicant must request access by link or meeting number. Google Meet lets you turn on / off the camera and microphone, show browser or screen tabs, chat, share files, collaborate with Google Jamboard members, change the background, change the display mode of participants, and enable subtitles that appear automatically. Google Meet is available for free, but you must subscribe to Google Workspace Business Plus or Enterprise to record meetings and create a conference for 250 participants [8].

In order to determine the level of awareness of teachers and applicants in the theory of distance education, they were offered a test with 25 questions, each of which had 3 possible answers (a, b, c). The questions contained information on understanding the essence of the concept of "distance education", forms, methods, and means of distance learning. Each correct answer was evaluated in one point, so the maximum number of points that could be scored by a respondent was 25. Depending on the number of points, the following levels of knowledge were determined: 1-7 - *low*, 8-15 - *medium*, 16-20 - *sufficient*, 21-25- *high*.

The data obtained during the test showed that 15% of teachers and 11% of applicants (Table 1) have a low level of theoretical knowledge, 44% of teachers and 41% of applicants have an average level of theoretical knowledge, indicating low readiness to work remotely than fifty percent of applicants and teachers (Table 1). However, 48% of applicants and 41% of teachers have a sufficient and high level of theoretical knowledge (Table 1). As you can see, the students showed slightly better indicators of theoretical knowledge in distance education.

Table 1.

The results of testing teachers and applicants for the level of theoretical knowledge in distance education (by number of respondents)

	Teachers	Students	Total number of respondents
Low	30	14	44
Medium	109	40	149
Sufficient	60	24	84
High	70	13	83
	269	91	360

In order to identify the main reasons that hinder the effective implementation of distance education, we conducted a survey in which teachers and applicants were asked to name these reasons. Respondents were the following:

- insufficient level of theoretical knowledge and practical skills in the application and use of distance learning (30% of respondents);

- insufficient material and technical base, which would allow to fully implement and participate in distance learning (26% of respondents);

-lack of time for self-development due to excessive workload (teachers) and studies (applicants) (22% of respondents)

- psychological unwillingness to work remotely (11% of respondents) and other reasons (11% of respondents).

Other reasons cited by teachers and applicants included lack of network access in the region of residence, negative and stereotypical attitudes towards innovation in education.

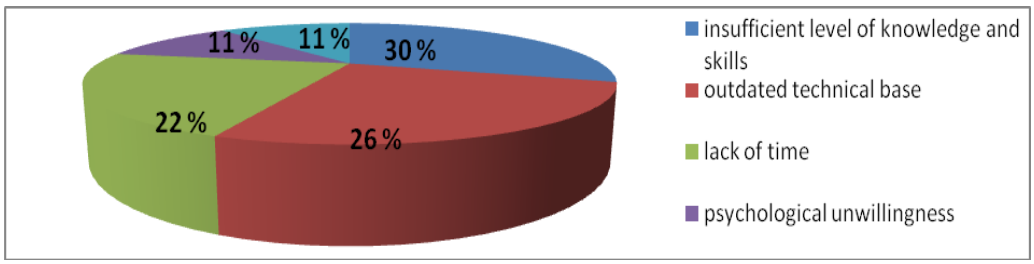

Fig. 1. Reasons hindering the effective implementation of distance education (as a percentage).

Thus, the main reason (Fig. 1.), which prevents teachers and applicants to work effectively in the distance learning mode is the lack of theoretical knowledge and practical skills. Other important reasons are insufficient time for self-development, outdated or missing material and technical base, psychological unwillingness to work remotely. These reasons account for 59% of the total.

Since the main reason for the effective implementation of distance education, most teachers and applicants noted the lack of theoretical knowledge and practical skills, we decided to ask them where they can get knowledge and skills for effective work and learning in distance format.

Respondents were asked to name several sources mentioning the most effective and favorable for them. Among 360 respondents, 209 respondents indicated methodological recommendations and trainings in higher education institutions at the place of work or study, 66 - methodical materials and educational videos on the Internet, 28 - online trainings and refresher courses, other sources - 57 respondents (Fig. 2).

Other sources of theoretical knowledge and skills for the implementation of distance education were: helping acquaintances and relatives to master the skills of working with distance platforms, self-education.

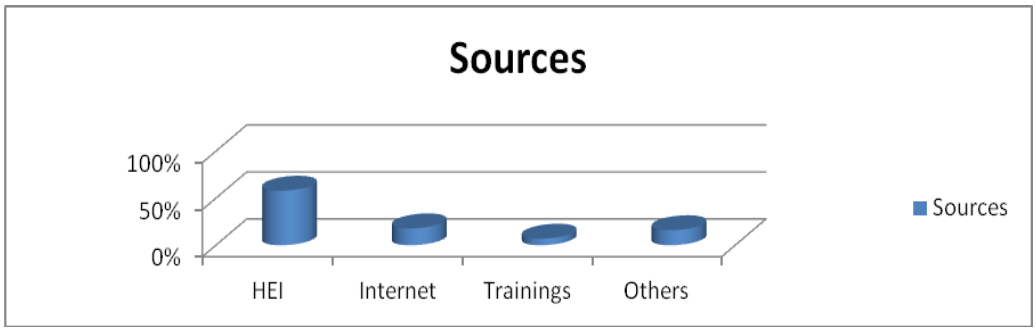

Fig. 1.2 Sources from which teachers and students received information on distance education (number of answers in%)

To understand how applicants themselves relate to distance education, we conducted a survey on the pros and cons of such education.

Among the advantages of distance learning mentioned by applicants were the following:

- the opportunity to study at home and spend more time in the family;
- the opportunity to study anywhere;
- no need to spend time on the road;
- on-line learning is new, non-standard, interesting;
- most of the work, tasks and tests are performed in electronic form, which reduces the amount of written workload;
- you can eat when you want;
- you can focus more on learning and avoid unnecessary communication with unwanted people;
- you can study in several educational institutions.
- you can combine study and work.

Applicants pointed out such disadvantages of distance education as:

- poor connection due to system congestion;
- lack of live communication;
- frequent problems with the Internet;
- it is not possible to work online;
- outdated technology that hinders quality learning;
- loss of interest and motivation to learn.
- lack of practical skills and abilities to work with remote platforms.

Thus, the main advantages of distance education include:

- the applicant has the opportunity to use their time more rationally and efficiently and is not tied to a specific place;
- the possibility of using in the educational process of new advances in information technology, that helps people to enter into the world information space;
- provides equal opportunities for education regardless of place and country of residence, health status and social status.

However, distance education also has certain disadvantages, among which the impact on the physical and mental health of both teachers and students is particularly dangerous, which is manifested in increased anxiety, depression, stress, fear.

Unfortunately, a survey conducted in the universities of the Netherlands found that distance learning causes students to have difficulty concentrating on learning, feeling lonely, and experiencing low mood [4].

According to research by a group of scientists, there are a number of factors that can have quite negative effects on the physical and mental health of participants in the distance learning process, among them:

- tension of the musculoskeletal system due to prolonged stay in a sitting position, which in turn can lead to such problems in the circulatory system as vegetative-vascular dystonia, hypotension, weakness of the heart muscle;
- Deterioration of vision due to prolonged periods of intense attention and constant harmful radiation can cause myopia, conjunctivitis, retinal and corneal diseases, in addition, prolonged tension of the eye muscles leads to fatigue, irritation, constant headaches.

- intellectual and emotional load due to a sharp change in the nature of learning, limited feedback between a teacher and a student, the need for the brain to process a huge flow of information can lead to fatigue, emotional instability, memory impairment, constant headaches [1].

In our opinion, modern distance education poses much greater challenges to teachers, as most of them belong to those who began to master information technology at a fairly mature age, i.e. they belong to the generation of *digital emigrants*, than to most students who met with modern technology at a fairly early age and belong to *digital natives* [12].

According to many researchers, the necessary conditions for distance education are not only access to computers and the Internet and the availability of appropriate technical support, but also the desire of applicants to learn, and teachers - to teach. This is very important for the effectiveness of the whole educational process.

Conclusions. The study allows us to conclude that the problem of introducing distance education in higher education institutions of Ukraine is not yet fully resolved. In order for distance learning to become a full-fledged form of learning for those who need it, it is necessary to solve many issues and problems: improving the legal and scientific-methodological framework, providing appropriate technical means and ensuring appropriate levels of computer skills. on the Internet, the use of interactive learning technologies by both teachers and applicants.

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Олена РЕЗУНОВА, Валерія РЕЗУНОВА

ДИСТАНЦІЙНА ОСВІТА В ЗАКЛАДАХ ВИЩОЇ ОСВІТИ: ВИКЛИК СЬОГОДЕННЯ ЧИ РЕАЛЬНІСТЬ.

Анотація. Не дивлячись на те, що дистанційна освіта з'явилася майже три століття тому, значного розповсюдження в закладах вищої вона почала набувати з 2019 року, тобто з початку пандемії.

Статтю присвячено вивченню проблеми масового застосування дистанційної освіти в закладах вищої освіти та її впливу на процес навчання. Авторками робиться спроба уточнити сутність поняття «дистанційна освіта» в історичному розрізі. Було досліджено, що більшість сучасних науковців під дистанційною освітою розуміє нову організацію освіти, що ґрунтується на використанні як кращих традиційних методів отримання знань, так і нових інформаційних та телекомунікаційних технологій, а також на принципах самоосвіти. Виявлено, що основні технології дистанційної освіти можна розділити на три категорії: неінтерактивні (друковані матеріали, аудіо та відео-носії); засоби комп'ютерного навчання (електронні підручники, комп'ютерне тестування, новітні засоби мультимедіа); відео конференції (засоби телекомунікації по аудиоканалам, відеоканалам і комп'ютерним мережам).

В статті розглядають системи Moodle, Zoom та Google Meet як ті, що є найпопулярнішими інструментами дистанційної освіти завдяки відносній простоті у використанні та економічній ефективності.

Проведе авторками тестування виявило, що лише 50 відсотків здобувачів та викладачів мають достатній рівень володіння теоретичними знаннями, пов'язаними з застосуванням дистанційних платформ.

Крім того, опитування викладачів та студентів дозволило виявити основні причини, які перешкоджають ефективному впровадженню дистанційної освіти, а саме: недостатній рівень володіння теоретичними знаннями та практичними уміннями щодо застосування та використання дистанційної форми навчання, недостатня матеріально-технічна база, яка б дозволяла повноцінно здійснювати та брати участь в дистанційному навчанні, нестача часу на саморозвиток через надмірне навантаження роботою чи навчанням, психологічна неготовність до роботи в дистанційному форматі.

Проведене опитування та аналіз теоретичної літератури дозволив виокремити основні переваги та недоліки від впровадження дистанційної освіти. Основними плюсами дистанційної освіти є те, що вона дозволяє здобувачеві навчатися більш раціонально й ефективно, не прив'язуючись до конкретного місця; надає можливість використання в навчальному процесі нових досягнень інформаційних технологій та надає рівні можливості для одержання освіти незалежно від місця та країни проживання, стану здоров'я і соціального статусу. Проте дистанційна освіта має й певні недоліки, серед яких особливо небезпечним є вплив на фізичне та психічне здоров'я як викладачів так і здобувачів, що виявляється в підвищені тривожності, депресії, стресі, страху.

Перспективами подальших досліджень у даному напрямку є необхідність покращення нормативно-правої та науково-методичної бази, забезпечення відповідного рівня володіння комп'ютерною технікою, навичками роботи з інтерактивними технологіями як викладачами так і здобувачами.

Ключові слова: *дистанційна освіта, заклади вищої освіти, Moodle, Zoom та Google Meet*