

HIGHER EDUCATION IN CRISIS

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TRANSFORMATION OF HIGHER MEDICAL EDUCATION IN CRISIS IN UKRAINE

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ABSTRACT

This article explores how Ukrainian higher medical education operates in times of crisis. In the tough years of 2020-2024, Ukrainian students faced new challenges, namely a shift from traditional to distance education, including hybrid and blended learning with time. All educational process participants were forced to master previously unknown educational platforms and change the format and methods of future medical specialists' professional training. In the current crisis, considering students' and teachers' views and experiences is the main decision-making source aimed at improving the national higher education transformation. The research focuses on the students' experience and attitude to blended learning. The results of the survey conducted among Bogomolets National Medical University students are used as a basis, giving a clear insight into the rapid higher medical education shift to a new format, such as blended learning. Made in Google Forms, the questionnaires were randomly sent to students online. In the crisis conditions, national medical institutions reorganized educational services into a blended format autonomously and within a short time due to various technical capabilities and financial resources. The obtained data suggest that the crisis conditions have accelerated national higher medical education digitalization. Moreover, they also make it possible to identify positive and negative trends in the national higher medical education transformation and outline promising learning formats from the student's perspective in the future.

Keywords: *higher medical education, blended learning format, crisis conditions, digital technologies.*

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INTRODUCTION

In the current crisis conditions, the modern world is facing some challenges affecting national higher medical education. The demand for the national higher education transformation is caused by global crises (pandemics, military conflicts, and climate change), rapid digital technology development and its need to be integrated into the educational process, and increasing medical training requirements because of the growing need for quality healthcare services.

The war, economic hardships, and other emergencies affect national higher medical education accessibility and quality. Both blended learning usage in extreme conditions and providing practical training for future medical specialists with limited resources require the educational process to be adapted to the crisis conditions. Medical personnel outflow and its impact on the national higher medical education system and the need for training specialists able to operate in unstable crises lead to doctor shortages and cause a necessity to search for new approaches to medical specialists' professional training.

The development of new educational programs focused on emergencies requires competencies and the use of simulation training, virtual reality, and other technologies to enhance future doctors' practical skills require innovative approaches to be implemented in national higher medical education. The social and ethical aspects of medical specialists' professional training in higher educational institutions require the psychological stability formation of both medical students and research and teaching staff. Medical education also plays a crucial role in establishing ethical principles and humanity.

During the COVID-19 pandemic, the national higher education system has undergone a shift from traditional to distance, then to blended or hybrid learning (Abysova et al., 2023; Londar & Pietsch, 2023; Mospan et al., 2022; Mospan, 2023). In 2020-2024, national higher medical education underwent a shift from traditional to distance education (Mospan & Slipchuk, 2020), including hybrid and blended learning with time. Identification of the factors influencing academic mobility and its types that are the most popular among higher education students made it possible to clarify

academic mobility's importance for academic success and future career development (Slipchuk et al., 2021). In the current crisis conditions, national higher medical education transformation is accompanied by adapting all educational process participants to new realities and gaining reorganization experience through educational process digitalization. Interactive methods enable the educational process to be brought as close as possible to real-life practical professional activities and develop certain competencies (Spivakovskyy et al., 2020).

Thus, the research focuses on the higher medical education transformation in the current crisis conditions and investigates the attitude of national higher medical education students on the example of Bogomolets National Medical University and higher medical education digital transformation in 2021-2024.

RESEARCH METHODS

The research objectives were achieved through creating and conducting a Google Forms survey among Bogomolets National Medical University students. The questionnaires were randomly sent to students online. The survey is based on the responses of 119 students enrolled in Bogomolets National Medical University master's programmes. For better visualization, the collected data is presented in the form of comparison tables. The survey results are of great statistical importance for determining trends in the studied phenomenon.

RESULTS

Students' attitude to blended learning. It is worth mentioning that during the COVID-19 pandemic, students were more enthusiastic about online learning than their teachers, finding it interesting (54.6%) and somewhat tiring (19.3%) (Table 1).

Table 1

Students' Attitude to Online Learning

Positive		Negative	
Interesting	54.6%	Tiring	19.3%
Supporting	43.7%	Ineffective	15.1%
Effective	31.9%	Dull	12.6%
Entertaining	39.5%		

The survey results demonstrate that the majority of students (88.2%) have a positive attitude toward online learning, while their negative perception is much lower (11.8%) (Table 2).

Table 2

Students' attitudes to digitally-based distance learning

Positive	88.2%
Negative	11.8%

However, for the majority of respondents, digitally-based distance learning has become a new experience (64.7%), indicating a gradual increase in students' awareness of educational technologies (Fig. 1).

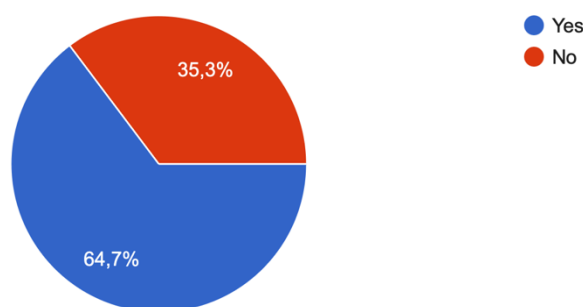


Figure 1. Digitally-based distance learning as a new experience for students

In current crisis conditions, the minority of student respondents (31.1%) faced no problems with online learning ICT devices. However, others complained about such problems as slow internet connection (56.3%), lack of computer access (8.4%), and lack of home Internet access (21.8%). The small lack of computer access percentage is possibly due to a new ICT device purchase as a necessary part of education in a digital environment. On the other hand, the lack of home Internet access percentage increase may be caused by a variety of reasons in the current crisis.

Another example of students' positive attitude to distance learning is the feedback given by the respondents majority (88.2%) on gaining new online learning experience in

2021. Moreover, students have developed communication and digital skills. It is worth emphasizing that these indicators have increased significantly since 2021. At the same time, a gradual decline in time management skills has been observed that may be possibly explained by the increase of time spent in front of the computer. Additionally, students reported an improvement in online communication with teachers (59.7%) and collaboration in online classes (43.7%) (see Table 3).

Table 3

Skills acquired by students during online learning

Skills	Components	Frequency %
Digital literacy skills	Communicate online with teachers	59.7
	Organize homework in digital format	52.9
	Search for educational information	52.1
	Manage time for learning and rest	50.4
	Use alternative online educational resources	50.4
	Communicate online with groupmates	48.7
	Collaborate at online classes	43.7
	Share educational resources with groupmates	40.3
General skills	Communicative skills	51.3
	ICT skills	47.9
	Professional skills	35.3
	Linguistic skills	20.2
Soft skills	Time management	42.0
	Teamwork	59.7
	Networking	52.9
	Creative thinking	48.7
	Conflict resolution	28.6

In the future, students are prone to support the shift to a blended learning format within national higher medical education. In particular, the number of fully digitally-based online learning supporters is gradually decreasing (39.5%). The same tendency also applies to online courses (11.8%). On the contrary, the number of traditional learning supporters is increasing to 68.1%.

The positive blended learning attitude within national higher medical education is confirmed by the student's choice to get high-quality higher medical education at Bogomolets National Medical University (59.7%) and their intention to continue graduate professional careers in Ukraine (69.7%). The percentage of students planning to continue their professional career after Bogomolets National Medical University

graduation in the EU and other countries is much lower, namely 31.1% and 22.7%. According to the survey results, a list of messengers used in Bogomolets National Medical University's blended learning format is presented in Table 4.

Table 4

Messengers that universities use at digitally based distance learning

Messengers	Frequency %
Telegram	90.8
Viber	88.2
WhatsApp	21.8
Facebook	11.8

The main distance learning platform at Bogomolets National Medical University is called LIKAR_NMU. Focused on providing interactive cooperation among educational process participants, LIKAR_NMU is the university's digitally-based distance learning platform used to create a proper educational environment and to organize both distance learning and support blended learning formats. On the LIKAR_NMU digitally-based distance learning platform, students can find teaching and methodological materials of all educational program's academic disciplines (including video lectures and practical classes), a list of distance courses placed on the Coursera platform (47 distance courses), links to departments' social media pages, and semester examination regulations. They can also make a request to the library in the distance learning conditions, etc.

In the current crisis conditions, it is worth mentioning that students can make an online request to Bogomolets National Medical University Library to order a set of books and receive information concerning the library's resources. Open-access scientific databases are also at students' disposal (see Table 5).

Table 5

Scientific databases

№	Scientific databases	
1	Research4Life: - Hinari - OARE	https://www.research4life.org/
2	BioMed Central	https://www.biomedcentral.com/

3	BioOne	https://bioone.org/
4	Bioline International	https://www.bioline.org.br/
5	Cambridge University Press	https://www.cambridge.org/core
6	Directory of Open Access Journals (DOAJ)	https://doaj.org/
8	De Gruyter Open	https://sciendo.com/
9	Elektronische Zeitschriftenbibliothek (EZB)	https://ezb.ur.de/ezeit/
10	Free Medical Journals	http://www.freemedicaljournals.com/
11	PubMed	https://pubmed.ncbi.nlm.nih.gov/
12	SCOPUS	https://www.scopus.com/search/form.uri?display=basic#basic

In

the crisis conditions, the organization of the higher medical education blended learning format is a priority, contributing significantly to further public health development, health preservation and promotion, and disease prevention.

CONCLUSIONS

Identification of the national higher medical education transformation patterns, the main trends featuring certain stages of its functioning as an educational system with the correlation of different areas of medical scientific research in the crisis conditions, interrelations with other sciences and educational practices opens up opportunities for the gained knowledge fruitful usage, determining prospects and improvement ways of national higher medical education. In the current crisis conditions, the research has shown that there is a tendency to support national higher medical education blended learning format in the future. Prospects for further research include continuing to study tendencies within the national higher medical education transformation.

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ТРАНСФОРМАЦІЯ НАЦІОНАЛЬНОЇ ВИЩОЇ МЕДИЧНОЇ ОСВІТИ В КРИЗОВИХ УМОВАХ СЬОГОДЕННЯ

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У статті досліджується реакція національної вищої медичної освіти в кризових умовах у 2020 – 2024 рр. У складних 2020 – 2024 рр. здобувачі освіти та викладачі зіткнулися з новими викликами – переходами від традиційної до дистанційної, а потім до гібридної чи змішаної освіти. Всі учасники освітнього процесу були вимушені опанувати невідомі раніші освітні платформи, змінити формат та методи професійної підготовки майбутніх лікарів. Урахування ставлення та досвіду здобувачів освіти та викладачів у кризовій ситуації сьогодення є джерелом для прийняття рішень щодо покращення трансформації національної вищої медичної освіти. Дослідження сконцентровано на вивченні досвіду та сприйнятті здобувачами освіти та викладачів змішаного формату навчання. Дослідження базується на результатах опитування здобувачів освіти та викладачів Національного медичного університету імені О.О. Богомольця, які дають чітке уявлення про швидкий перехід вищої медичної освіти до нового формату – змішаного навчання в кризових умовах сьогодення. Анкетування розроблені у форматі Google Forms та розіслані вибірково здобувачам освіти онлайн. Підкреслено, що в кризових умовах національні медичні університети автономно і протягом короткого часу

реорганізували освітні послуги на змішаний формат через різноманітні технічні можливості та фінансові ресурси. Отримані дані свідчать про те, що кризові умови прискорили цифровізацію національної вищої медичної освіти. Окрім того, результати опитування дають змогу не лише визначити позитивні та негативні тенденції трансформації національної вищої медичної освіти, а також окреслити перспективні формати навчання очами студентів та викладачів у майбутньому. Визначено, що організація змішаного формату навчання здобувачів вищої медичної освіти у кризових умовах має пріоритетне значення, істотно сприяє подальшому розвитку охорони здоров'я населення, збереженню й зміцненню здоров'я людей та запобіганню різноманітним захворюванням.

Ключові слова *вища медична освіта; змішаний формат навчання; кризові умови; цифрові технології.*

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