"DIGITAL CAMPUS" OF THE UNIVERSITY IN MARTIAL LAW: CHALLENGES AND PROSPECTS

[a]ALONA STADNYK, [b]OLENA KHODUS, [c]OKSANA STADNIK, [d]NATALIA DIEVOCHKINA, [e]OLEKSII KOTOV, [f]ANDRII IVANCHENKO

[a]*Mariupol State University, 6, Preobrazhenska Str., 03037, Kyiv, Ukraine*
[b]*Oles Honchar Dnipropetrovsk National University, 72, Gagarin Ave., 49010, , Ukraine*
[c]*Institute of Practical and Art-Management, National Academy of Culture and Arts Management, 9, Lavrska Str., 01015, Kyiv, Ukraine*
[d,e,f]*National University "Zaporizhzhia Polytecnic', 64, Zhukovsky Str., 69063, Zaporizhzhia, Ukraine*
email: [a]a.g.stadnyk@gmail.com, [b]hodus2@ukr.net, [c]pironkova721@gmail.com, [d]ndev@ukr.net, [e]kaf26ll@ukr.ne, [f]andivazntu@gmail.com

Abstract: The relevance of this topic is primarily related to the transition of the higher education system to a remote work format. This caused increased relevance of the issue of digitalization of the educational process and the transition from a traditional university to a "digital campus" of the university. There is a certain transformation of the educational process in the direction of digitalization, which poses both certain challenges and development prospects for higher education institutions. The purpose of the work is to analyze the main aspects of the implementation of the "digital campus" of the university during the period of martial law (using the example of the Mariupol State University) and to determine the main components. To achieve the purpose of the article, the following general scientific methods of studying social phenomena and processes are used, namely: logical-historical, structural-functional, comparative; analysis and synthesis, classifications, structural and functional analysis, generalization. The empirical basis of the research is data from a sociological study conducted by the authors: an expert survey of representatives of Mariupol State University, namely: representatives of the rectorate, deans of faculties, heads of departments, heads of chairs, representatives of administrative staff, etc. (25 people, 2023). The research we conducted made it possible to identify certain challenges and development prospects facing modern higher education institutions thanks to the creation of a "digital campus" of the university. It was concluded that the modern "digital campus" of the university has positive features in the development of higher education in Ukraine and opens a new round of development with the expansion of the educational boundaries of all participants in the educational process. Namely the "digital campus" of the university during the period of martial law is aimed at satisfying the educational community, ensuring the openness and transparency of the educational process, the transition to full electronic management of higher education institutions in the conditions of digitization of the sphere of higher education.

Keywords: digitalization; digital transformation; digital campus; higher education; higher education institutions; university; martial law.

1 Introduction

Modern life in the globalized world is inextricably linked with the processes of digitization and digital transformation, and these processes cover all spheres of social life, including the sphere of education. Most researchers explain this with the emergence of new modern requirements, which are characteristic namely of the digital society [6, p. 158]. The volatility of the current state of Ukrainian society, which was caused by the full-scale war of Russia against Ukraine since February 24, 2022, showed the importance and significance of digitalization of higher education in Ukraine for its continuous process and development. The digital transformation of education poses to institutions of higher education (hereinafter, HEI) both certain threats and prospects for further development.

Modern society is radically different from all previous forms of human existence. A person finds himself in a constantly changing world, and is forced to adapt with great effort and transform in search of new opportunities to realize his spiritual needs and individual inclinations [14, p. 49]. In the 21st century, digitalization is considered a key factor in the development of all spheres of life in modern society (political, educational, economic, social, cultural relations, etc.) [1]. The rapid digitization of the educational process not only requires the use of innovative technologies and interactive teaching methods (with the help of various platforms such as Zoom, Class room, Moodle, etc.), but also changes the overall system of management and monitoring of the quality of education, the scientific activity of teachers and the development of the educational environment. Undoubtedly, this contributes to a certain development of higher education institutions and, as noted by the Ukrainian scientist S. Karpluk, digitalization contributes to the simplification of the educational process for all its participants, which allows making it more flexible, adapted to the realities of today and, as a result, ensuring the proper preparation of competitive specialists [10, p. 191].

During the period of martial law in Ukraine, digitization of all spheres of life represents the main factor in the formation and growth of modern society. Based on the Digital agenda of Ukraine [4], namely the system of higher education and its transformation towards digitalization is important for the implementation of digitalization processes in Ukrainian society. The legislative base of Ukraine states that the priority direction of higher education is the open and transparent activity of higher education institutions, which is not limited by time and place of access to all educational materials and integration with the European educational space. Digitization of HEIs is a certain challenge and at the same time - a positive aspect for universities. This will contribute to increasing competitiveness, attracting additional resources (in particular, from abroad), improving digital infrastructure, enhancing the quality of the educational process, promoting academic mobility, increasing the flexibility of the educational process, etc.

In view of the military situation in Ukraine, which has been going on for the second year already, the university in the traditional sense loses its ability to compete with the challenges facing higher education: lifelong learning, mobility and the development of internationalization, flexibility of educational programs, the introduction of an IT component into educational programs and science studies, creative learning, 21st century competencies, e-science, etc. [12]. Therefore, one of the main tasks today is to ensure the digital transformation of universities, which will meet the requirements and opportunities of the market, implement integration with the global informational open educational space, that provides for free access of all participants to global digital resources, meeting the educational needs of students in digital products, and as well as effective e-communication and e-cooperation of all participants in the educational process [3].

In particular, it can be noted that the digitalization of higher education today will enable higher education institutions to be more flexible and effective in the context of the educational process, make the university valuable thanks to electronic management, increase its transparency and efficiency, which will make it possible to build a unique "digital campus" of the university in the educational plane.

2 Materials and Method

To solve the purpose of the article, the following general scientific methods of learning social phenomena and processes are used, namely: logical-historical, structural-functional, and comparative - to study the terms "digitalization of education", "virtualization of education", "digital campus" in the educational process; analysis and synthesis method - to highlight the content and specifics of the "digital campus"; method of classifications - for typology of challenges and prospects of higher education in view of the military situation in Ukraine; structural and functional analysis - to clarify the structure and functions of the "digital campus" of the university during the period of martial law; generalization - to determine the prospects for the formation and development of the "digital campus" of the university in modern Ukrainian society, which is in a state of full-scale war.

The empirical basis of the research is data from a sociological study conducted by the authors: an expert survey of representatives of Mariupol State University, namely: representatives of the rectorate, deans of faculties, heads of departments, heads of chairs, representatives of administrative staff, etc. (25 people, 2023).

The theoretical basis of the study was the fundamental scientific provisions in the field of digitization of education, which are reflected in the works of Ukrainian scientists: O. Glazunova, L. Didenko, I. Kosenko, E. Smirnova-Trybulska, I. Tverdohlib, S. Yakubov, and others. Also, it is worth noting the personal contribution to the development of the outlined problem by other scientists and researchers, including: G. Doran, T. Chan, J. Hwang, J. Hidasi, T. Malon, R. Morel, and others. These works highlight the problems of reforming and modernizing the existing system of higher education in accordance with the current state of the state, and analyze the ways to overcome the challenges associated with the phenomenon of digitalization of higher education institutions.

3 Results and Discussion

For more than seventy years, the digital revolution has been going on in the world, which is a multifactorial transition from an analog to a digital way of processing, storing, and transmitting data, and, accordingly, there is rapid development of hardware and software that serves these processes. These changes have their origin in scientific research of those innovations that, with a successful coincidence of socio-economic circumstances, reach industrial development and mass implementation [10]. The start of a full-scale war of Russia against Ukraine led to the transition of many spheres of life in society to virtual space, and education in this sense is no exception. Namely the digitization of education made it possible for higher education institutions to continue working and developing even during the occupation of certain territories, internal relocation of universities, etc. Therefore, the scientific substantiation and introduction into practical activity of the definitions “digitalization of education”, “digital campus” show us that they have been established in the scientific environment relatively recently and this is primarily connected with the penetration of information technologies into public life, and secondly - with a full-scale war in Ukraine.

Based on this, one of the key directions of tasks in the context of digitalization of the educational process is a clear understanding of the specifics of the term “digitalization”. In particular, digitalization appeared thanks to the intensive development of information technologies and became an integral part of the development of modern society.

The modern information community puts in the concept of “digitization” the following meaning: “a digital method of communication, recording, data transmission using digital devices”. At the same time, A. Murray considers digitization as a paradigm shift in communication and interaction of individuals with each other and society [13]. E. Vartanova, M. Makseenko, S. Smirnov clarify the meaning of this concept, and note that it is not only the translation of information into digital form, but a complex solution of an infrastructural, managerial, behavioral, and cultural nature [5]. In particular, digitalization facilitates the educational process, making it more flexible and interesting for all participants of the educational process, adapted to modern realities (in particular, to the military state of Ukrainian society), which in turn gives the opportunity for higher education institutions to form competitive specialists in various fields of science.

In education, digitization is aimed at ensuring the continuity of the learning process, i.e., life-long-learning, as well as its individualization based on advanced-learning-technologies. There is no established definition of this term yet, but it includes the use of significant data about the process of mastering certain disciplines by individual students in education and, in many ways, automatic adaptation of the educational process based on them, the use of virtualization, augmented reality and cloud computing, and many other technologies [9].

The information format of the educational environment is based on the digital presentation of information. In contrast to, for example, the electronic format (which has been used in higher education institutions for many years), the digital format presents information in more detail, ensures its free circulation, presentation, processing, and use in computer networks. In particular, the digital education system includes the following elements:

- Management system (user authorization, testing, content, personal and collective space);
- Telecommunications (network environments, mobile environments, television, mass communications);
- Information resources (educational portals, hyper-collections, social networks, information arrays) [9].

In particular, it should be noted that the digital technologies introduced by higher education institutions act as a certain educational environment that opens up new opportunities for both higher education institutions and students: study at any time and in any place on the planet; the possibility of creating an individual study schedule, etc. Digitization of higher education enables students to use mobile phones and Internet technologies in the educational process, which expands opportunities and makes this process limitless.

Despite the above-mentioned advantages of the digital transformation of HEIs, Ukraine was forced to take this path due to Russia's full-scale war against Ukraine. The team of authors (S. Ilyashenko, Yu. Shipulina, N. Ilyashenko) in their study examines the digital transformation of higher education institutions in the conditions of war. It is clear that during the war, the educational process faced a new challenge: many people were evacuated from the temporarily occupied territories, many were left homeless and are refugees, but at the same time they want to study with their own course. Therefore, digital transformation is becoming even more relevant for educational institutions of Ukraine. In addition to universities, the use of digital technologies during the war should be implemented in all areas where there are opportunities to retrain working people [7]. A. Guralyuk also considers various aspects of digitalization of higher education - the researcher claims that digitalization represents a component of digital transformation, and also ensures the improvement of the quality of the educational process by implementing a set of measures [7].

However, despite all the positive features of digitalization of higher education, it has a rather complex and ambiguous process. Digitization, according to Ukrainian researchers, also has a reverse side, which must be taken into account when planning relevant digital transformations in higher education institutions. Scientists point to a real decrease in the status of university diplomas in the conditions of open and online education, to the actual increase in the teacher's workload in the conditions of digitalization of education, which is not yet normatively taken into account in the system of standardizing wages. In addition, the function of socialization of education seekers, who mostly fall out of the micro-society of the institution of higher education and become individualized in the digital environment, is leveled. There are potential threats of the destruction of the traditional model of education, which is reflected in the devaluation of humanitarian knowledge in the processes of digitalization of education and the economy [11].

During the digitalization of education, the concept of “digital campus” is important, in which all participants of the educational process receive personalized data about resources, devices, and audiences for more effective performance of tasks. There are various scenarios for the implementation of a digital university, for example: the use of virtual and augmented reality for the presentation of the university; using artificial intelligence to quickly respond to various requests received online; introduction of e-learning using adaptive technologies based on analytical data about students to increase the efficiency of the educational process; the use of electronic document flow to speed up management and save resources; intelligent decision-making systems; management of university resources using artificial intelligence, etc. It is important for the university to systematically use appropriate solutions according to educational and management needs [2].

The path of transition from a traditional university to a “digital campus” of a university is a process in which all participants of the educational process receive open and round-the-clock access to any information, and the educational process itself is so included in the process of digitalization of education that all employees and students cannot do without services that are in the information environment of the “digital campus” of the university. At the same time, due to constant inclusion in the educational process, the duties of both employees and students are performed much better, which justifies the entire path of digitalization of education.

It should be noted about the appropriate readiness of Ukrainian higher education institutions for digital transformation (sufficient level of digital architecture, appropriate management process, ability of higher educational institutions staff for digital work, financial capacity for digital transformation, etc.). Such a transformation of higher education institutions requires the use of a step-by-step way of creating a suitable university policy and involving relevant specialists. Based on the conducted research, most of the experts interviewed by us agree that today the Mariupol State University (hereinafter MSU) only partially corresponds to the “digital campus” of the university, although a certain amount of work has already been done: “At the moment, integration into the new site of virtual and augmented reality for the presentation of the university is taking place, and the use of a chatbot in communication with entrants has been introduced; artificial intelligence is implemented to quickly respond to various online requests from the main page of the site; e-learning was introduced using adaptive technologies based on analytical data about students to increase the efficiency of the educational process on the Moodle educational portal of MSU; electronic document management iDoc of MSU is used to speed up management and save resources; intelligent decision-making systems are used, which are an element of the iDoc automated electronic document management system”.

However, there are also certain problems in running the “digital campus” of the university that MSU faces and there are a number of reasons for this, namely: “a) lack of personal user accounts; b) there is no posting of the schedule in Outlook; c) lack of virtual laboratories; d) a number of technical obstacles (including software) and the issue of individual digital competences and access to modern digital devices of all participants in the educational process; e) insufficient funding”.

In order to understand the construction of the picture of the ideal “digital campus” of the university, the main stages of its implementation should be determined, which include the following steps:

- Analysis of legal, ethical, human, technical, social, and environmental factors of implementing a digital campus system
- Analysis of existing LMS, LCMS, CRM, online libraries for the purpose of their integration and transformation;
- Determining the needs of all participants in the educational process;
- Analysis of existing challenges, opportunities, tools, and systems;
- Creation of a general concept of system implementation and its adaptation for needs and requests;
- Construction of a model for the implementation of the digital campus system;
- Formation of the implementation plan;
- Implementation and monitoring of the effectiveness of the functioning of the digital campus;
- Conducting a series of educational trainings on interaction in the digital campus for the administration, teachers, and students;
- Creation of cases of work with each individual component of the digital campus [2].

In the scientific sense, Ukrainian scientists have already defined the permanent components of the “digital campus” of the university, namely:

1. Digital science – electronic scientific journals, archive of scientific publications, publications check for plagiarism, electronic conferences, publication activity system, digital library;
2. Digital education - e-learning system, e-dean's office, e-admission, check of works for plagiarism, schedule, workload, professional development of personnel, education quality monitoring system;
3. Digital management of the university - e-document circulation, e-accounting, database of activity registers, register of regulatory framework, e-monitoring of all processes of the educational process, image and leadership, students presentation system, visualization and analytics of activity;
4. Digital infrastructure - virtual workplaces, use of BYOD technologies, IP telephony, distributed access, E-inventory, extranet level network, connection to eduroam [2].

In order to develop a strategy for a university's “digital campus”, it is necessary to understand its ideal components, and that is why, during the research, we asked the respondents the following question: “Pease specify the key components of an ideal university's “digital campus”, and received the following answers: “1. A reliable learning management system (LMS); 2. Involvement of virtual classes; 3. Rich multimedia content; 4. Online library and research resources; 5. Personalized learning trajectories; 6. Tools and platforms for joint work; 7. Virtual student services; 8. Social involvement and community involvement; 9. Mobile-friendly and affordable design; 10. Data analytics and student support; 11. Operational work of departments related to the digital campus, aesthetic and technical component, comprehensibility and usefulness for each user; 12. Speed and efficiency of work and response, responsibility of all participants, modern technical equipment and software, digital competences of participants; 13. Digital marketing aimed at organizing interaction with educational and support staff, scientific and pedagogical workers, graduates, students, applicants using a range of digital communication channels; monitoring of changes regarding the formation of a positive image of the university; stimulating the creation of new digital communities and innovations; development of personalized advertising materials for target audiences”.

Analyzing the ideal components of the “digital campus” of the MSU university, it can be seen that their compliance is approximately 50% (according to the results of the experts' answers). The solutions available at MSU are rather fragmentary in nature of the digitalization of the university, which is why there is a problem of combining them into a single system of the “digital campus” and, accordingly, it should be supplemented with the missing components. That is why, in our research, we emphasized the analysis of challenges faced by all higher education institutions of Ukraine, and MSU in particular, when implementing the university's “digital campus” and development prospects.

So, regarding the challenges of the “digital campus” of MSU, the results of the research showed the following: “1. Technological infrastructure: creation of a reliable technological infrastructure to support the digital campus; 2. Access and communication: ensuring equal access and reliable communication for all participants in the educational process; 3. Learning and digital literacy: The transition to a digital campus requires equipping faculty, staff, and students with the necessary digital skills; 4. Development and adaptation of content: it is necessary to develop or adapt the content of courses in accordance with online submission methods; 5. Involvement of students and community building: maintaining the involvement of students and teachers, fostering a sense of community in the digital space; 6. Assessment and academic integrity: ensuring fair and secure assessment in the online environment; 7. Support services and well-being of students: offering comprehensive support services and care for the well-being of participants in the educational process within the digital environment; 8. Data security and confidentiality: protection of confidential data of participants in the educational process and ensuring confidentiality in the

"digital campus"; 9. Teacher encouragement and training: encouraging teachers and providing them with the necessary training and support to implement digital tools and learning strategies; 10. Financial costs: developing and maintaining a "digital campus" may imply financial costs; 11. Low level of media literacy, reluctance and unwillingness to accept new things; 12. Conducting a series of educational trainings for teachers and students on interactions in the digital campus, creating cases of work with each individual component of the digital campus".

Also, we analyzed the prospects for development that open up to the HEIs in the formation of the "digital campus" of the university, namely: "1. Expanded access and reach: creating a digital campus will allow reaching a wider audience beyond traditional geographic boundaries; 2. Flexibility and Personalization: digital campuses offer flexibility in learning, allowing students to access educational resources at their own pace and convenience; 3. Improved collaboration and interaction: digital platforms and tools enable rich collaboration and interaction between students and faculty researchers; 4. Innovative teaching and learning methods: the digital campus opens up opportunities for innovative teaching and learning methods; 5. Lifelong learning and professional development: digital campuses provide opportunities for lifelong learning and continuous professional development; 6. Data-driven statistics and analytics: digital campuses generate vast amounts of data that can be used for analysis and improvement; 7. Collaboration and partnership: digital campuses can facilitate collaboration and partnership between universities around the world; 8. Cost optimization and sustainability: although creating a digital campus requires an initial investment, it can lead to long-term cost optimization and sustainability; 9. Continuous improvement and adaptability: digital campuses offer the advantage of continuous improvement and adaptability; 10. Global recognition and reputation: a well-implemented digital campus can increase a university's global recognition and reputation; 11 Overcoming territorial attachment for education acquirers; 12. Greater speed of information processing, creation of conditions for an individual approach to the participants of the educational process, easier work for employees due to saving time and own resources; 13. Competitiveness of higher education institutions on the national and international markets of educational services, inclusiveness of educational services, cost-effectiveness of the educational process, etc."

4 Conclusion

Thus, it can be noted that the modern "digital campus" of the university carries positive features in the development of higher education in Ukraine and opens a new round of development with the expansion of educational boundaries of all participants in the educational process. Namely the "digital campus" of the university during the period of martial law is aimed at satisfying the educational community needs, ensuring the openness and transparency of the educational process, the transition to full electronic management of higher education institutions in the conditions of digitization of the higher education sphere.
From the point of view of further research, the question of involving all participants in the educational process in full electronic access to higher education services and quality education remains important.

Literature:

1. Borodin, Y., Sorokina, N., Tarasenko, T., Volkova, N., Akimova, L., Akimov, O. (2023). Social Policy Development in the Conditions of Digital Transformation of Society. *Ad Alta: Journal of interdisciplinary research, 13*(01), XXXIV, 40-46
2. Buynytska, O., Varchenko-Trotsenko, L., & Hrytselyak, B. (2020). Digitization of the institution of higher education. *Educological Discourse, 1*(28), 64-79. https://elibrary.kubg.edu.ua/id/eprint/31370/1/O_Buinytska_L_Varchenko_B_Hrytseliak_OD_28_NDLIO.pdf
3. Buynytska, O., & Hrytselyak, B. (2013). A student in the informational and educational environment of a modern university. *Information Technologies and Teaching Aids, 4*, 66-83.
4. Digital agenda of Ukraine - 2020. https://ucci.org.ua/uploads/files/58e78ee3c3922.pdf
5. Havrilova, L. G., & Topolnyk, Y. V. (2017). Digital culture, digital literacy, digital competence as modern educational phenomena. *Information Technologies and Teaching Aids, 5*(61), 1-14.
6. Genseruk, H.R., & Martyniuk, S.V. (2019). Development of digital competence of future teachers in the conditions of a digital educational environment of a higher education institution. *Innovative Pedagogy, 19*(2), 158-161. http://dspace.tnpu.edu.ua/handle/123456789/16753
7. Guralyuk, A. G. (2021). Digitization as a condition for the development of the education system. *Bulletin No. 13 (169). Series: Pedagogical Sciences*, pp. 3-8.
8. Ilyashenko, S. M., Shipulina, Yu. S., & Ilyashenko N. S. (2022). Digital transformation of educational activities of higher education institutions of Ukraine in the conditions of war. Higher education according to new standards: challenges in the context of digitalization and integration into the international educational space, Proceedings of the International scientific and methodological conference, May 10, 2022. Kharkiv, pp. 7-10.
9. Karpluk, S. O. (2017). Information and pedagogical management of higher education: current state and prospects for development. *Scientific Bulletin of Uzhhorod University. Series: Pedagogy. Social Work, 241*, 122-125.
10. Karpluk, S. O. (2019). Peculiarities of digitization of the educational process in higher education. Information and digital educational space of Ukraine: transformational processes and prospects for development: materials of the methodological seminar of the National Academy of Sciences of Ukraine. April 4, 2019. Kyiv, NAPNU, pp. 188-197.
11. Kindratets, O. (2019). Problems of digital transformation of education. Education as a factor in the formation of creative competences in the conditions of a digital society. Proceedings of the international scientific and practical conference, November 27-28, 2019 (pp. 59-60). Zaporizhzhia: ZNU. https://web.znu.edu.ua/NIS//2019/zbirka-tez.pdf
12. Lappo, V.V., Soichuk, R.L., & Akimova, L.M. (2022). Digital technologies of support the spiritual development of students. *Information Technologies and Learning Tools, 88*(2), 103-114
13. Malik, I.P. (2013). Trends in the development of the information economy in Ukraine. *Bulletin of the East European University of Economics and Management, 14*, 25-34
14. Stadnyk, A., Bondarenko, O., Khodus, O., Ihrushko, A., Stadnik, O., Vaniushyna, O. (2023). The use of new media in the process of conducting information wars: a sociological aspect. *AD ALTA. Jornal of Interdisciplinary Research, 13*(1), special Issue XXXII, 48-52.

Primary Paper Section: A

Secondary Paper Section: AM