

FEATURES OF THE CONDUCTING THE EDUCATIONAL PROCESS IN A HIGHER EDUCATION INSTITUTION DURING THE WAR

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Abstract

The article highlights the peculiarities of the educational process in the higher education institution during the war. It is shown that the basis for the restoration of the educational process was the experience of distance learning acquired during the quarantine due to COVID-19. When implementing distance learning, the educational and communication Internet platforms in combination with telephone messengers proved their effectiveness. Intra-university information resources are also important for ensuring education: the department's electronic page on the university website, the electronic journal of academic success, and the electronic platform for independent work of students. The active introduction of information learning technologies under conditions of wartime challenges requires a high level of self-discipline, technical literacy and adaptability from all participants in the educational process.

Keywords: higher education, martial law, educational process, distance learning, informatization of education.

Introduction

The full-scale Russian invasion of Ukraine and the introduction of martial law have brought significant changes to all spheres of everyday life of Ukrainians, including the higher education system. The intensity of hostilities, the bombing of cities and towns, migration processes, and the occupation of part of Ukrainian territories have only exacerbated the already quite noticeable negative consequences of the COVID-19 pandemic for the educational process and complicated the implementation of the basic right to education.

According to a study conducted by the Ministry of Education and Science of Ukraine and the Institute of Educational Analytics (2023), as well as Based on a number of authors (Gubanova, 2023; Nikolaev et al., 2023; Zhila, 2023) in conditions of full-scale war and martial law, the main challenges for higher education are:

- *Significant destruction of educational infrastructure: damage to higher education institutions, educational equipment, and practice facilities.* Of the 365 universities, academies, institutes, and colleges known in Ukraine at the beginning of 2022, 45 higher education institutions were completely destroyed, and another 61 were damaged as a result of bombing and shelling.
- *Threat to the life and health of participants in the educational process:* insufficient number of equipped shelters, prolonged psycho-emotional exhaustion due to constant air raids, threats of missile attacks, changes in the usual pace of life, etc.
- *Violation of access to higher education:* at the beginning of 2023 34 institutions of higher education, which were in the zone of active hostilities, were forcibly relocated - moved to the rear regions of Ukraine.
- *Disruption of the continuity of the educational process:* blackouts – long-term power outages, the need to respond to air-raid alarms.
- *Large-scale displacement of participants in the educational process* within the country and abroad, which led to significant losses among higher education students and scientific and

pedagogical personnel. More than 6 million people, including 665 thousand students and schoolchildren (16 % of the total) and 25 thousand education staff (6 % of the total) were forced to leave the territory of Ukraine due to military actions. More than 8 million people became internally displaced persons.

- *Reduction in human resources potential* due to staff reductions, limitations on labor costs, and migration of some scientific and pedagogical staff abroad.
- *A quantitative reduction in the number of education applicants* - both Ukrainian and especially foreign students.
- *Reduction of expenses for financing educational institutions*: lack of funds for modernization of equipment and improvement of the condition of premises.
- *Decrease in the quality of education*: due to the depressed psycho-emotional state of participants in the educational process, difficult conditions for learning (reduction in time to master the material), educational losses - learning gaps in knowledge and skills that arise during the educational process due to a long period of distance learning.

Thus, in the conditions of martial law, the restoration of the educational process has become a real test for higher education institutions in Ukraine. Therefore, a comprehensive study of the experience of solving this problem is undoubtedly important for modern science and practice.

The aim of the work is to highlight the features of the implementation of the educational process in a higher educational institution during the war.

The material for writing the article is the experience of conducting the educational process by teachers of the Department of Biology of Poltava State Medical University (Poltava, Ukraine) under martial law (from February 2022 to the present).

Research methods: literature analysis, description and generalization of practical experience.

1. General organizational and methodological approaches

Poltava State Medical University (PSMU) is one of the oldest higher medical education institutions in Ukraine, founded in 1921. Before the full-scale invasion, about 5 thousand applicants studied here, including 1350 foreign citizens from 45 countries of the world, at the educational levels of Master (specialties "Medicine", "Pediatrics", "Dentistry" and "Public Health") and Bachelor (specialty "Nursing"). The educational process was provided by 632 scientific and pedagogical employees from 57 departments and 4 faculties (Poltava State Medical University, 2021). During the period of martial law, PSMU experienced almost all the challenges for higher education in Ukraine, except for the destruction of the material and technical base and relocation.

The Department of Biology is a structural unit of the PSMU, the main task of which is to teach future doctors, pediatricians and dentists the fundamental academic discipline «Medical Biology» – the science about the biological foundations of the functioning of the human body at all levels of the living matter organization – from molecular and genetic to biospheric. The content of the medical biology program traditionally includes such chapters as cell biology, molecular biology, biology of individual development, human genetics, medical genetics, medical parasitology, evolutionary theory and human ecology. This discipline belongs to the cycle of basic medical and biological training and lays the theoretical bases of the professional competence of future doctors. Knowledge and skills acquired during the study of medical biology are subject to control during the unified state qualifying exam "Krok 1" for the further admission of students to mastering clinical disciplines. Therefore, the high quality of training of applicants is a determining guideline in the activities of the department's teachers, especially since the student contingent is actually mostly recent schoolchildren who must be adapted to the requirements of higher education.

Before the beginning of the Russian-Ukrainian war, about 600 Ukrainian and up to 400 foreign students, mainly from India, Africa and the Middle East, studied at the Department of Biology of the PSMU every year. The educational process was provided by the department's staff of 8 scientific and pedagogical employees, including 1 professor, 4 associate professors and 3 lecturers (Poltava State

Medical University, 2025). During the period of martial law, the teaching staff of the department remained unchanged, but the contingent of Ukrainian students significantly decreased, and the contingent of foreign students was almost completely lost.

Considering the intensity of the course of military actions and as the university adapted to the threats of wartime, three formats of educational process were gradually implemented:

- 2021/2022 academic year (spring semester) – distance learning only;
- 2022/2023 academic year – combined learning (distance and offline);
- 2023/2024 and 2024/2025 academic years – mostly offline training with compliance with safety requirements (responding to signals of air and missile danger by interrupting the educational process and moving to specially equipped shelters).

The basis for the restoration of the educational process under martial law was the useful experience of distance learning acquired during quarantine due to the COVID-19 pandemic. Thus, the department's teachers studied the issue of the effectiveness of learning under quarantine, during which it was found that most students are aware of the need for online learning and take responsibility for the difficulties of distance learning on themselves, indicating that the basis for success is self-discipline and a serious attitude to education (Yeroshenko et al., 2021). Among the advantages of distance learning, students noted that it became an additional incentive and opened up new opportunities for self-education, and also noted an increase in time free from classes (Figure 1).

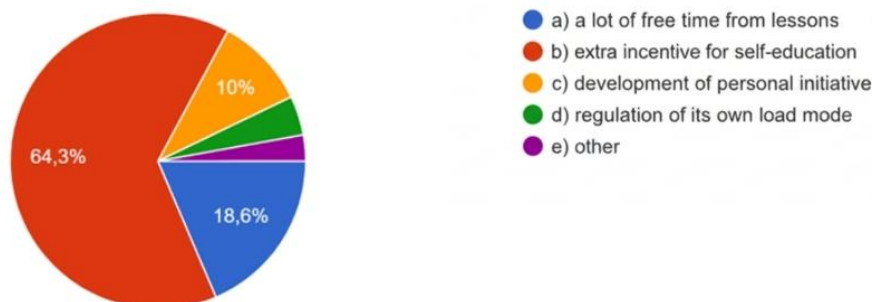


Figure 1. The advantages of distance learning according to students of PSMU

Source: Yeroshenko et al., 2021

The disadvantages of distance learning, most of the surveyed applicants consider excessive workload and lack of personal contact with a teacher (Figure 2).

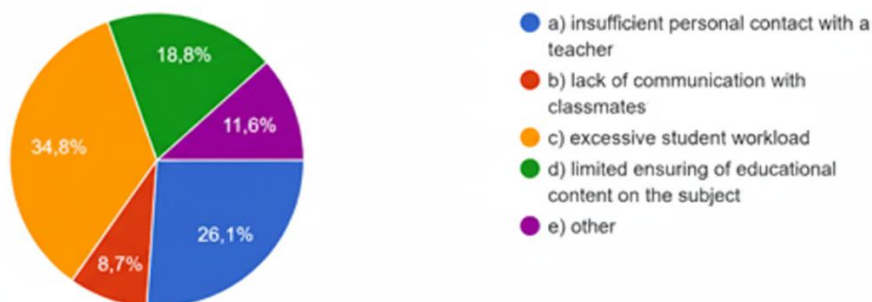


Figure 2. The disadvantages of distance learning according to students of PSMU

Source: Yeroshenko et al., 2021

Among the proposals for improving the organization of distance learning, students focused on reducing the volume and complexity of tasks, increasing the teacher's explanations during classes, as well as maximum algorithmization of the educational process (Yeroshenko et al., 2021).

We tried to take the obtained results into account as fully as possible when conducting the educational process under martial law by strengthening the explanations and adding more

illustrations, optimizing the volume of studying material due to its orderliness and logical structure (wider use of reference schemes, generalizing tables, etc.), as well as adapting the material in accordance with different levels of previous training and cognitive abilities of students.

The main forms of organizing the educational process at the Department of Biology are lectures, practical classes, consultations, and independent work. During the period from the beginning of the full-scale invasion to the present, lectures that involve the accumulation of entire streams (over 100 applicants) are read online only for security reasons, while the format of practical classes (for a single academic group – about 10–14 students) coincides with the general format of the educational process, with amendments to the security situation.

In the early stages of distance learning, due to the need to respond quickly to air raid alarms, as well as long power outages (with intervals of up to 6 or even 8 hours without power), the demand for laptops and tablets, as well as autonomous power sources (power banks), significantly increased among all participants in the educational process.

2. Educational and communicative Internet technologies

During the period of prevailing of the distance learning format, the department's teachers successfully tested the experience of using such educational and communication Internet platforms as Google Classroom and Zoom.

The virtual service Google Classroom was developed in 2014, but gained popularity during the COVID-19 pandemic as a tool for distance learning. It is simple and convenient to use, can be downloaded from various devices (including via a mobile application), ensures effective interaction between teachers and students, as it creates opportunities for information exchange, supports access to educational content in various formats, allows you to attach links to third-party resources, form task packages, program the date and time of receiving tasks, and monitor their completion (Google for education. Classroom Management Tools & Resources).

We used the Google Classroom service to conduct practical classes, especially at the first stage of the resumption of the educational process, when due to frequent power outages and Internet disconnection, we did not have the technical ability to provide lessons in synchronous mode. Therefore, applicants were sent detailed instructions for each topic according to the schedule, which contained electronic versions of textbooks, multimedia presentations of lectures, graphic materials, a list of tasks with explanations for their processing, and besides, that is very important, control tests as well in the form of special Google questionnaire, with a deadline for completion. Thanks to the wide arsenal of cloud technologies, we were able to cooperate in our efforts, quickly developing algorithms for completing tasks and control tests for various topics according to a common program and distributing them to each other using an intuitive interface. It should be noted that the control tests we developed, which are stored on Google Disc, are still used now, at the stage of offline learning, as a convenient tool for express assessment of students' success in force majeure circumstances.

A significant advantage of the Zoom educational platform is the possibility of feedback between students and the teacher in real time, which significantly increases student motivation and has a positive effect on the learning process. This service also supports the chat function, where you can send text messages and share files. A useful option for students is the screen demonstration, where the teacher can provide multimedia support for joint viewing to explain the educational material. While in a joint conference, the student can at the same time maintain his own autonomy, turning on or off the microphone and video camera according to the circumstances. We also used Zoom to conduct lectures both in real time and in video recording mode.

With uninterrupted internet connection, we tried to combine both services – Google Classroom and Zoom – for practical classes, as they can effectively complement each other. For example, if the function of current knowledge control can be quickly implemented via Google Classroom (remote

testing), then the discussion of theoretical questions and final control in the form of an oral survey are best carried out in a Zoom conference.

It should be noted that Zoom Video Communications Company from the first days of the war provided Ukrainians with unlimited and free access to its software (Zoom Meetings for Education).

An important role in maintaining effective interaction between the teacher and the students today is played by various messengers, which are applications for modern smartphones. The most popular in Ukraine are currently Viber, Telegram and WhatsApp. Such programs, being adapted primarily to the function of video calls and sending short messages, allow you to quickly and with a minimum of prior technical preparation to organize express communication within the educational process. However, due to the narrower arsenal of opportunities for exchanging materials, they are considered mostly as an additional information channel. Such applications are especially convenient for providing students with individual educational consultations.

3. Intra-university information resources

In addition to publicly available Internet platforms and services, the internal electronic resources organized by the university's electronic support service play a significant communicative and coordinating function.

In conditions of limited time for direct communication between a teacher and a student, the electronic page of the department on the university website acquires special importance as an auxiliary educational tool. Thus, on the page of the Department of Biology of the PSMU, in the tab "Educational materials" all the necessary information for mastering the discipline is highlighted (PSMU, 2025):

- syllabus;
- multimedia presentations of lectures;
- a list of basic and additional literature, links to useful educational Internet resources;
- electronic versions of textbooks and manuals;
- sets of educational video materials;
- materials for preparing for control measures and the licensing exam "Krok", etc.

PSMU has implemented an information system for recording and monitoring class attendance and student achievement – *Electronic Achievement Journal (ePlato)*, which provides open access to current and final academic results, and allows to rework missed classes and unsatisfactory marks. To eliminate academic debt, PSMU operates three electronic centers and has created a powerful test base. However, during periods of distance learning, the making up of missed classes and the making up of unsatisfactory marks is carried out decentralized - at departments, where the teacher accepts the work-up via electronic communication (Google Classroom, Viber or Zoom).

During the war period, a *platform for independent work of applicants (eAristo)*, appeared among the electronic services of the university. Here, from each educational component, students are offered materials for studying the topics of the curriculum that are assigned for independent mastering, mainly in the form of multimedia presentations with questions to consolidate knowledge on each slide and a list of test control questions (Perederii et al., 2025). At the same time, the applicant is immediately informed about the degree of success of studying the topic and has the opportunity to re-study it if necessary.

Conclusions

1. Thus, in response to the challenges of martial law, the higher education system reacts by forming a special strategy for organizing education, that is based on distance learning format achievements and able to successfully balance the safety of participants in the educational process and the quality of educational services.
2. The key features of this strategy are the informatization of education (through the widespread use of electronic learning and electronic communication tools), as well as the continuous selection of

optimal methods and means of education with verification of their effectiveness and in dialogue with students.

3. When implementing distance learning, the educational and communication Internet platforms Google Classroom and Zoom in combination with telephone messengers proved their effectiveness. Intra-university information resources are also important for ensuring education: the department's electronic page on the university website, the electronic journal of academic success, and the electronic platform for independent work of applicants.
4. Long-term learning in the difficult conditions of war requires a high level of self-discipline, technical literacy, and adaptability from all participants in the educational process.

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YPATUMAI VYKDANT MOKYMO PROCESĄ AUKŠTOJOJE MOKYKLOJE KARO METU

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Santrauka

Dėl plataus masto invazijos į Rusijos Federaciją Ukrainos aukštojo mokslo sistema susidūrė su daugybe precedento neturinčių iššūkių, tokių kaip infrastruktūros sunaikinimas, grėsmė švietimo proceso dalyvių gyvybei ir sveikatai bei jų masinis perkėlimas šalies viduje ir užsienyje, aukštojo mokslo prieinamumo ir

švietimo proceso tęstinumo sutrikimas, švietimo įstaigų finansavimo sumažinimas, švietimo kokybės prastėjimas ir kt. Šiuo atžvilgiu švietimo proceso atkūrimas karo padėties sąlygomis tapo sunkiu išbandymu aukštosioms mokykloms. Todėl išsamus šios problemos sprendimo patirties tyrimas neabejotinai svarbus šiuolaikiniam mokslui ir praktikai.

Darbo tikslas – išryškinti švietimo proceso įgyvendinimo aukštojoje mokykloje ypatumus karo metu.

Straipsnio medžiaga – Poltavos valstybinio medicinos universiteto (Poltava, Ukraina) Biologijos katedros dėstytojų patirtis vykdant švietimo procesą karo padėties sąlygomis (nuo 2022 m. vasario mėn. iki šių dienų).

Atsižvelgiant į karinių operacijų eigos intensyvumą ir universitetui prisitaikant prie karo meto grėsmių, palapsniui buvo įdiegti trys mokymo formatai: tik nuotolinis mokymasis; kombinuotas (nuotolinis ir neinternetinis); daugiausia mokymai ne internetu, reaguojant į oro pavojaus signalus. Švietimo proceso atkūrimo karo padėties sąlygomis pagrindas buvo nuotolinio mokymosi patirtis, įgyta karantino metu dėl COVID-19. Siekdami įveikti anksčiau nustatytus nuotolinio mokymosi sunkumus, stengėmės tobulinti mokymosi procesą, stiprindami paaiškinimus ir pridėdami daugiau iliustracijų, optimizuodami mokymosi medžiagos apimtį dėl jos tvarkingumo ir loginės struktūros (platesnis informacinių schemų naudojimas, apibendrinančios lentelės ir kt.), taip pat pritaikydami medžiagą pagal skirtingus ankstesnio studentų pasirengimo lygius ir pažintinius gebėjimus. Įgyvendinant nuotolinį mokymąsi, efektyvumas įrodė edukacinės ir komunikacijos interneto platformos „Google Classroom“ ir „Zoom“ kartu su telefono pasiuntiniais. Švietimui užtikrinti svarbūs ir universiteto vidiniai informacijos išteklių: katedros elektroninis puslapis universiteto svetainėje, elektroninis akademinės sėkmės žurnalas ir elektroninė platforma stojančiųjų savarankiškam darbui.

Taigi, reaguodama į karo padėties iššūkius, aukštojo mokslo sistema reaguoja formuodama specialią švietimo organizavimo strategiją, kuri grindžiama nuotolinio mokymosi formato pasiekimais ir geba sėkmingai subalansuoti švietimo proceso dalyvių saugumą bei švietimo paslaugų kokybę. Pagrindiniai šios strategijos bruožai yra švietimo informatizavimas (plačiai naudojant elektronines mokymosi priemones ir elektroninio bendravimo priemones), taip pat nuolatinis optimalių švietimo metodų ir priemonių pasirinkimas, tikrinant jų veiksmingumą ir bendradarbiaujant su studentais. Aktyvus informacinių mokymosi technologijų diegimas karo meto iššūkių sąlygomis reikalauja aukšto lygio savikontrolės, techninio raštingumo ir prisitaikymo iš visų ugdymo proceso dalyvių.

Raktiniai žodžiai: aukštasis mokslas, karo padėtis, švietimo procesas, nuotolinis mokymasis, švietimo informatizavimas.