

## ORGANIZATION OF THE EDUCATIONAL PROCESS AT THE MYKOLAIV NATIONAL AGRARIAN UNIVERSITY IN MODERN CONDITIONS

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**Анотація.** Мінливі умови сьогодення суттєво обмежують можливість молоді здобувати вищу освіту, фізично відвідувати заклади вищої освіти. Якщо під час пандемії COVID-19 фізичне обмеження контактів було зрозумілим, мінімізація розповсюдження вірусу, то в умовах війни, останні два роки, відстаючи свою державність та незалежність, треба думати про безпеку громадян. На жаль, молодь України опинилася в жахливих умовах сьогодення: постійні психологічні стреси, пов'язані з військовою агресією, втрата друзів, близьких. В наш час, мінливості та невизначеності, для молоді пріоритетом є здобуття освіти та набуття компетентностей для відбудови країни [1]. Але в регіонах де ще тривають активні бойові дії, у зонах можливого обстрілу заняття в аудиторіях небезпечні. Такі обставини підштовхнули освітян до пошуку нових форм та форматів навчання.

**Ключові слова:** обмеження, невизначеність, вища освіта, дистанційний режим, процес змішаного навчання, інноваційні моделі.

**Abstract.** Today's changing conditions significantly limit the opportunity for young people to obtain higher education, to physically attend institutions of higher education. If during the COVID-19 pandemic, the physical limitation of contacts was clear, the minimization of the spread of the virus, then in the conditions of war, the last two years lagging behind our statehood and independence, we must think about the danger of citizens. Unfortunately, the youth of Ukraine found themselves in terrible conditions today: constant psychological stress associated with military aggression, loss of friends and loved ones. In our time of change and uncertainty, the priority for young people is to get an education and acquire competences for the reconstruction of the country. But in regions where active hostilities are still ongoing, in areas of possible shelling, classes in classrooms are dangerous.

**Keywords:** limitations, uncertainty, higher education, remote mode, mixed learning process, innovative models.

**Formulation of the problem.** The COVID-19 pandemic brought significant changes to the educational process of institutions of higher education of Ukraine. It forced educators to adapt and reorganize their educational work to remote mode. The war brought new challenges for educators to Ukraine: the forced resettlement of youth and pedagogs, the destruction of settlements and institutions of higher education, the organization of their work in new conditions, in new places,

sometimes in terrible conditions, the dropping out of the educational process of individual education seekers and entire academic groups due to air alarms, hostilities, and other war-related causes.

In such conditions, a safe educational environment is needed, which would meet all the requirements for the organization of the educational process [2]. In armed conflicts, the issue of preserving institutions of higher education as a safe space is extremely acute. It is necessary to change training formats more effectively depending on the security situation. Although it is very difficult to organize the educational process in the conditions of war, a mixed form of education is a way out of the current situation. The problem is also due to the insufficient use of digital technologies for the implementation of mixed learning in institutions of higher education, the available means of material and technical support for pedagogs and the capabilities of the institution of higher education.

Therefore, it is currently important to develop recommendations for the use of digital technologies in the process of mixed learning in institutions of higher education, to research innovative models, principles and methods of their formation and use, and to determine the most appropriate ways of their implementation.

**Analysis of recent research and publications.** Scientists such as V. Boguta, I. Batsurovska, A. Haleeva, N. Dotsenko, I. Silyutina, M. Shevchenko thoroughly researched all aspects of distance education, the peculiarities of the functioning institutions of higher education during wartime. Domestic scientists quickly accumulated scientific efforts in view of the extreme urgency of such a topic as education during the war and the need to find quick solutions to preserve the educational process as much as possible in the conditions of martial law. Such a topic can be found in the scientific publications of O. Vishnevskaya, T. Kornisheva, S. Nagornyak, N. Sharata, and V. Shebanin. In addition, the conditions under which the adaptation institutions of higher education takes place in connection with the course of the war were vividly discussed in scientific works.

Since the beginning of restrictions on the opportunities of young people to obtain higher education, researchers have traditionally noted the advantages of distance learning, which are the effectiveness of the use of information and computer technologies. Such scientists as M. Andrievska, O. Zhuk, Yu. Bykova, V. Kovalenko, I. Kramarenko, M. Kuharenko, O. Lytvynenko, O. Mondych, Yu. Oleinyk, T. Oleinyk noted the advantages and disadvantages in their research full-time training during the war.

**Formation of goal.** To justify the peculiarities and mechanisms of implementation of mixed learning technologies in institutions of higher education in wartime conditions. To investigate the process of using digital technologies in the process of mixed learning in institutions of higher education regarding the positive impact on the organization of the educational process; conditions for the development of new forms, methods and technologies of education; ensuring an increase in

the level of ICT-competences and pedagogical competence of the teaching staff, which, in turn, will lead to positive qualitative changes in the organization of activities of participants in the educational process institutions of higher education.

**Presenting main material.** In recent years, which have been uncertain and changeable for Ukraine, the educational process has changed significantly. It has become more saturated with digital technologies, there have been many more of them, and they have started to be used more often [3]. Educators considered the 2019 coronavirus pandemic a significant challenge for all participants in the educational process. The introduction of quarantine restrictions divided educators into two camps:

- the first - there were a majority of them, they were ready for distance learning conditions, they possessed computer and digital technologies;

- the second - there was a smaller share of them, they did not consider it necessary to develop their competences, and their knowledge of computer and digital technologies was at a low level.

But the development of the emergency situation related to the pandemic, not only in Ukraine, but throughout the world, forces all participants in the educational process to restructure on the go. This gave its positive results: the management institutions of higher education changed the organization of the educational process and the conditions for its implementation; pedagogs acquire and deepen their knowledge of mastering computer and digital technologies, develop new innovative methods of conducting classes, change the forms of conducting them [4]; students of higher education are adapting to the new conditions of the educational process, learning/improving the use of computer and digital technologies. In institutions of higher education, unprecedented security measures are being implemented, up to the point of transferring the educational process to distance education.

As time passed, the introduction of security measures, both individual and collective, stabilized the tense situation [5]. First in some, then in many institutions of higher education, they began to reorganize the educational process. Full distance education changed its form, the mandatory element of which was a mixed form, in which a part of the participants of the educational process was engaged in remotely, the second part was in the classrooms.

The war created additional crisis contexts for the functioning of most institutions of higher education due to the security situation in the country. In the eastern and southern regions of the country, the state of war directly affected the format of education. The question arose of the possible provision of educational services in a way that would guarantee the preservation of life, physical and psychological health of all subjects of the educational process.

Of course, the beginning of full-scale aggression was unexpected for the citizens of our country, in particular for educators. In the first days, it was necessary to understand what happened and determine safety measures for the participants of the educational process. Education in educational institutions was suspended, and three weeks later it was resumed remotely.

The first year of the war showed that the administration of institutions of higher education, pedagogues and other participants in the educational process can cope with difficulties in hunting and uncertain conditions. The material and technical base is being strengthened, the quality of the wired/wireless Internet is improving, and the organization and conditions of the educational process are being improved.

Mykolaiv National Agrarian University introduced a mixed form of organization of the educational process according to the schedule of classes starting from January 2023. Part of those who obtained higher education went to study in the classroom. These are the young people who stayed in the city for various reasons. Others, the majority of them, attended classes from different parts of Ukraine and from abroad using computer and digital technologies. The educational process received an effective, at that time, form of organization of the educational process.

The continuation of the educational process took place thanks to the use of digital technologies, which were and remain one of the options for solving the problems that have arisen. A mixed form of education is a promising direction of education development in today's changing conditions and uncertain realities [6].

Studying scientific works, we found out that this form of education has other names. In their works, researchers call this form of learning hybrid and combined learning. In the publications of such scientists as I. Batsurovska, N. Dotsenko, V. Oliinyk, O. Samoilenko, blended learning is called integrated. All these terms generally refer to the integration of online learning tools and techniques with traditional methods.

Based on the analysis of different views of scientists, mixed learning is an educational technology that combines the means and techniques of e-learning with traditional methods [7]. The elements that characterize mixed learning are: group classes that take place in classrooms, independent learning; group classes conducted online; self-study, both in classrooms and online; using electronic educational resources, supplementing face-to-face lessons with interactive and easily accessible educational materials.

The policy of the Mykolaiv National Agrarian University administration is aimed at continuing the educational process with the use of digital technologies. Despite the circumstances that occurred in 2023, the city of Mykolaiv was removed from the zone of active hostilities thanks to the efforts of the armed forces of Ukraine, there are still extraordinary circumstances that make it impossible for young people to attend an educational institution. In such threatening conditions, the

combination of traditional and online education in various proportions makes the learning process as accessible as possible for young people studying at the university.

Mixed learning involves the use of different approaches, methods of presenting material, types of work, which is group or independent, depending on the place of the lesson: classroom or remotely. There is also a combination of various forms and systems of education, which characterize the concept of a mixed format of education: - firstly, it is classroom training - training that involves direct contact between students and the pedagogue in classrooms according to the schedule of classes: lectures, practical classes, seminars, master classes, trainings, etc; - secondly - interactive training - training on the Internet, it is carried out with the help of an instrumental environment. The pedagogues of the Mykolaiv National Agrarian University (MNAU) use many interactive forms of education: electronic training courses, virtual classes and laboratories, conference calls, individual counseling by e-mail, discussion forums, chats, blogs, webinars, seminars, etc; - thirdly - training with the support of various other means [8] - new educational materials were developed: Web sites, Web lectures, Web books, video materials, etc.

As we can see, in the mixed form of education, enough combinations of various forms and systems of education are used, let's consider them from the point of view of the peculiarities of the selection of digital technologies for the implementation of mixed education.

A variety of digital technologies are used to organize mixed learning, especially cloud-based learning systems are often used. In their work with young people, the pedagogues of MNAU quite often use video materials. Taking into account the requirements for the use of video materials, pedagogues use the following options for working with video in their work: 1) creation of a video by a pedagogue; 2) editing an already made video; 3) creating a video by adding an audio explanation to the presentation; 4) creating a video with personal commenting; 5) creating a video lesson of a lecture; 6) creating an animation.

There are certain groups of criteria for the selection of digital technologies for the implementation of mixed learning, which improve the quality indicators of information and communication technologies of learning, for example: to maintain the attention of students present at classes, the duration of the educational video fragment should not exceed 10 minutes. There are other criteria that should be taken into account when implementing mixed learning in institutions of higher education [9], in particular, they are implemented at MNAU.

Criterion № 1. Multimedia and forms of presentation of educational material: free use by all participants of the educational process; availability of specialized equipment and tools for conducting classes - availability of scientific and research laboratories, conducting necessary experiments, use of formulas and special symbols; presentation of information in various forms: text, graphics, audio and video, multimedia; the possibility of converting information from one form

to another; taking into account the individual characteristics of the perception of the student of higher education; increasing visibility: use of augmented reality; realistic representation of objects and phenomena: conducting lectures and practical classes using interactive teaching methods.

Criterion № 2. Interaction with educational content: availability of services for communication between participants of the educational process, fast and logical search by content; creation of tools and services for working with the necessary information: selection of text fragments, creation of notes and bookmarks, addition of individual elements to the content, etc.; interactive modeling of processes and phenomena, processes, uncertain situations for which instant decisions must be made; availability of tools for conducting lessons in real time: video conferences, messengers; operational evaluation of the performance of tasks of practical training, self-training; availability of tools for evaluating student achievements.

Criterion № 3. Presentation of information: the possibility of organizing training for all higher education applicants of the same group at the same time; availability of tools for organizing educational material; due to different levels of nesting of educational material, compact placement of large volumes of information; the possibility of organizing simultaneous training of several academic groups in parallel; ease of navigation by default, including interactive content, etc.; establishment of materially expressed logical relationships between information portals: intersubject communication; the possibility of adding contextual hints or comments.

Criterion № 4. Variability of the content of the educational material: availability of a variety of tools for organizing the educational process for most of the disciplines being studied; implementation of the principle of variability; submission of information at the student's request, manifestation of selectivity to necessary/important information, implementation of an individual educational trajectory; comprehensive coverage of the studied material using various combinations of interrelated content fragments presented in various forms: text, graphics, sound, multimedia; implementation of different level differentiation of education.

There is no need to prove the relevance of the mixed form of education at MNAU. This model of teaching is actively developing and has certain components, namely: a combination of face-to-face and online learning, technologies and methodology. Special advantages of the specified learning process are: asynchronous mode of operation; the possibility of creating a model of the educational process; application of productive methods of conducting classes; training in small groups, the possibility of conducting research methods, trainings, master classes, business games, testing technologies; development and provision of training content in electronic form, creation of a base for independent mastery of the training course; organization of the system of control and self-control, initial and final control of knowledge; combination of classroom classes with online trainings, interaction in the network. There are many models of mixed learning: simple, complex,

more and less popular. But duality should be mandatory: face-to-face and online education in different proportions. That is, with mixed learning, next to the traditional environment, there is an online environment without the physical presence of those who study in the classroom, but this does not prevent students from learning the educational material.

In mixed education, there are modes of communication, when organizing the educational process, synchronous and asynchronous modes of communication are used [10]. When choosing modes of communication, the circumstances under which young people will study should be taken into account. If the participants of the educational process choose the synchronous learning mode, it involves interaction between subjects of distance learning. The participants of the educational process are simultaneously in the electronic educational environment, and can communicate using audio or video conferencing. If the participants of the educational process choose the asynchronous mode, it involves interaction between subjects of distance learning, during which the participants of the educational process will interact with each other with a time delay, while using interactive educational platforms, e-mail, forums, chats, social networks, etc.

At MNAU, from the very beginning, the mixed form of education is organized in synchronous mode, and the rest of the study time in asynchronous mode. But the pedagogue is allowed to independently choose a model of combining synchronous and asynchronous learning modes, to fill these components with educational activities.

But in practice, there are certain difficulties in the implementation of mixed learning, such as: - organizational: overcoming the barrier, regarding the effective use of mixed learning; establishing control over elements of mixed learning and managing and monitoring learning progress; - technical: providing the participants of the educational process with step-by-step input technologies, from simple to complex, in the reality of mixed learning; gradualism in the desire to use technology.

Careful planning of the educational process in any discipline or in general should determine at what stages the cooperation of the teacher with those studying in the classrooms is necessary and when network work is needed. It is necessary to have a purpose, carefully defined goals of the educational activity of this training format, to provide the participants with requirements for evaluating activities in individual tasks and in disciplines as a whole, coordination of all elements of the course, the order of studying the educational material.

In connection with the constant changes in the forms of distance learning (under the influence of circumstances), there is a confusion of concepts regarding the implementation of distance and mixed learning. Analyzing the scientific publications of leading specialists, we claim that mixed learning in the classical sense is a constant combination of remote and face-to-face

forms of work, or even face-to-face with and without the use of information and computer technologies.

Today there is a need, and it is happening, to transfer the educational process into a digital form - digitalization. That is, a mixed transfer of learning into a virtual form [11]. In today's changing conditions, virtual or augmented reality is very appropriate and necessary, it expands the possibilities of using a mixed form of education. It is necessary to use these technologies correctly and methodically. For this, we need methods that already exist and are used qualitatively in the educational process. We should not stop at what we have achieved, we should expand our horizons and develop and introduce new methods into the educational process.

**Conclusions and prospects for further scientific research.** Despite the sufficient experience of implementing both distance learning and mixed learning, it is necessary to substantiate and define in more detail the principles, methods and approaches of using digital technologies in the process of mixed learning in institutions of higher education, to develop criteria and indicators for the selection of digital technologies for the implementation of mixed learning , methods of using digital technologies to improve the quality of knowledge acquisition by students of higher education.

Currently, one of the priorities at the Mykolaiv National Agrarian University is the development of distance learning through digitalization of education. Taking into account the need to introduce distance and mixed learning at the university, there is a need to investigate the peculiarities of the organization of mixed learning using digital technologies.

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