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ARTÍCULO DE INVESTIGACIÓN

Calidad de la educación en línea como componente para garantizar el empleo

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Resumen. El propósito del artículo es diagnosticar el estado actual de la calidad del aprendizaje en línea en las instituciones de educación superior, identificar los principales problemas existentes en esta área y desarrollar medidas para mejorarla con el fin de aumentar la competitividad de los graduados y acelerar su empleo y proporcionar empleo efectivo. El artículo utiliza métodos científicos generales y especiales, en particular métodos dialécticos, de análisis y síntesis, históricos y lógicos para diagnosticar el estado actual de la calidad del aprendizaje en línea e identificar direcciones para mejorar su nivel en las instituciones de educación superior; método de investigación sociológica para identificar problemas en la prestación de servicios educativos por parte de instituciones de educación superior en línea; método gráfico-analítico para ilustrar los principales resultados de la investigación sociológica. Como resultado del estudio, se estableció que el aprendizaje en línea se ha consolidado firmemente en la práctica educativa y será utilizado en el proceso educativo independientemente de la influencia de factores globales, ya que amplía las oportunidades educativas de los estudiantes.

Palabras clave: aprendizaje en línea, calidad de la educación superior, empleo, tecnologías de la información.

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Quality of online education as a component to ensure employment

Abstract. The purpose of the article is to diagnose the current state of the quality of online learning in higher education institutions, to identify the existing main problems in this area and to develop measures to improve it in order to increase the competitiveness of graduates, accelerate their employment and ensure effective employment. The article uses general scientific and special methods, in particular, dialectical, analysis and synthesis, historical and logical methods to diagnose the current state of the quality of online learning and identify areas for improving its level in higher education institutions; the method of sociological research to identify problems in the provision of educational services by higher education institutions online; graphical and analytical method to illustrate the main results of the sociological research. As a result of the study, it was found that online learning is firmly established in educational practice and will be used in the educational process regardless of the influence of global factors, as it expands the educational opportunities of students.

Keywords: online learning, quality of higher education, employment, information Technology.

INTRODUCTION

The events of the last four years related to the global pandemic have had a significant impact on both the global labor market and its local segments. In Ukraine, since February 24, 2022, in addition to quarantine restrictions, the country's socio-economic situation has been unprecedentedly affected by Russian military aggression, which has resulted in huge losses of human and production potential, territory, material and technical, and all other resources. More than 30% of enterprises have stopped their operations due to physical destruction and temporary occupation of part of the territory. The National Bank of Ukraine estimates a 29.1% decline in real GDP in 2022, with the overall GDP level returning to the level of the early 2000s (Poharska, 2023).

The consequences of these two global disruptive factors were a decline in employment and a decline in incomes. Unemployment at the beginning of the war reached 30%. Of course, not all sectoral markets suffered the same losses, but most still suffered from a significant drop in consumer demand for goods and services, and, accordingly, incurred losses, curtailing their business activities and reducing sales. The consequences of these processes are massive emigration of the population abroad, an increase in the number of internally displaced persons, closure of enterprises, dismissal of a significant part of the staff and transfer of an even larger part of it to remote (remote) employment. Thus, according to experts, as of June 2023, there were 9 million forced migrants outside Ukraine, and 5 million people had temporary protection status in the EU. The number of internally displaced persons is estimated at 5 million (Ibid). These circumstances have a negative impact on the labor market, causing a labor shortage of 4.5 million people for the post-war economic recovery.

The pandemic and the war have dealt a significant blow not only to the country's economy, but have posed serious challenges in virtually all areas of human life. The problem of adaptation to new conditions in the field of higher education has become extremely acute. The importance and significance of the quality of services in this sector in Ukrainian society is second only to the health-

care sector. The higher education sector in Ukraine is the area where professional competencies of managers, specialists and professionals are formed, where the competitiveness of the labor force is created. With this in mind, it is extremely important to ensure the quality of educational services for higher education students under quarantine restrictions, martial law and post-war conditions. Due to the spread of the pandemic and the war, the original problems of Ukraine's higher education sector (chronic funding shortages, inconsistency of higher education programs with the needs of the business environment, imbalance between the professional and qualification structure of graduates and the needs of the labor market, etc. The latter has become a serious challenge for all participants in the educational process, both for academic staff and students.

We should pay tribute to the Ukrainian higher education sector, which quickly adapted to quarantine restrictions and lockdowns, and later martial law, and has effectively mastered alternative formats of educational services. The spring 2020 semester, which was mostly remote, and the 2020-2023 academic years, which were held online and in mixed modes, were successfully completed. At the same time, the relative novelty of alternative learning formats necessitates research and scientific study of their essence and specific features.

LITERATURE REVIEW

It should be noted that the problems of the labor market, employment, quality and balance of the labor market and the market of educational services are constantly in the focus of attention of many Ukrainian and foreign scholars. In particular, the problems of transformation of the labor market, employment and incomes of the population are devoted to the works of A. Kolot, M. Makhsma and many others. The market of educational services, the quality of higher education is studied in the scientific works of V. Khorunzhyi, O. Radchuk, K. Oleksenko, O. Kryvylova, I. Khavina, I. Klopov, V. Molodychenko, V. Voronkova and others.

Among the recent publications of foreign researchers of online learning, the works of B. Gilbert, Tomas J. Law, and others are worthy of attention. For example, B. Gilbert considers the potential problems and disadvantages of online courses. raises the question of how best to support students enrolled in an online course (Gilbert, 2015). G. Tareen and M. Haand, studying the perceptions of graduate students about the advantages and problems of online learning, concluded that this format is convenient and generally meets the needs and expectations of graduate students, while emphasizing such disadvantages as lack of interaction between students, unclear assessment strategy, lack of accurate feedback and support from teachers, and lack of interest in learning (Tareen et al., 2020). T. Hongsuchon and I. Emary, studying the effectiveness of online learning, noted that it depends on many factors, including student and teacher self-efficacy, confident use of IT technologies, use of educational strategies, ability to monitor and evaluate learning outcomes, and student motivation. Their research has shown that universities can increase the effectiveness of online learning by motivating students to join online classes and developing appropriate learning strategies for their individual needs (Hongsuchon et al., 2022). T. Wang, C. Lin, and Y. Su conducted an online survey of 854 students and applied econometric modeling to test the hypothesis that technical support for promoting online learning helped students complete course assignments during the pandemic and generated a continued intention to use online learning in the future. The model largely confirmed students' intentions to continue using online learning in the post-quarantine period. In view of this, higher education institutions are encouraged to popularize online learning modes and methods after

the COVID-19 pandemic (Wang, Lin, 2021). B. Xhaffery and G. Xhaffery studied the problems of online learning at the Southeastern European University. After conducting a survey of students of linguistic faculties, they concluded that the advantages of this teaching format outweigh the disadvantages. At the same time, they emphasize the need to support students to increase their self-motivation and discipline (Xhaffery, 2020).

P. Gautam emphasizes the advantages and disadvantages of online learning (Gautam, 2020). T. Law highlights the mostly positive characteristics of online learning, including the wide availability of this learning format for students and the high degree of freedom of teachers and students in choosing time and other learning conditions. In addition, it provides an overview of the most effective digital educational platforms and indicates the average salary level of online teachers (Law, 2021). The study of the impact of teacher stress, determining the role of professional support during the Covid-19 pandemic, the impact on their involvement in the educational process and their labor productivity is devoted to the work of K. Obran (Obran, 2020).

Despite the sufficiently deep development of this scientific issue, new teaching formats, and in particular, the online format, require further research. Given this, the purpose of the article is to diagnose the current state of quality of online learning in higher education institutions, identify the existing major problems in this area and develop measures to improve it in order to increase the competitiveness of graduates, accelerate their employment and ensure effective employment.

RESEARCH METHODS

To achieve this goal, general scientific and special methods were used, in particular, the dialectical method was applied in analyzing trends in higher education in the context of the challenges of a pandemic and a full-scale war. In particular, the quality of online learning in this article is not considered as a separate category or process, but as part of the entire education system, which is influenced by numerous factors of the macro and micro environment, in dynamics, development and close relationship with the economic system.

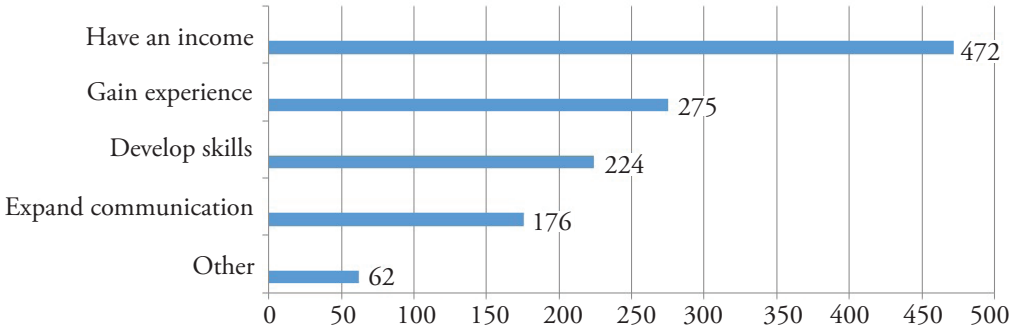
The method of analysis, which consists in dividing the whole into parts and considering each individual element as part of the whole, has been widely used in identifying the current state of quality of educational services in the field of higher education. The method of synthesis was used to summarize the identified patterns and trends in the field of online learning and to formulate the conclusions of the study. The historical and logical methods were used to develop proposals for improving the level of online learning in higher education institutions. The method of sociological research was used to identify the main problems in the provision of educational services by higher education institutions online. The sample of 630 students is representative. To this end, in 2021-2023, a survey was conducted of 630 HEI students located in Kyiv (443 people) 74.3%, in Chernihiv 70 people (11.3%) and 117 people (14.4%) as well as in the cities of: Kharkiv, Lviv, Odesa, Poltava, Zhytomyr. As for the gender distribution, the vast majority of respondents are women - 373 people (62.6%), and 233 people (37.4%) are men. All respondents are enrolled in different courses. In particular, the first-year respondents accounted for 67 people (11.2%); the second - 335 people (56.2%); the third - 101 people (16.9%); the fourth - 54 people (9.1%) and the fifth - 39 people (6.5%). Almost all survey participants are full-time students, 561 people (94.1%). There are 35 part-time students (5.9%). The graphical and analytical method was used to illustrate the main results of the sociological survey.

RESULTS OF THE STUDY

To find out whether studying is the only type of employment for students, they were asked the question "Do you combine studying with work?". The distribution of answers to this question showed that despite the fact that almost all respondents are full-time students, only one third of the respondents - 189 people (31.2%) - are engaged in studying only, i.e. do not combine study and work. The overwhelming majority of respondents - 260 people (43.6%) - said they work full-time, and another 147 people (24.7%) said they sometimes combine work and study. It should be noted that for the vast majority of those who work, their job is not related to their future profession. Only one third of respondents said they have a job in the field of their study.

The main reasons that motivate higher education students to combine study and work are the following: lack of money, the need to gain experience, develop professional skills, expanding the circle of friends, and others. Thus, according to the survey, three quarters of working students combine study and work because they want to have their own income. Almost half of the respondents (43.7%) mentioned gaining experience as an important reason for their work (Figure 1). Another 38% of respondents noted the need to develop professional skills. Almost 30% of students also work to expand their social circle. Other reasons for working were also mentioned by full-time students. In particular, the need to pay tuition fees. Some work for development, pleasure, boredom, to occupy their free time, and even to overcome emotional pain. So, the reasons for working are quite diverse, but the main ones are still material incentives and gaining professional experience. The combination of study and work for the vast majority of surveyed students positively characterizes them as individuals with an active life position. In this regard, it is important to emphasize the need for proper prioritization. The top priority should be to obtain a quality education, as this will largely determine the future professional success of each student.

Figure 1. Distribution of answers to the question «If you combine study and work, what are the reasons? (p.9)

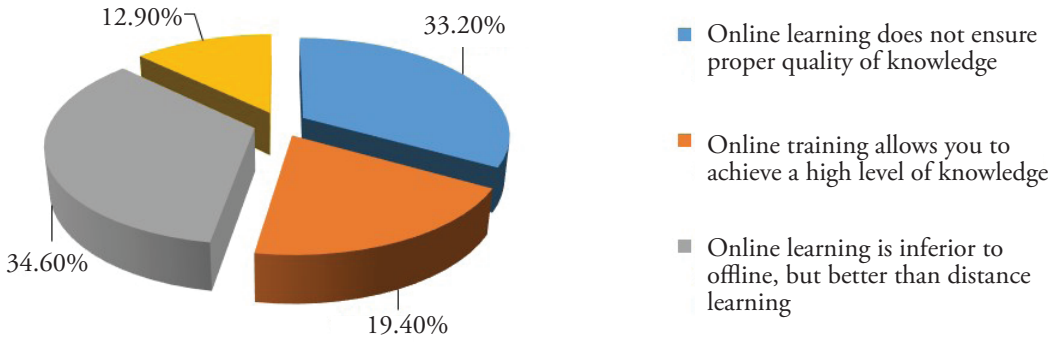


Source: calculated by the author based on the results of the survey.

In the context of prolonged quarantine restrictions, it is important to know how the direct consumers of these services evaluate them in order to improve the quality of educational services provided by higher education institutions. To this end, students were asked several questions on this topic. In particular, the survey found that only 17% were negative about online learning, another 23% found it difficult to evaluate it, while the vast majority of students surveyed were positive (22.9%) or generally positive (38.7%) about forced online learning caused by quarantine measures.

It turned out that almost all respondents noted the connection between the quality of educational services and the teaching mode. The answers to this question were distributed as follows. More than a third of respondents (34.2%) said that the online format does not provide adequate quality of knowledge (Figure 2).

Figure 2. In your opinion, does the quality of education depend on the form of education? (p.10)

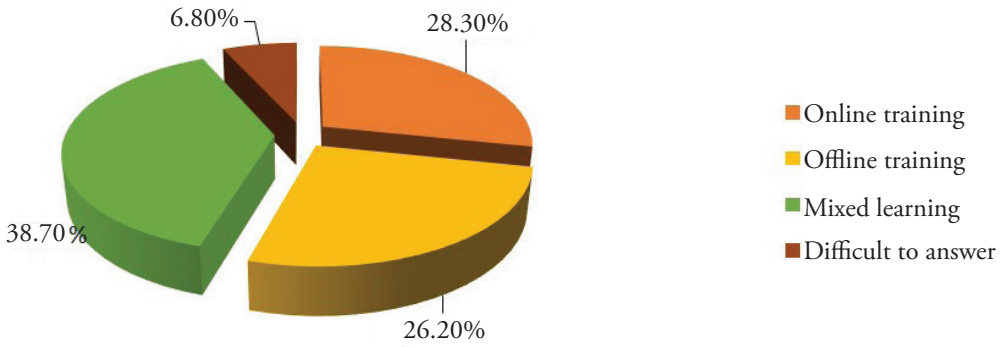


Source: calculated by the author based on the results of the survey.

According to almost 20% of respondents, online learning provides a high level of knowledge, which indicates their satisfaction with this mode of teaching. And about a third of the respondents realize that online teaching is inferior to offline teaching, but agree that it is better than distance learning.

Interestingly, the largest number of respondents (232 people, or 38.9%) said they would choose a blended learning mode if they had a choice (Figure 3). The full-time (offline) form was supported by 26.8% of respondents. 27.3% of respondents preferred the online mode of study. This distribution of students' opinions indicates that after the end of quarantine restrictions, education is unlikely to switch to 100% offline mode. Probably, the most optimal form will be a mixed form, in which part of the classes will be held in the classroom and part in the online format.

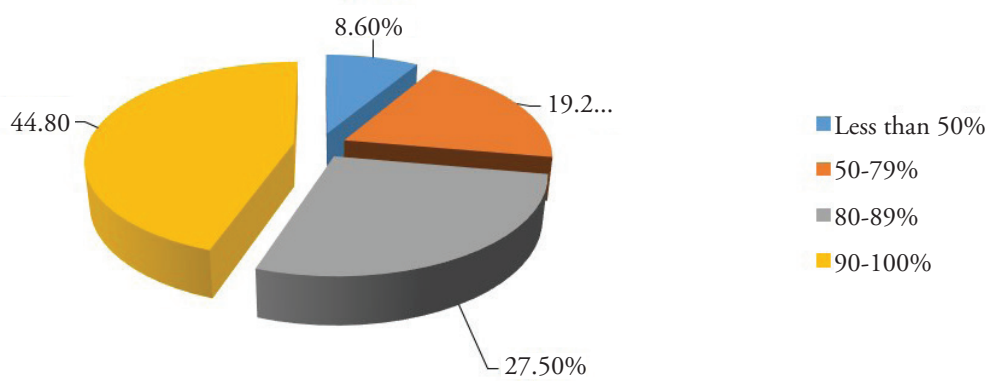
Figure 3. If you had a choice: online or offline education, which form would you choose? (p.10).



Source: calculated by the author based on the results of the survey.

It should be noted that during the quarantine, it turned out that not all teachers who were supposed to teach online classes were doing so. For example, almost 10% of respondents complained that less than 50% of teachers conducted online classes (Figure 4). Another 20% of respondents said that only 50-80% of all classes were held online. However, almost half of the respondents said that 90-100% of their classes were conducted online. The study did not have the opportunity to interview teachers and find out the reasons why classes were not held, but it can be assumed that most of these reasons are objective. But in any case, the absence of classes significantly undermines the authority of the teacher and negatively affects the quality of knowledge.

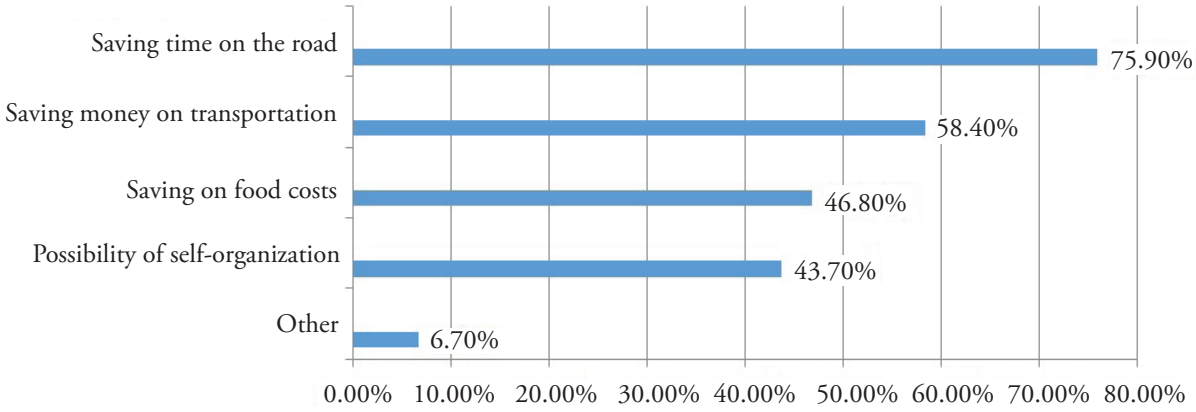
Figure 4. Determine the percentage of teachers who conduct online classes (p.11)



Source: calculated by the author based on the results of the survey.

Undoubtedly, students have experienced certain advantages of the online learning format. For many of them, the biggest ones were saving time on the road, saving money on transportation, and saving money on meals away from home. For example, 76.4% of respondents consider saving time on the road to be important (Figure 5). Almost 60% of respondents mention saving money on transportation as an advantage. Another 48% of respondents point to saving money on meals away from home, and almost 43% of students like this situation because they can be self-organized.

Figure 5. What are the advantages of online learning for you personally? (p.11)

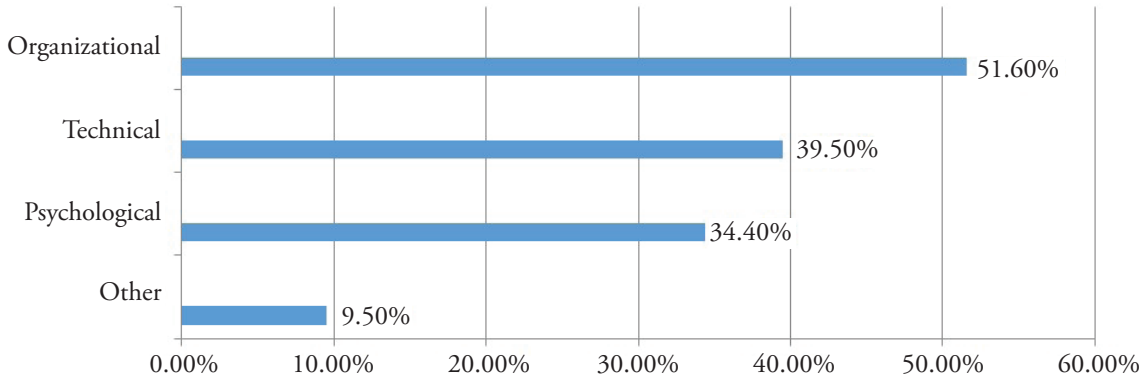


Source: calculated by the author based on the results of the survey.

In this question, there was also a variant of advantages, among which the most frequently mentioned were the opportunity to work (1% of respondents), the ability to realize themselves in other areas, and comfortable home conditions. Some noted that they had more time to complete their assignments and sleep. Some of the respondents mentioned as an advantage that they do not see people they do not like. Other answers also included such advantages as the ability to do household chores during class (since students usually have their cameras turned off). It should be noted that among the respondents there were also those who did not feel any benefits from the online learning mode.

Despite the fact that students identified numerous advantages of online learning, many of them also experienced some difficulties in connection with the transition to this alternative form of education. According to the survey results, the biggest difficulties were organizational. They were mentioned by 311 people or 51.6% of the respondents (Figure 6). About 40% complained about technical difficulties, and 34.4% of respondents complained about psychological difficulties of switching to distance learning. Other difficulties included the following: inability to practice, difficulty in forcing oneself to study, difficulty in learning the material, difficulty in communicating with teachers, not always having a calm environment for learning, and others. It should also be noted that a certain segment of students (4%) did not experience any difficulties in transitioning to this form of education.

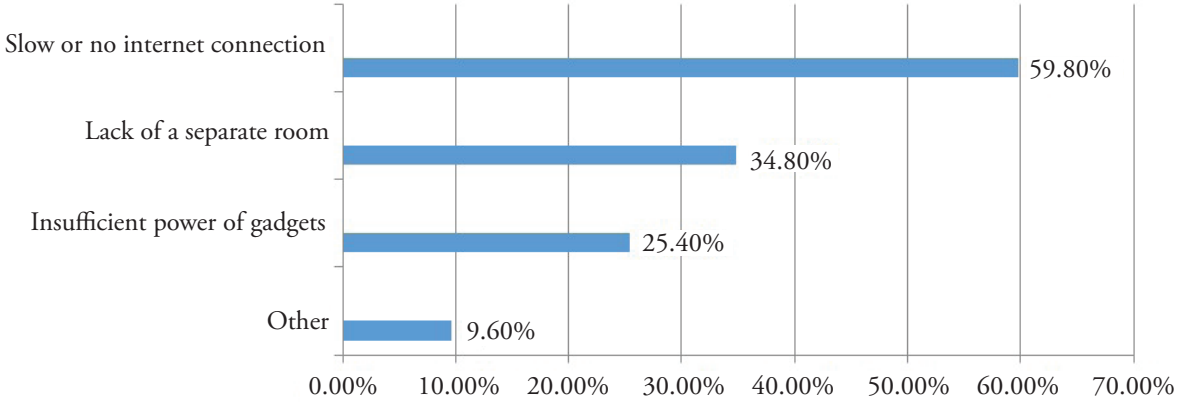
Figure 6. What were the biggest difficulties you experienced with the transition to online learning? (p.12).



Source: calculated by the authors based on the results of the survey.

In order to specify the composition of each group of problems, students were asked clarifying questions. As a result, it was found that among the reasons of a technical nature, the educational process was most hampered by the slowness and sometimes the absence of the Internet. 60% of respondents complained about this (Figure 7). Insufficient capacity of computer equipment was mentioned by 153 respondents (25.4%). Another important reason was the lack of a separate room. More than a third of respondents cited this reason. It should be noted that more than 5% of respondents said they had not encountered any technical difficulties. Other reasons most often mentioned were: the absence or malfunction of a microphone and webcam, not having the appropriate programs installed, lack of experience with certain software products, and lack of electricity. Some students were hampered in their studies by the need to take care of younger siblings.

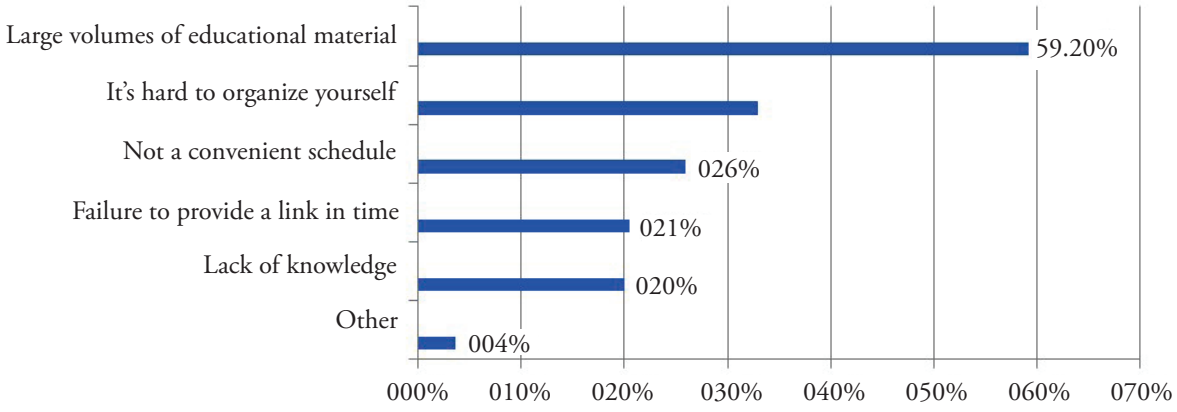
Figure 7. What technical difficulties did you encounter during your online learning? (p.12).



Source: calculated by the authors based on the results of the survey.

To the question "What were the biggest challenges in organizing online learning?", a quarter of respondents (25.9%) said that the class schedule was not convenient for them. One in five (121 people (20%)) complained about the lack of knowledge and skills in working with cloud services (Figure 8). Another inconvenience was the untimely sending of links to join video conferences by teachers. This was mentioned by 21% of respondents. However, most complaints were received against teachers for the large amount of educational material sent for self-study. This problem is relevant for 364 respondents (59.2% of respondents). For a third of respondents, the biggest organizational problem was organizing themselves for studying. Some of the respondents complained about the difficulty of combining study and work. Some respondents did not experience any organizational difficulties at all.

Figure 8. What were your biggest challenges in organizing online learning? (p.12).

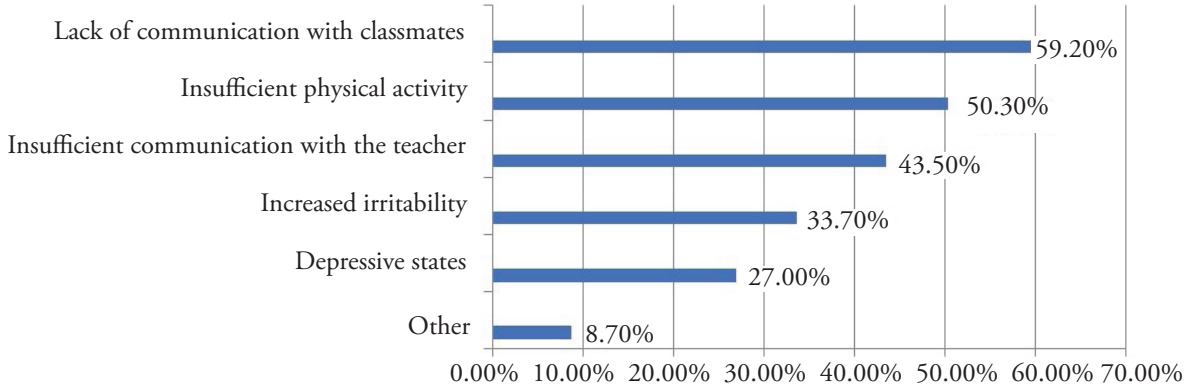


Source: calculated by the authors based on the results of the survey.

In order to find out the impact of online learning on physical and mental health, the respondents were asked the question "What psychological and physical difficulties have you experienced in connection with the transition to online learning?" More than half of the respondents (59.5%) said

that they lacked live communication with classmates and friends (Figure 9). Lack of communication with teachers was noted by 43.5% of respondents. Every second respondent mentioned a decrease in physical activity and lack of exercise. One-third of respondents noted an increase in irritability. More than a quarter complained of depression. Some respondents noted an increase in fatigue. Among other negative impacts on their physical and mental health, students noted an increase in the load on their eyesight and hearing, an increase in the time spent working with gadgets, and others. Almost 6% of respondents said they did not notice any physical or psychological difficulties.

Figure 9. What psychological and physical difficulties have you experienced in connection with the transition to online learning? (p.13)



Source: calculated by the authors based on the results of the survey.

Regarding students' assessment of the quality of educational services, and in particular, the level of theoretical knowledge and practical skills, it is important to note that despite the numerous advantages of distance learning, the largest share of respondents expressed dissatisfaction. In particular, more than 40% of respondents assess the level of theoretical and practical training received online as insufficient. At the same time, more than a third (36%) of the respondents believe that the knowledge and skills they have acquired are sufficient to be applied in practice.

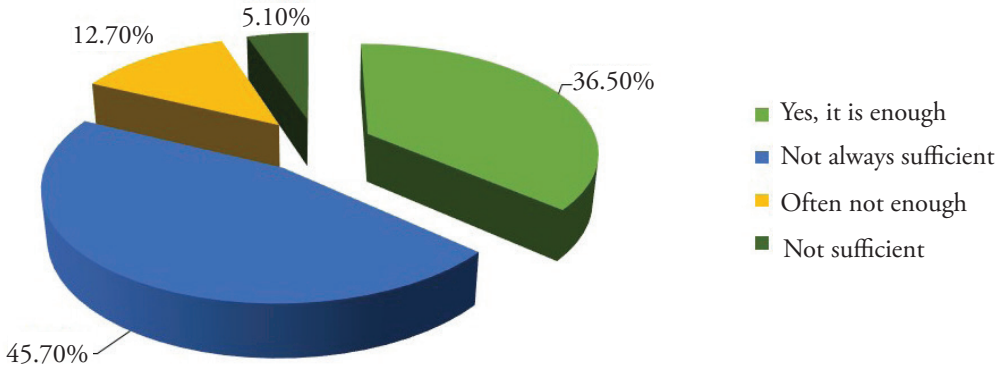
As is well known, the quality of the educational process largely depends on how effectively communication is established between its participants, how promptly and constructively the teaching staff responds to the audience's requests. In this regard, it is important to note that the online learning format somewhat complicates and slows down the process of receiving feedback. This is confirmed by the distribution of answers to the question "Could you influence the amount of educational material offered?". Only 14% of respondents said that they did. Half of the surveyed students said that they could only sometimes influence the amount of educational material. More than 35% said they could not influence teachers to change the amount of material.

At the same time, it is important to note a certain loyalty of students to their teachers, as a significant part of the surveyed respondents (47.6%) are generally satisfied with the amount of feedback. At the same time, 28.2% of respondents believe that the feedback was not sufficient. A significant proportion of the surveyed students are generally satisfied with the amount and quality of the educational material presented. For example, 44% of respondents said that the educational material, its volume and quality fully met their needs. A slightly smaller proportion of respondents

(37%) said that the material met their needs only partially. Only 13% of students were dissatisfied because they believe that the material did not meet their needs.

As part of the study, respondents were asked questions about the adequacy of online assessment of their knowledge. Interestingly, the overwhelming majority of respondents noted that the assessment criteria in the online mode differ from the traditional one. However, opinions differed on whether they have become more complex or simplified. Thus, 26% of respondents believe that online assessment criteria have become more complicated. 22% of the surveyed students noted the simplification of assessment criteria. One third of respondents did not notice any changes in the assessment criteria. About 20% of respondents could not answer this question. In general, the largest share of respondents (46.5%) believes that online assessment of students' knowledge is only partially possible (Figure 10). Another 24.3% of respondents said that the online mode allows for an adequate assessment of students' knowledge. According to 23%, this mode of teaching does not allow for adequate assessment of students' knowledge.

Figure 10. In your opinion, is there sufficient teaching and methodological support for the online educational process? (p.15).



Source: calculated by the authors based on the results of the survey.

The surveyed students are not fully satisfied with the educational and methodological support of the online learning process. Almost half of the respondents said that it was only partially sufficient (Figure 10). Another 12.7% of respondents rated the teaching and methodological support as insufficient, which indicates that there are certain problems in this area. At the same time, one third of the respondents rated the teaching and learning support as sufficient.

Some problems in the areas of methodological support, promptness and quality of feedback, and adequacy of assessment to some extent explain the fact that a significant part of respondents (48%) believe that the online learning format allows to develop the necessary professional competencies only partially. About 20% of respondents are convinced that the online learning mode cannot provide the required amount of competencies.

Modern Internet technologies open up new educational opportunities, but at the same time, consumers of educational services realize that it is impossible to fully ensure the training of a specialist using them alone. This was emphasized by 23% of respondents. More than 40% of respondents believe that modern Internet technologies can only partially ensure the train-

ing of a specialist. However, some respondents believe that these technologies are sufficient to train a competitive specialist in demand in the modern labor market.

The experience of implementing the educational process in an online format allowed to test information software platforms to some extent. In this regard, it is worth noting that publicly available free services have proven to be quite good. Thus, almost 45% of the surveyed students rated them as more effective and practical. One in five respondents spoke in favor of specially adapted online platforms, as they consider them more effective.

Given the above survey results, it is obvious that the almost four-year practice of forced use of online learning in higher education institutions has shown that this approach needs to be improved. In our opinion, relevant measures to improve the effectiveness of online learning during quarantine and post-quarantine restrictions, in the current conditions of martial law and post-war reconstruction should include:

- introduction and development of synchronous, asynchronous and blended learning forms to ensure the safety of participants in the educational process and expand their access to educational services;
- application of flexible modes of study and rest for participants of the educational process during the school year and day;
- development of information and communication infrastructure (ensuring quality Internet coverage, providing participants of the educational process with modern computer equipment with appropriate software);
- improving the content of disciplines to focus them on the formation of competencies demanded by the modern labor market;
- application of innovative methods and ways of teaching (in particular, wider use of material visualization, introduction of gamification of the educational process, use of the project approach in teaching) (Makhsma, Chub, 2022);
- raising the professional qualification level of research and teaching staff in the field of information and communication technologies, training the teaching staff in new information technologies, skills in working with online tools and digital learning platforms;
- establishing constructive communication between teachers and students through the use of popular social media messengers to improve student feedback;
- monitoring the quality of educational services by conducting periodic surveys of students on their satisfaction in order to identify shortcomings and make adjustments to the educational process;
- observance of scientifically based work and rest regimes for all participants of the educational process in the online format, prevention of 24/7 work for both academic staff and students;
- providing psychological support to all participants in the educational process, both students and academic staff.

CONCLUSIONS

The survey of higher education applicants showed that online learning has become a firm part of educational practice and will continue to be used in the educational process regardless of quarantine restrictions and the security situation, as it allows to significantly diversify teaching methods, expand and improve its content, make it more accessible and effective. At the same time, the practice of its application has shown that the use of online learning requires its continuous improvement. Relevant measures in this context are: development of information and communication technologies and infrastructure, raising the professional qualification level of academic staff in the field of information and communication technologies and information literacy of students, regular monitoring of the quality of educational services to identify and eliminate shortcomings, etc. The implementation of these and other similar measures in the educational practice of higher education institutions will ensure the continuity of the educational process, improve the quality and efficiency of online learning, which will have a positive impact on the quality of the future workforce and contribute to its effective employment.

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