ENGLISH VERSION: EXPERIENCE OF IMPLEMENTING INFORMATION TECHNOLOGIES IN THE PROCESS OF STUDYING CLINICAL DISCIPLINES AT A HIGHER MEDICAL EDUCATIONAL INSTITUTION*

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The present article considers the results of implementing the distance learning technologies at Vinnytsia National Pirogov Memorial Medical University in the process of mastering the discipline "Internal Medicine". Today, the amount of information that is so necessary for obtaining, understanding and mastering knowledge is growing rapidly. Given the current pace of development of education, today it is quite important to find innovative forms of quality organization of the educational process. This led to the introduction of information technology in education and the formation of a separate type of learning - distance learning. Now in Ukraine, distance learning is widely developing at all levels of education, this makes it possible to individualize the process of acquiring knowledge, abilities, skills and methods of human cognitive activity, which occurs mainly through the indirect interaction of participants in the educational process distant from each other in a specialized environment, functioning based on modern information and communication technologies.

Key words: distance learning, medical education.

The degree of informatization of society today is one of the main criteria for assessing the level of development of the state as a whole, its scientific, economic, political and military power. The formation of a high level of information culture of future professionals is an important task of modern higher education, which is designed to prepare graduates for professional activities in the information society [1]. Health information technology is an extremely important component that should provide highly effective, safe and, of course, reliable medical care. Today, information technology is used at all stages of health care development, so it is important to use it from the stage of obtaining medical education by a medical student. During the XXI century in all spheres of modern life, there is a growing need for competitive, qualified professionals, knowledgeable in a wide range of issues that can keep pace with progress. As a result, there is a significant question about the acquisition of skills and further competence in the direction of possession, processing and submission of material from various information sources. Given the large-scale development and implementation of modern medical technologies, an important place in the education of medical education is the ability to use the latest information technologies. A doctor needs knowledge of the basics of computer technology as much as an economist or an engineer. The implementation and development of appropriate competence in future physicians can be achieved by developing and improving certain methodological support using the means of informatization of the educational process. This in turn will increase the efficiency and quality of education of the applicant in higher medical education [2].

Distance learning is not only actively used in the modern world, but also continues to grow rapidly. The current challenges we face in preventing the spread of COVID-19 coronavirus infection are extremely relevant to this form of education and its improvement in higher medical education. In the context of the introduction of a nationwide quarantine in accordance with the Resolution of the Cabinet of Ministers of Ukraine dated March 11, 2020 № 211 "On preventing the spread of COVID-19 coronavirus in Ukraine", as well as on the basis of recommendations of the Ministry of Education and Science of Ukraine, national educational institutions, including the sphere of higher medical education, switched to distance learning [3]. This, in turn, intensifies the urgency of the development of digital competencies among students, as well as the formation of the readiness of the teaching staff to carry out professional activities in distance learning.

Modern society faces one of the most important tasks, which is aimed at creating a distinctively new and promising education system that could prepare the population of our planet for life in the new conditions of civilization. Without the presence of a mass of highly qualified specialists who are able to qualitatively perform the necessary work in various spheres of society, the normal functioning of such a complex mechanism as a modern state is simply impossible.

Distance learning is a high-tech product that uses the idea of lifelong learning for students, which explains its active spread around the world. That is why distance education is often called the most promising area of education in general, a special pedagogical technology of the XXI century, based on open learning using modern telecommunications for communication: "student - teacher", "student - student", "student - information" in the information space. The main person of distance learning is a student [4].

Internet-based training of students of higher medical educational institutions is characterized by a number of advantages as compared to the traditional one, namely: increasing student independence, responsibility for their own learning, expanding the boundaries of learning, saving their own time. At the same time, the Internet space is characterized by a distinct specificity that can pose po-
tential threats to the success of learning in it - the formation of dependencies, identity violations, information security problems, deteriorating communication quality, development of deviations and specific psychopathology [5].

Distance learning today is one of the key areas of the educational system of Ukraine. In recent years, there has been an active scientific and theoretical understanding of distance learning, scientific circulation is replenished with new terminology, and appropriate methodological support is being developed. In fact, COVID-19 itself encourages higher education institutions in Ukraine to implement innovative solutions in a relatively short period of time and to introduce distance learning using various web services, platforms, resources and social networks. The authors of this study identified a number of difficulties and advantages of the introduced distance learning. First of all, the realities of our lives have shown that not all higher education institutions are technically prepared for distance learning. Students noted disadvantages of distance learning because of the lack of live communication, working off missed practical classes, increasing problems of lack of time to perform tasks, implementation of family routine cases, limited access to a computer, no provision of all family members own technical equipment. Teachers noted the impossibility of individual counseling of students, increasing the time for correspondence with students, as online courses provide a more detailed description of homework than usual in the classroom. However, the authors of the article noted that among the positive aspects of the use of distance learning, Ukrainian teachers and students according to the survey note that the quality of distance education is not inferior to the quality of face-to-face learning. The students themselves noted the development of discipline and self-realization, which gives the opportunity to receive education at a convenient time and place and equal access to education, regardless of the place of residence, health or social status.

Teachers point to the updated role of the teacher, who becomes a mentor-consultant who coordinates the learning process, constantly improving their own courses and skills [6]. At present, there is a scientific and theoretical understanding of distance learning, new scientific terminology is included in the scientific circulation, appropriate methodological support is being developed, and experimental testing of new distance educational technologies is underway. In order to adapt to a prolonged pandemic, universities will need flexible and reliable models of education that will allow them to continuously adapt to different stages. COVID-19 has accelerated and intensified long-term pedagogical trends, creating a natural experiment in which numerous innovations are tested and evaluated. The first signs suggest that many of the innovations used during the pandemic will be useful to students after the crisis [7].

At the beginning of the quarantine, the administration and the department of information and analytical support of Vinnytsia National Pirogov Memorial Medical University held an online webinar for faculty on the specifics of the application and operation of the Microsoft Teams application in distance learning. In fact, after that, each teacher created with the help of this application teams that directly corresponded to the academic groups of students of the relevant course and specialty in the clinical discipline of "Internal Medicine" [8]. The main types of classes in distance learning are traditional forms of educational training, namely lectures, practical classes, seminars, laboratory classes, consultations and others that comply with current legislation [9]. In fact, the main participants in the educational process, which takes place in the form of distance learning - are students, teachers and, preferably, if possible, information technology specialists or administrators of distance learning. The principle of self-study involves the dissemination of the necessary educational content for practical classes and lectures that students can receive via the Internet through various educational platforms for self-mastery of educational material [10].

It is important, before starting the distance course, to decide with each student group on teaching methods and forms of control and assessment process. After completing the required task, students must receive feedback from their teacher for discussion. Lecture material can be broadcast or offered in recorded video format, or in the form of sound presentations. Visual and audio demonstration of the material offered for the study is quite expedient [11]. In addition, for distance learning it is rational to use videos that are publicly available on the Internet, clinical recommendations and other educational materials of the world's leading educational institutions. Practical sessions should be able to use simulation training tools. During practical lessons of the discipline "Internal Medicine", especially for senior medical students, distance learning should be combined with telemedicine capabilities and the implementation of consultations, concluisions.

Before each lesson, students have the opportunity to study the theoretical part of the material, which is posted on the website of the Department of Internal Medicine of the Medical Faculty №2 Vinnytsia National Pirogov Memorial Medical University: lecture material, methodical developments with test tasks and situational tasks are placed on the Google disk of the department, to which students have access via the appropriate link. Analysis of all theoretical issues as per the thematic plan is carried out during a videoconference in accordance with the schedule of practical classes in the application Microsoft Teams. The main purpose of the discipline "Internal Medicine" is to master practical skills. Of course, distance learning can not fully ensure the mastery of the practical aspect of the discipline. Therefore, the practical part of the lesson is to present to students the relevant clinical cases of real patients in the form of a presentation in Microsoft PowerPoint format. It looks like this: the teacher creates a multimedia presentation, which presents a particular clinical case of a real patient with the presentation of his anamnestic data, objective, laboratory and instrumental examination. Accordingly, students are asked to make a preliminary diagnosis for a specific clinical case, then prescribe appropriate treatment. In this way, the student has the opportunity to apply theoretical knowledge in a particular clinical case. The interaction of students and teachers in the distance learning system takes place through chat communication in the application of the Microsoft Teams platform. Thus, students have the opportunity to show their creativity and get additional points to the overall assessment, by mastering the material independently, and have the opportunity to create and present their own presentations.

Despite a number of positive characteristics, distance learning has its difficulties. It is from the teacher that crisis response is required in the event of communication obstacles or interruptions in the broadcast of educational materials, one should not get lost and always be ready to improvise. We should not forget about self-control, in
situations where the work of teachers and students is interferred with by unstable internet connection or suddenly there are difficulties with the webcam, working in an active mode throughout which is a mandatory requirement for quality training at a higher medical educational institution. In addition, some students notice difficulties in the form of simultaneous involvement of their roommates who live in the dormitory to their classes. In fact, in this situation, the communication between teacher and students, carried out in the chats of applications, social networks, e-mail makes us closer to each other and gives the opportunity to receive extremely important feedback.

However, one of the most important problems of remote training is to ensure control of the clinical experience. Training at the departments of therapeutic profile requires daily practical improvement and mastering of manual skills in the patient’s bed, medical - manipulation rooms, clinical examinations, in direct contact with the patient. This definitely requires traditional face-to-face contact and collaboration with the teacher. That is why distance learning in the discipline of "Internal Medicine" at a higher medical educational institution, as compliance with modern educational technologies in higher medical education should be constantly improved, involving the use of modern educational platforms, quality methodological content of web resources and the introduction of a unified system quality control of distance learning.

Conclusions

Distance learning in the light of today’s information technology has the ability to influence the student in various ways, allowing to master aspects of educational material more widely than in the process of communicating with the teacher, develops the ability to work with information, promotes decision making, develops communication skills. At the present stage of development of higher medical education, there is a tendency to use fundamentally new integrated technologies of educational activities, which allow teachers to effectively manage the learning process. It is important for students who receive higher medical education in senior courses in the study of clinical disciplines, to combine learning with the use of information technology in the process of distance learning and classical classroom learning. This will allow optimizing and combining the acquired theoretical knowledge, practice and real clinical skills to achieve a common goal - training in a higher medical educational institution of a competitive experienced medical professional. As a form of the educational process, distance learning has great prospects, especially in a pandemic. Our first experience of conducting the learning process in the form of distance learning has demonstrated its advantages over traditional forms of learning, primarily, of course, in terms of information. The presence of convenient time among students and the opportunity to gain knowledge even at the place of residence led to a much smaller absence of missed classes by students.

Thus, it can be noted that distance learning technologies are quite actively integrated into the educational process of the Department of Internal Medicine of the Medical Faculty №2 of Vinnytsia National Pirogov Memorial Medical University mastering the discipline "Internal Medicine". At the same time, it can be called a new step in the development of professional skills of employees of higher medical education and involvement in reforming the educational sector in the realities of today.

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