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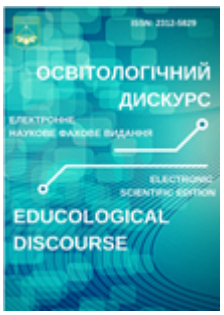

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Digitalization of Education in the Medical University: Transformation Factors

Abstract. *The COVID-19 pandemic provoked a sudden transition to distance learning and intensive development of the digital environment of universities in Ukraine, which, in fact, continues to this day. Considering the wide and sustainable implementation of digital technologies in the national health care system, there is a need to investigate the digitalization of education in institutions of higher medical education, and to assess how successful the process of forming the innovative infrastructure of a modern university and the range of possible consequences of the rapid implementation of digital education. The article examines the experience of organizing distance learning, which is regulated by regulatory documents, the conditions for the formation of electronic and digital infrastructure components in a modern university; study of the spectrum of possible consequences of the use of digital education in institutions of higher medical education. The concepts of «digital education» and «digital competence», «digital medical technologies» were are analyzed. The educational process is considered, namely online courses and distance educational technologies, educational resources, virtual digital library. The implementation of educational disciplines in medicine using virtual simulators and augmented reality is analyzed. Considered the issues of organizational and management sphere in the medical university. Some applications were analyzed, namely, a*

digital campus, an electronic student card, a digital diploma, a digital footprint of a higher education applicant, a teacher's digital portfolio, etc. The image positioning of the medical university is considered, namely, the website of university, digital transformation of career guidance and employment processes; creation of a competence center at the university as a basis for improving the qualifications of professors and teaching staff based on the concept of continuous education. The positive and negative social effects of the use of digital technologies in the educational environment are analyzed.

Keywords: *medical education, distance education, digital education, digital university, digital diploma, digital profile, competence.*

Introduction. Formulation of the problem. Today's digital technologies are replacing the traditional approaches of society to the educational, economic, political and social spheres of life. These processes are significantly accelerated both under the influence of external factors and under the influence of factors that cannot be predicted. The outbreak of the SARS-CoV-2 coronavirus pandemic pushed public consciousness to global changes in the formation of new principles for the functioning of the medical sphere, the sphere of education, the sphere of entrepreneurship and production, construction and transport, financial relations, etc.

Ukraine's digital arena is currently associated with military actions aimed at protecting the integrity of the state and state borders, and is also a platform for many stakeholders: non-profit organizations, academia, foundations, engineers and innovators, research and scientific institutes. Non-governmental organizations, donors, service providers and government agencies, individuals, families and communities in the digital health environment all have a role to play.

The development of digital skills of healthcare workers is crucial for the well-being and health of society (Batyuk, 2022), (Draft Decree of the Cabinet of Ministers of Ukraine “On the approval of the “Strategy for the Development of the health care Healthcare System” until 2030 and the approval of the operational plan for its implementation in 2023», 2023), (Alkhowailed, 2020), (On the approval of the Procedure for the involvement in the provision of medical care of pharmaceutical workers, students of higher education

of 4-6 years of study in specialties of the field of knowledge 22 “Health Care”, junior specialists with medical education, intern doctors and specialist doctors without certification requirements for assigning or confirming a qualification category for the period of quarantine, introduction of an emergency situation, state of emergency or martial law: Decree of the Cabinet of Ministers of Ukraine, 2023). Education programs in higher medical education institutions must ensure that future health workers can skillfully use digital technologies, whether in the provision of care to the population or in the management, administration and planning of health facilities. But first of all, the radical restructuring of society in the last five years affected the sphere of education. Forced by external circumstances, the surge of distance innovations and the growth of the scale of digital education, associated with the emergency transfer of educational processes to the format of distance education, immediately highlighted the problems of universities: the degree of development of the information infrastructure of universities, the provision of disciplines with electronic educational resources, and the readiness of teachers to use electronic services and platforms (Vasko, 2020), (Jiang, 2022), (Batyuk, Zhernovnykova, 2022), (Nalyvaiko, 2021).

The purpose of the article is to consider the principles of formation of digitalization of education in the medical university and the innovative structure of the modern university, the factors of its transformation. To investigate the experience of distance learning organization, the conditions for the formation of components of the electronic and digital infrastructure in a modern university; to study the range of possible consequences of using digital education in an institution of higher medical education.

Methodology. The article uses theoretical methods of research (analysis), empirical (description) and general logic (generalization, comparison).

Analysis of scientific research and publications. Scientific achievements and digitalization have a huge impact on increasing the efficiency and productivity of work in almost all spheres of society. Today, one of the priority areas of higher education development in Ukraine is the implementation of distance learning and the development of digital learning, which is regulated by such regulatory documents as the Law of Ukraine «On Higher Education» (On higher education: Law of Ukraine, 2023), the Strategy for the

Development of Higher Education in Ukraine for 2022-2032 (Decree of the Cabinet of Ministers of Ukraine, 2022), the Law of Ukraine «On the National Informatization Program» (Law of Ukraine, 2022), the Regulation on distance learning (Order of the Ministry of Education and Science of Ukraine, 2020), the Order of the Ministry of Education and Science «Some issues of the organization of distance learning» (Order of the Ministry of Education and Science of Ukraine, 2023), the Order of the Cabinet of Ministers of Ukraine «On approval of the plan of measures for the implementation of the National Strategy for the development of a safe and healthy educational environment in a new Ukrainian school for 2023» (Order of the Cabinet of Ministers of Ukraine of February, 2023), Resolution of the Verkhovna Rada of Ukraine On Approving the Tasks of the National Informatization Program for 2022-2024 (Resolution of the Verkhovna Rada of Ukraine, 2022), Decree of the Cabinet of Ministers of Ukraine On Approval of the Strategy for Implementation of Digital Development, Digital Transformations and Digitalization of the State Finance Management System for the Period until 2025 and the approval of the plan of measures for its implementation (Decree of the Cabinet of Ministers of Ukraine, 2023), and other normative legal acts regarding distance education in Ukraine. Online learning is considered a possible and appropriate method of conducting practical classes, meetings, etc. (O'Doherty, 2018). The need to implement distance learning was officially confirmed for the first time in the conclusions of the round table (January 2013, Davos), which was dedicated to distance education (World experience in the development of distance forms of education in the domestic context, 2014). It was attended by: ex-Minister of Finance of the USA, honorary president of Harvard University Larry Summers, president of the Massachusetts Institute of Technology Raphael Rafe, founder of Microsoft Bill Gates, co-founder of the PayPal payment system Peter Thiel and other interested persons. The main conclusion of the meeting was the thesis: the future is based on online education (World experience in the development of distance forms of education in the domestic context, 2014).

The expansion of global virtual learning depends on the availability of tools and options for active learning and their role in the field of medical education (Wong, 2010), (Masic, 2008). According to a number of experts, as early as 2000 it was predicted that in

the near future a person would devote up to 40% of his total study time to distance learning, including distance learning in the field of medicine, combining it with traditional forms of face-to-face classes (40%) and self-education (20%) (Khadivar, 2014), (Rezaee, 2016).

Working with digital technologies and digital content requires a reflexive and critical attitude to their development; an ethical, safe and responsible approach to the use of digital resources; of digital competence in the training of both future teachers and professional development of working teachers (Morze, 2019), (Morze, 2017). Digitization of education is prescribed in the Law of Ukraine «On the National Informatization Program» (Law of Ukraine, 2022), which clearly defines the direction for the formation and development of the intellectual potential of the nation, improvement of forms and the content of the educational process, the introduction of computer-based teaching and testing methods, which will make it possible to solve the problems of education at the highest level, taking into account global requirements. Among such urgent educational problems are considered: individualization of education, organization of systematic control knowledge, the opportunity to obtain the psychophysiological characteristics of each child, etc. In November 2005, the so-called Alexandria Declaration was adopted in Alexandria, in which it was declared that “information literacy and education throughout life are beacons of IS that illuminate the paths to development, prosperity and freedom” (Garner, 2006). The Declaration emphasizes the importance of lifelong education, which helps “individuals, societies and nations to achieve their goals and use the new opportunities that appear in the process of globalization of the world for the common good; helps them and their institutions meet technological, economic and social challenges, overcome obstacles and achieve general well-being” (Garner, 2006).

In 2000, UNESCO adopted the «Information for All» Program, which later formed the basis of subsequent similar programs. This Program defined the basic postulates of using information technologies and knowledge in various fields, including education, science, and communications. In recent years, digital education has been evaluated and certified according to various parameters in the context of education with different points of view. The European Digital Competence Framework (Digcomp) is widely used to

support strategic planning and policy development, for development initiatives in the field of education and training and to assess the digital competence of participants (Redecker, 2017). Digital competence achieved during education is defined as the confident, critical and creative use of ICT to achieve goals related to work, employment, learning, leisure, social integration and participation in society (Vuorikari, 2022). The European Commission first proposed Digcomp in 2013 in quality road map of how to use and revise digital competence, and it defines the key elements of digital competence, which constitute the knowledge, skills and attitudes necessary for digital competence (Ferrari, 2013).

In 2016, Digcomp version 2.0 was launched in response to the new demands associated with the rapid development of digitization in all areas of society, as the digital evolution forced itself to be rewritten, leading to changes in competence areas, competence descriptors and their names updated.

The DigComp 2.0 report presents 21 competence with an updated list of five competency areas: (1) information and data competence; (2) communication and cooperation; (3) creation of digital content; (4) security; and (5) problem solving (Vuorikari, 2016). Digcomp 2.1 adds eight language levels and new usage examples (Carretero, 2017).

Since 2022, Digcomp version 2.2 has been released (Vuorikari, 2022). The main focus is a list of examples of knowledge, skills and relationships applicable to each of the 21 DigComp competence (Vuorikari, 2022). In general, digital competence can be defined as a set of skills, knowledge and attitudes that enable a person to achieve goals using digital technology tools in various life contexts. Healthcare systems around the world are facing challenges related to aging populations, multi-morbidity, an increase in preventable non-communicable diseases, and digital illiteracy among healthcare professionals (European Commission, 2018). Digital health technologies are seen as a key solution to many of the challenges reinforced by the health emergency, as they have the potential to change the way health services are delivered and contribute to the health and well-being of millions of citizens (World Health Organization, 2019), (McCall, 2020).

Distance learning is the link between the environment of information and communication technologies and the environment of education, it is a tool provided by

digital technologies to support learning. In other words, it expands opportunities for acquiring knowledge, is the basis of a well-planned and organized learning environment, but in no case can such learning replace existing pedagogical models and standards. The implementation of digitalization of education in a medical university involves the close interaction of educational programs, teachers and students of the university with a number of other educational organizations, digital platforms, digital skills and tools (Action. Digital education, 2022). A distinctive feature is the orientation not on educational standards, but on the implementation of the optimal trajectory of achieving a unique set of competencies necessary for a future specialist to successfully implement in the profession.

Presentation of the main research material. In the digital era, when discussing the specifics of the «digitalization» of medical education in higher education institutions, an important aspect is the study of the elements of the electronic educational environment of a modern university, the study of values and training guidelines for both students and teachers (Batyuk, Zhernovnykova, 2018), (Saffari, 2014). Using the example of the activities of the Kharkiv National Medical University (KhNMU), we will consider the components of the university's electronic and digital environment.

Depending on the scope of application of this or that digital element of education, it is possible to structure the following systematization of the components of the electronic and digital environment of the university (the emphasis is on the organization of distance forms of learning and the introduction of electronic educational resources, with the transformation of the university into a «digital university» as an educational institution of a new format with optimized internal processes):

1. Educational process: online courses and distance educational technologies (KhNMU Moodle platform) (Improving the use of the MOODLE distance learning platform in the educational process, 2020), (Ovcharuk, 2022); conducting classes in the form of webinars (Kajdalova, 2018); educational resources; banks of test tasks and conducting electronic testing (tests, exams) in the form of independent knowledge control (Examples of departments in the formation of thematic, examination evaluations, 2023); virtual digital library (Normative documents of the educational process, KhNMU, 2023).

Distance learning saves up to 35-45% of participants' time. At the same time, students with limited physical capabilities receive more comfortable inclusion in all educational processes and social communications with teachers and fellow students. Digital technologies will make it possible to expand the possibilities of exporting educational services. The implementation of distance education services certainly offers advantages for both universities and students. With the help of such services, educational institutions reduce costs, free up part of the classroom fund, and attract students from other regions and countries. Students get the opportunity to access educational resources in real time, save time and money for travel to educational institutions, combine study with work on a flexible schedule. Currently, for students who were forced to leave their homes within the limits of hostilities and move to other cities or outside Ukraine, this is an important and valid factor for obtaining an education.

Already now, information and communication technology platforms provide universities with the opportunity to meet global development trends and adapt to the growing integration of the Ukrainian education system into the international educational space. The development of online courses and their placement on the world's leading platforms, the availability and mass of educational content, its relevance, are one of the indicators of the university's activity. Currently, almost all Ukrainian universities actively use the Moodle toolkit for hosting online courses. Some universities are developing their own online platforms. Within this direction, universities are developing programs of additional professional education, formed as an online course. These courses include digital lectures in various formats and electronic exam tickets.

The virtual digital library is a single library space providing access to all necessary library resources for students and teachers from any mobile device or personal computer 24/7. The concept of creating a digital library space, in addition to providing access to electronic library systems, involves the development and implementation of the following solutions: 1) digitization of the library fund and the possibility of providing necessary literature to students; 2) the student's personal office in accordance with the disciplines studied in each specific semester; 3) integration with electronic libraries of other universities.

2. Scientific sphere: virtualization of conferences using video communication (Student conference, 2020), scientific and metric service, VR/AR technologies, smart-laboratories equipped with modern equipment (Results of monitoring the quality of education in the distance learning platform of KhNMU, 2020).

The introduction of educational disciplines in medicine using virtual simulators and augmented reality open up new opportunities for the educational process. VR/AR technology is used in a safe experiment, and modern motion capture technologies allow you to abandon joysticks, along with general educational content. VR/AR technologies are an opportunity to demonstrate real objects without leaving the audience. Three-dimensional forms allow you to look at medical objects from different angles. The modern virtual environment allows several participants, including the teacher, to be in it at the same time. This allows students to solve real problems in real time.

3. Organizational and management sphere: electronic record books, personal offices; multimedia auditoriums and conference halls; system of electronic intra-university document circulation; electronic admissions committee; free wireless Internet in educational buildings, dormitories; electronic record in sports sections, «digital diploma» model, «digital footprint» of a higher education applicant, «digital portfolio» of a teacher, etc. Let's consider in more detail.

Digital campus or information environment in the form of a portal solution for students and employees of the university, which is a synthesis of a social network and an educational system. The portal should include subsystems: class schedule; success of students; contingent of employees; contingent of students; educational plans; research activity; analytics.

Electronic student card, a card that is a synthesis of a student card, access cards to the university territory and to the dormitory, an internal payment card for payment (meals, copying and duplicating services, etc.), an electronic score book, an electronic reading card for access to the digital library. The proposed solution can later serve as a source data for a digital diploma.

Electronic list or a digital solution, which is a synthesis of classical information, stored in the form of a database and available to both the university administration and the

student. The electronic record can also be a set of data representing information about optional courses that the higher education applicant has taken, can be implemented in the form of a blockchain solution. In addition, the electronic statement should become part of the «*digital footprint*» of the student who has obtained higher education, which is also one of the elements of the proposed concept of the digital university model.

Electronic dean's office which combines the functions of the university dean's office and the functions of a «single window» for students. Within the framework of the proposed concept, the electronic dean's office is an information system, access to which is provided to students and teachers of the higher education institution in order to obtain all the necessary information about academic performance, the passing of tests and exams, and certificates in the shortest possible time. The system should automatically generate information for the teacher in electronic form; transfer information about resubmission (directions for resubmission) from specific students to the teacher.

The «*digital diploma*» model based on blockchain technology should become part of the student's digital portfolio, which will take into account the student's results, the results of practice, participation in scientific research, advanced training courses, in other words, comprehensive results of all types of activities in which the student participated under the time of studying at the university. Creating a «digital diploma», as well as storing it in the blockchain system, creates a number of advantages related to the reduction of costs and the amount of time needed to verify authenticity, as well as the guarantee of the document's immutability, which is provided by the specifics of blockchain technology.

System of «*digital footprint*» of higher education applicant. Data about the educational experience, or digital footprints, allow analyzing and adapting the educational program to the acquirer. At the same time, it is necessary to create a methodological and technical base at the university, to collect the student's digital footprint. It should be fixed by the following elements, namely: a digital library; digital campus; electronic student card; electronic list; electronic dean's office.

The creation of a teacher's digital portfolio should be facilitated by the digital activity of teachers, which is implemented in the creation of content for a digital educational service, participation in the promotion and increasing the availability of digital services for

students. Since the university-based digital ecosystem is designed to provide wide access to digital educational services, defining digital activity, the teacher must form a portfolio in which it is necessary to reflect the degree of his participation in the creation of a network, in the development of the architecture of a digital educational service, and integration with external partners.

The portfolio should reflect the teacher's participation in the development and implementation of digital models of the educational process, his activity in updating the digital educational service through the introduction of innovative products and technologies, the degree and closeness of interaction with other participants in the digital educational network.

4. Image positioning: university website, accounts in social networks; university television; digital call center (Official site of Kharkiv National Medical University, 2023); digital transformation of career guidance and employment processes; creation of a competence center at the university as a basis for improving the qualifications of professors and teaching staff based on the concept of continuous education.

The desire of universities to occupy desirable positions in international rankings motivates the further development of virtual services, distance forms of education, and information technologies. Kharkiv National Medical University took 31st place in the consolidated rating of higher education institutions of Ukraine (in the 2023 rating table), 6th place among the best medical universities of the country, and 4th place among the best universities of the eastern region (Consolidated rating of higher education institutions of Ukraine in 2023, 2023). According to the annual rating of Ukrainian institutions of higher education based on the data of the Scopus scientific and metric database (Ranking of KhNMU according to Scopus indicators in 2023, 2023), Kharkiv National Medical University entered the top twenty universities of the country with the most cited scientific articles, taking 17th place in the overall rating.

A strategic approach to the organization of digital education is a factor in the efficiency of the inclusion of digital technologies in the university's activities. A necessary component is the constant improvement of teachers' qualifications on the basis of new educational technologies and audiovisual teaching aids. Teachers learn to prepare open

courses for access to educational platforms, undergo training in innovative means of forming a new ecosystem of medical education with monitoring of the «digital footprints» of process participants (Batyuk, Zhernovnykova, 2023), (Kuzminska, 2019), (Liao, 2021).

One of the criteria of the university's effectiveness is the successful employment of its graduates in the specialty obtained (digital transformation of career guidance and employment processes). Issues of career guidance and employment of graduates should be dealt with at the stage of admission to the applicant's university. Digitization of these processes will facilitate problem solving. It is necessary to achieve the ability to inform the student on a regular basis through his personal account about the vacancies, there should be constant communication with agencies on this information with the necessary filtering for students of the relevant fields; provide students with access to all known hospital websites through their personal accounts; create a platform at the university linked to the student's personal account with access to the national system of qualifications; to provide an opportunity for students to undergo an independent assessment of qualifications in the chosen specialty in the test mode, with subsequent forwarding of the results to employers; formation and holding of electronic days of «open doors», including online; actualization of all educational processes, starting with the admissions committee and ending with employment for persons with health disabilities.

Creation of a competence center at the university as a basis for improving the qualifications of professors and teaching staff and transitioning to work in the conditions of the digital educational process based on the concept of continuous education (Carney, 2016). In the digital economy, the university will not be able to succeed simply by adjusting management methods, it is necessary to create and implement new business models, critical competencies and a new digital culture, new digital ways of interactions, both within the university and with interested contact groups outside it. For this, it is necessary to justify the digital strategy of the university, to develop a new business model that allows creating competitive advantages in the digital educational environment due to the creation of a digital university based on the ecosystem driver model, where the university becomes the organizer of the ecosystem coordinated network of educational

space participants, employers, clients-consumers of educational services with the aim of creating and increasing value for all participants.

The problems of financing and infrastructure support are common to all universities (Batyuk, Zhernovnykova, 2022). However, the issue of funding is a necessary condition for the formation of digital education, which is expensive and carries not only advantages, but also significant risks, for example, dependence on the project goals of external investors who can directly participate in the digital projects of the university, as well as provide grant funding support

Fulfillment of these criteria is impossible without digital technologies in the educational environment, and highlights the positive social and environmental effects. The social effect is that the educational opportunities of higher education seekers, ordinary citizens, disabled people, women on maternity leave, and residents of rural areas increase. The ecological effect is manifested in the use of electronic document circulation, which allows you to save paper, office supplies, and ultimately preserves forests and other natural resources. The following positions can be attributed to the negative effects of digitization of the educational process in a medical university.

First of all, the lack of visual practice among students in senior courses, this is relevant for working with special medical equipment.

Secondly, the actualization of cyber risks associated with hacker attacks on university servers and software during online training of practical classes, lectures, webinars, etc. To minimize these risks, a staff of qualified IT specialists is required, which is associated with an increase in labor costs.

Thirdly, for a number of older teachers, working in information portals is a problem, due to the lack of skills to work with electronic resources and computer programs. In the new conditions, there was a need to develop innovative forms and methods of the educational process, which represents an innovative type of university teacher to society.

Fourth, when «live» communication of students with teachers or with each other is minimized in the student environment, a persistent feeling of «communicative vacuum» can be formed, which in the future can negatively affect the socialization of the future healthcare worker in society. The value of the educational process as a way of transferring

social and professional experience from an older generation to a younger one decreases as the educational process transforms into a digital context.

And lastly, fifthly, in the conditions of the information society with the rapid development of digital technologies and the spread of educational and medical-educational platforms on the Internet, the content of education is no longer the unique intellectual property of a particular teacher.

Diversification of higher education in the direction of distance learning, which is related to experimental activities, testing of new educational technologies and resources, involves the development of modern organizational and legal forms of activity of the institution of higher education. These factors affect the quality of higher education institutions' activities in the direction of the tendency to use digital technologies in their everyday life.

Conclusion

The use of modern digital medical technologies in Ukrainian society and the society of the leading countries of the world is aimed at improving the results related to the provision of medical care, supporting medical personnel by reducing their workload and improving the coordination of providing medical care to patients, facilitating the implementation and using the potential of digital technologies for improvement health of the population of the state. Due to these requirements, digital health literacy and digital skills should become a prerequisite for the competence of healthcare professionals. As key users of digital health technologies, healthcare professionals are critical to enabling significant digital healthcare transformation. Information and technological changes in the modern society of Ukraine require professionals in all areas, especially in the field of public health and health care systems. The solution to this issue lies, firstly, in the development of digital competencies of doctors, and secondly, in the development of educational activities that provide all students of higher education in medical educational institutions with the competencies necessary to achieve success in the digital world. In further studies, it is planned to investigate in more detail the next stages of the digitalization of medical education, involving the determination of the degree of

development of digital competence of students and teachers of Ukrainian institutions of higher medical education.

The emergency transfer of educational processes to the «distance learning» format, which began when The World Health Organization declared coronavirus disease 2019 (COVID-19) a pandemic in March 2020 (World Health Organization, 2020) immediately highlighted the problems of higher medical education institutions, namely the degree of development of the information infrastructure of universities, provision of disciplines with electronic educational resources and teachers' readiness to use electronic services and platforms. Within the framework of these trends at the present time in universities, digital innovative methods of a number of basic and superstructure subsystems of higher education act as a long-term gradient of development. They became the catalyst for a number of changes in education, and also created new models of communication, empowerment and engagement. Thus, it can be concluded that the majority of institutions of higher medical education in Ukraine have passed the initial stage of digitalization, which involved the formation of the IT infrastructure of the institution of higher education, the automation of a number of educational and administrative processes, and are now confidently moving towards the digital educational industry.

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Анотація. *Пандемія COVID-19 спровокувала раптовий перехід на дистанційне навчання та інтенсивний розвиток цифрового середовища університетів в Україні, який, фактично, продовжується по теперішній час. Розглядаючи широке і стійке впровадження цифрових технологій у національну систему охорони здоров'я, існує потреба дослідити цифровізацію освіти у закладах вищої медичної освіти, та оцінити, наскільки успішним є процес формування інноваційної інфраструктури сучасного університету, та спектр можливих наслідків швидкого впровадження цифрової освіти. У статті досліджуються досвід організації дистанційного навчання, що регламентується нормативними документами, умови формування компонентів електронно-цифрової інфраструктури у сучасному університеті; вивчення спектра можливих наслідків застосування цифрової освіти у закладах вищої медичної освіти. Проаналізовані поняття «цифрова освіта» та «цифрова компетентність», «цифрові медичні технології». Розглядається освітній процес, а саме онлайн-курси та дистанційні освітні технології, освітні ресурси, віртуальна цифрова бібліотека. Проаналізовано впровадження освітніх дисциплін з медицини з використанням віртуальних симуляторів та доповненої реальності. Розглянуті питання організаційно-управлінської сфери у медичному університету.*

Проаналізовані деякі додатки, а саме, цифровий кампус, електронний студентський квиток, цифровий диплом, цифровий слід здобувача вищої освіти, цифрове портфоліо викладача та ін. Розглядається іміджеве позиціонування медичного університету, а саме, університетський сайт, цифрова трансформація процесів профорієнтації та працевлаштування; створення центру компетентностей в університеті як бази для підвищення кваліфікації професорсько-викладацького складу на основі концепції безперервної освіти. Проаналізовано позитивні та негативні соціальні ефекти використання цифрових технологій в освітньому середовищі.

Ключові слова: *медична освіта, дистанційна освіта, цифрова освіта, цифровий університет, цифровий диплом, цифровий профіль, компетентність.*

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