SEARCHING FOR WAYS TO IMPROVE
THE FORCED DISTANCE LEARNING OF STUDENTS[1]

ПОШУК ШЛЯХІВ УДОСКОНАЛЕННЯ ВИМУШЕНОГО ДИСТАНЦІЙНОГО НАВЧАННЯ ЗДОБУВАЧІВ ОСВІТИ

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First, the coronavirus pandemic, and then the war caused the search for ways to organize the educational process. Education is undoubtedly important for any country in the world, so it is necessary to organise the educational process at a high quality level under any conditions. Thanks to information technologies, it has become possible to study at a distance online. However, educators had to face a number of difficulties when implementing the educational process in a distance format. The purpose of this study is to analyze the problem of organizing distance learning in the conditions of the pandemic and russian aggression and to identify ways to improve forced distance learning in Ukraine. The main research methods that were used in writing the article are statistical, graphic, analysis and synthesis. Distance learning has become a challenge not only for students but also for teachers. There are problems in the process of working remotely during quarantine: technical competence of teachers and students; registration and communication procedures, meaningful structuring of information flow; remote schedule and workload optimisation; multitasking; personal space as a learning environment; electronic dean's office. In the article, the authors analyzed statistical data on the number of education seekers and educational institutions in which classes were held in various formats: distance, face-to-face, and mixed. Four teaching models are explored in the article: correspondence, tele-education, multimedia, virtual. Authors distinguish certain types of learning: traditional learning, synchronous learning, blended learning, and revel the essence of them. Authors analyzed platforms such as Moodle, Google Classroom, which can be used for study and communication, or an educational institution can use its own developed learning platform, such as MIX SumDU at Sumy State University. Analyzing the essence

МЕНЕДЖМЕНТ

of distance education and e-learning, authors conclude that the idea is not new, as its elements are implemented in educational process. The development of distance education in Ukraine continues and it is enhanced by the development of the Internet and the improvement of distance learning methods.

Key words: distance learning, education, educational institutions, students, teachers.

Спочатку пандемія коронавірусу, а потім і війна стали причиною пошуку шляхів організації навчального процесу. Освіта, безсумнівно, важлива для будь-якої країни світу, тому організувати навчальний процес на високому якісному рівні необхідно за будь-яких умов. Завдяки інформаційним технологіям стало можливим навчання онлайн. Проте при реалізації освітнього процесу в дистанційному форматі освітянам довелося зіткнутися з низкою труднощів. Метою цього дослідження є аналіз проблеми організації дистанційного навчання в умовах пандемії та російської агресії, визначення шляхів удосконалення вимушеного дистанційного навчання в Україні. Основними методами дослідження, які були використані при написанні статті, є статистичний, графічний методи, аналіз та синтез. Дистанційне навчання стало викликом не лише для студентів, а й для викладачів. У процесі дистанційної роботи під час карантину виникли такі проблеми: технічна компетентність викладачів та студентів; процедури реєстрації та спілкування, змістовне структурування інформаційного потоку; дистанційна оптимізація графіка та навантаження; багатозадачність; особистий простір як навчальне середовище; електронний деканат. У статті автори проаналізували статистичні дані щодо кількості здобувачів освіти та навчальних закладів, у яких заняття проводились у різних форматах: дистанційному, очному та змішаному. У статті досліджуються чотири моделі навчання: заочна, дистанційна, мультимедійна, віртуальна. Автори виділяють окремі види навчання: традиційне навчання, синхронне навчання, змішане навчання та розкривають їх сутність. Автори проаналізували такі платформи, як Moodle, Google Classroom, які можуть бути використані для навчання та спілкування, або навчальний заклад може використовувати власну розроблену навчальну платформу, наприклад МІХ в СумДУ. Аналізуючи сутність дистанційної освіти та електронного навчання, автори дійшли висновку, що ця ідея не є новою, оскільки її елементи впроваджуються в навчальний процес. Розвиток дистанційної освіти в Україні продовжується і цьому сприяє Інтернет та вдосконалення методів дистанційного навчання.

Ключові слова: дистанційне навчання, освіта, навчальні заклади, студенти, викладачі.

Formulation of the problem. The instability of the situation in the world (caused by COVID-19 pandemic, war), the development of information technology by society, and the introduction of modernised approaches to education have made it necessary to adapt the educational process to the online format. The rapid development of technology, which we see in every area of life, is also being implemented in the learning process. Modern technology gives us the opportunity to adapt the learning process to our own schedule, to work at our own pace and at any time convenient for us. However, this global revolution in the educational process was not caused by positive circumstances, and distance learning is not an alternative to traditional education. Of course, students need to go to school, learn, develop, communicate, socialise, etc. Today, ministries of education around the world are forced to adapt and reorganise their work to a remote mode due to the instability of the external environment and the situation in the world. The coronavirus pandemic has forced many educators to adapt the organisation of the educational process and provide distance learning. However, the war in Ukraine has made new adjustments to education. Air raids, hostilities and other war-related causes are forcing the management of educational institutions to develop a different curriculum and adapt to the unstable situation in the country.

Analysis of recent research and publications. Recently, distance learning methods have been actively researched and various options for the development of distance education have been considered [1; 2; 3]. Effective methods of improving the quality of distance education with the help of information technologies were studied in works [4; 5; 6]. But despite significant research, a single method of distance education still does not function in Ukraine, each educational institution conducts and modernizes training according to its own unique method.

The purpose of research. The purpose of this study is to analyze the problem of organizing distance learning in the conditions of the pandemic and russian aggression and to identify ways to improve forced distance learning in Ukraine. The main research methods that were used in writing the article are statistical, graphic, analysis and synthesis.

Presentation of the main research material. Distance learning is understood as remote interaction between a student and a teacher. Education that reflects all the components inherent in the educational process and with the help of special means (Internet technologies or interactivity). However, there is an official definition of distance learning in the Regulation

МЕНЕДЖМЕНТ

on Distance Learning for Complete General Secondary Education, approved by the Order of the Ministry of Education and Science of 8 September 2020 No. 1115: "distance learning is the organisation of the educational process (by distance learning or through the use of distance learning technologies in various forms of education) in conditions of remoteness of its participants from each other and their usually indirect interaction in an educational environment that operates on the basis of modern educational, information and communication technologies [7, p. 1]. This provision also approves the mechanisms for obtaining education by distance learning with the involvement of various distance education technologies, and also refers to the interest of students in learning:

1. the organisation of the educational process should guarantee constant and high-quality interaction between the teacher and students;

2. during the implementation of distance learning, all appropriate conditions should be created to ensure full participation in the educational process of persons with the obligatory consideration of the individual development programme;

3. the educational institution must ensure monitoring of students' academic achievements and, if they need support and assistance, provide it to them;

4. the educational process is carried out in compliance with the protection of personal data and the rules for scheduling classes, taking into account eye exercises and the duration of one class with the use of technical devices.

For those students who are unable to attend and communicate with the teacher during synchronous learning for valid reasons, the educational institution provides training in another way, such as telephone or postal communication.

In the Figure 1, we can see information about students of higher education institutions and schools over 3 years. A decline is observed during the studied period.

Distance learning formats have many characteristics compared to face-to-face learning formats. Traditionally, in this case, the main responsibility for monitoring learning lies with the learner, while the effectiveness of learning depends on self-motivation and self-discipline. The student plans their own learning and self-preparation to mark their progress in the learning process. At the same time, an inherent advantage of distance learning is that it can be integrated into the daily schedule. the degree of fatigue, time and financial costs associated with mobility to the place of study are important.

There are 4 main models of teaching in distance learning:

1. The first model is correspondence (work with paper materials). Learning takes place only with the help of paper materials. This model allows students to choose a convenient, individual study schedule and pace of work. However, this methodology has disadvantages, namely, the lack of communication and feedback from the student to the teacher;

2. The second model of teaching is tele-education (conferences). This model is consi-
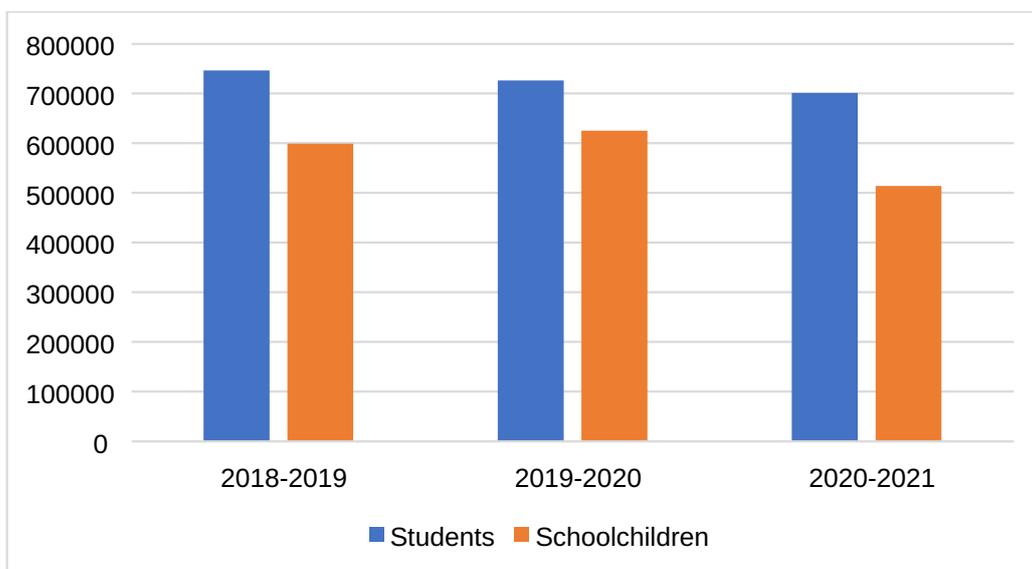
Fig. 1. The number of education recipients in 2018–2021

Source: formed by the author on the basis of statistical information from [8]

dered to be the most effective, as it involves various types of communication, namely audio and video materials, conferences. This ensures quality interaction between the student and the teacher.

3. The third model of learning is multimedia (audio discs, video materials, computer). Discs and multimedia are involved in the teaching process, and a computer is used to use and play video materials.

4. The fourth model of learning: virtual (interactive Internet tools). This model of learning involves the full implementation of training with the help of Internet resources to provide students with access to learning materials, as well as for communication between the teacher and the student [4, p. 6].

Distance education is a fairly broad area of study, and we can distinguish between the following areas:

1. Learning through information technology. This training includes education using a computer and the Internet.

2. Learning with the help of computer technologies. Computers are used to transfer materials and assignments.

3. Learning with the help of Internet resources. This type of learning is based on the transfer of knowledge and its verification, communication between educators.

The selected types of distance education are used with the help of information technologies. However, it is more common to see a model that combines However, it is more common to see a model that combines learning with the use of innovative technologies and traditional education. Based on this, we can distinguish certain types of learning:

Traditional learning. Teaching during which the teacher is in the same room with a group of students, schoolchildren. Classes most often take place in an educational institution.

Synchronous learning. Learning takes place in real time, according to a set schedule, but online via the Internet. The teacher and students join the same learning platform.

Blended learning. This type of learning combines traditional and synchronous learning models. Most often, this type is found in universities, where lectures are held online and practical classes are held in the classroom.

Distance learning has become a challenge not only for students but also for teachers. Remote classes, no students, no opportunity to explain and help in person when questions arise. However, due to the unstable situation in the world, it was necessary to make adjustments to teaching methods and force everyone to urgently master digital tools and new teaching methods. Using digital learning for organisational purposes, inspiring and motivating students, and advising on technical issues has proven to be quite a challenge. But Ukraine is no exception - the whole world was not ready for this.

We can see a graph (fig. 2) that shows the number of students studying in different forms of education in Ukraine. Education takes place in 12,916 schools: 3,083 in the traditional format (offline); 6,330 in online mode; 3,503 mixed [9].

The interaction of all participants in the educational process is one of the most important factors for the successful organisation of a successful process. When teachers and lecturers are unable to interact with their students, the relationship between the administration of the educational institution, teachers, and students becomes especially important. The administration of an educational institution assumes responsibility for organising distance learning.

Since the beginning of the full-scale invasion of Ukraine, educational activities have been suspended, but Ukraine is resisting the Russian aggressor with dignity. Ukrainian teachers are holding the educational front with dignity and continue to teach our children. Of course, traditional education cannot be fully restored in the current environment, so distance education prevails in educational institutions. The organisation of distance learning for students in a synchronous mode is carried out using distance learning platforms: Moodle, Google Classroom, as well as platforms developed by the educational institution itself. In the process of using these learning platforms, the teacher creates his/her own e-classroom and registers students there. In the newly created eLearning course, the teacher posts teaching materials, presentations, videos, assignments, and links to other educational resources. Students read the learning materials and complete the assignments and upload them to the distance learning platform. The teacher checks and evaluates the students' assignments and writes appropriate comments on the work.

Analysing the essence of distance education and e-learning, we can conclude that the idea is not new, as its elements are implemented in distance learning. However, many authors argue that part-time study cannot be compared to distance learning. E-learning is just a refuted version of distance learning. Judging by the educational experience, it is much easier to
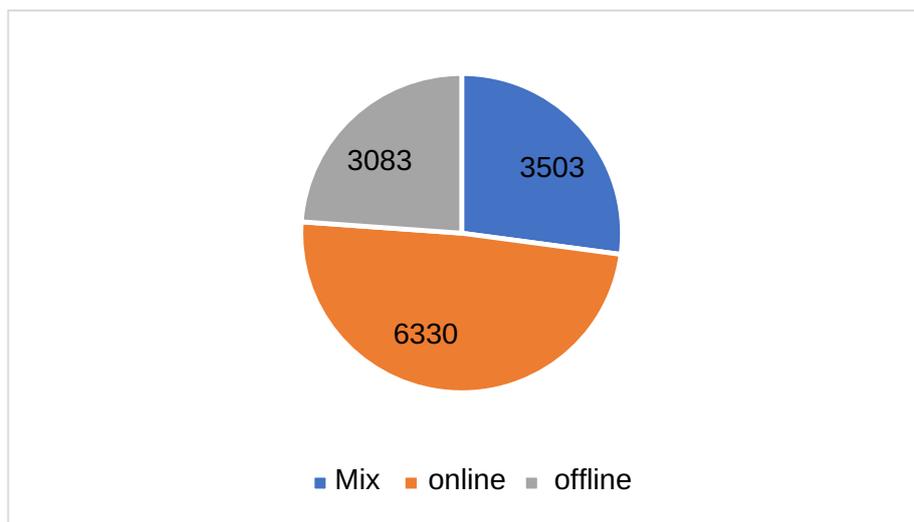
Fig. 2. Education in different forms of studing process in 2022 in Ukraine

Source: formed by the author on the basis of statistical information from [9]

implement and introduce distance learning in institutions that have already had experience with part-time education. However, it is necessary to clearly understand the fundamental differences between e-learning standards and new ideas of distance learning.

As noted in [5, p. 93], the following problems were identified in the process of working remotely during quarantine: technical competence of teachers and students; registration and communication procedures, meaningful structuring of information flow; remote schedule and workload optimisation; multitasking; personal space as a learning environment; electronic dean's office.

The organization of distance learning requires the acquisition of specific competence by both teachers and students. It includes for teachers: knowledge of the possibilities and available resources for distance education: educational platforms, programs, techniques and tools; mastery of the methodology of transformation of traditional courses into e-format; mastery of the technique of digitalization of educational tasks. For students, this is knowledge of registration procedures on the platform; possession of e-communication culture, ability to work with information and perform tasks in e-format; ability to use e-tutorials and feedback; skills of self-assessment of one's own success.

The main problem with registering students on the platform or inviting them to webinars was that the email addresses of students changed from time to time. This problem can be solved by creating a single system of student e-mail addresses for educational purposes only, based

on corporate address types, as is done in Western universities.

The transition to working from home only during the COVID-19 quarantine has greatly increased the flow of information from various sources and disciplines at the university. The lack of skill and culture of communication in electronic form has led to the appearance of a lot of "noise" and spam in business documents. This made coordination of actions and timely access to necessary documents difficult. The solution to this problem is the creation of a markup of documents by content in accordance with agreed standards, structuring and transferring them to the appropriate databases, creating a manual on business electronic communication for employees, teachers and students.

With distance learning, the number of students in a group does not depend on the number of places and the number of seats. This allows you to optimize your lesson plans by combining groups working on the same program. Educational platforms allow all students to participate in different types of tasks at the same time. At the same time, this leads to an improvement in the quality of the educational process, but significantly increases the intensity of the teacher's work, the time of preparing for distance learning, and the time of reviewing the student's tasks on the platform. If the subject course is set by the teacher, it is advisable to optimize the lesson plan without reducing the number of students. Reducing the workload of the teacher due to the unification of groups can stimulate the quality of remote classes by freeing up time for their preparation and checking tasks

МЕНЕДЖМЕНТ

on the platform, which should be included in the workload of the first half of the day. Optimization of the class schedule and use of the classroom fund is also possible with mixed education.

To overcome these difficulties, educational institutions are constantly working on new teaching methods. For example, the difficulties of Internet instability and power grid instability are overcome by recording classes and taking into account the conditions of the student or pupil by the teacher.

In order to improve forced distance learning, it is necessary to assess the quality of education in the current environment. First of all, it is necessary to understand whether the information is up-to-date and can be used in practice, which is necessary for distance education to be useful and of high quality. In addition, you need to work on the design of learning materials (lectures, presentations, websites). This is necessary for the student to better perceive the information visually and form a general impression of the teacher and the effectiveness of the training itself. It is also undoubtedly necessary to work on the presentation and style of teaching the material, as this is the key to the interest of students and, especially, schoolchildren.

Long-term distance learning should take place using special online platforms. This is necessary for the comfort of the teacher and the student (pupil). Platforms such as Moodle, Google Classroom can be used, or an educational institution can use its own developed learning platform, such as MIX SumDU at Sumy State University [3]. A variety of project or research tasks will also help teachers to provide a variety of learning experiences and interest students and pupils, and most of these tasks are done asynchronously. One of the varieties of such learning is the "flipped classroom" technology, which involves providing students with material for self-study before class: it can be a video, analysis of problem situations, studying a test, etc.

Conclusion. Computer technology, which is one of the tools of knowledge, is becoming increasingly popular in various spheres of modern society, where information technology is advancing. The rapid development of globalisation is affecting all areas of people's lives, including personal, social and cultural. Satellite communications and the Internet break down all barriers in the modern world. Therefore, one of the main tasks of modern education is to train freely mobile specialists in the global information space who have the knowledge and skills to search, process and store information using modern computer technologies. Distance learning is designed to serve you in the global educational space. It is an effective complement to traditional forms of education as a means of partially solving urgent problems. It provides students with access to non-traditional sources of information, increases the effectiveness of independent work, opens up completely new opportunities for creativity, finds and integrates various professional skills, and is mainly implemented by teachers. it is possible. New forms and methods of teaching are using conceptual modelling of phenomena and processes. The development of distance learning in the Ukrainian education system continues and is enhanced by the development of Internet and the improvement of distance learning methods. An urgent area for further work is to analyse the position of Ukrainian distance education in the theory and practice of higher education institutions, to clarify the essence of the basic concepts, to theoretically substantiate the psychological and pedagogical foundations of the development and use of distance learning technologies.

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