

**THE ROLE OF INFORMATION AND COMMUNICATION
TECHNOLOGIES IN MEDICAL UNIVERSITIES IN TEACHING
MEDICAL AND BIOLOGICAL PHYSICS**

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Abstract

This article discusses the use of information and communication technologies and case study analysis of pedagogical situation of teaching medical and biological physics in medical universities. It also presents didactic possibilities of information and communication technologies in teaching medical and biological physics to students of medical universities.

The issues related to the development and improvement of students' knowledge using various innovative technologies in the process of teaching biological and medical physics in medical schools are also considered.

Key words: biological and medical physics, medicine, innovations, information and communication technologies, medical devices, professional training.

The world pedagogy is currently looking for ways to develop optimal directions for the development of higher education, including medical education. Widespread use of computer technologies in education and medical activity (electronic medical databases, statistical packages, etc.) requires from medical students and doctors the skills and abilities to perform operations on the basis of computer technologies at the user level, as well as the formed competence of doctors in terms of possession of professional information and communication technologies.[1]. Thus, at the very beginning of professional training of future doctors there is a need to create organizational and pedagogical conditions for the formation of appropriate knowledge, skills, skills, clinical thinking in future doctors during the study of all disciplines of the curriculum, as well as in the study of medical and biological physics.

In today's world, physics and medicine are two scientific fields that support and develop each other. Medical and biological physics is recognized as a field of research on which the professional education of future physicians in accordance with medical technology is based. Biophysics has its own patterns and procedures even though it is closely related to other natural disciplines. The development of biophysical theory and its implementation in biology and medicine was influenced by the formation of the theoretical foundations of biological sciences.

Methods used in biophysics include various optical methods, spectroscopy, electrometric methods, microelectronic techniques, chemiluminescence, laser spectroscopy, and directed atoms. One of the most important issues in the educational

system of developed countries is the informatization of education, that is, the use of information technology in the learning process.

Nowadays it is known in the educational system of the country that the creation of information environment in the innovation sphere is an urgent issue. For modern specialists-teachers, the main task of modernity is not only continuous professional development of a teacher, but also psychological, political, economic and information literacy and historical knowledge. Today's teacher should work on improving students' knowledge using innovative pedagogical technologies. In this regard, one of the most used concepts, which we will use later, is innovation. "Innovation" is a new result that is achieved by accomplishing specific goals

Effectiveness of innovative technologies:

1. defines the process of learning innovative
2. technologies and innovations in education, which are learned in everyday life through television or the Internet and open the way to a new world.
3. teaches the student to adapt to innovation and intelligence, explain and express their views and opinions.
4. innovative methods are active learning methods, which means that 80% of theoretical knowledge and 90% of practical knowledge by this method are retained in the memory of learners.

Due to the new innovative techniques to improve the quality of education in research and analysis, the following conclusions can be drawn:

- improving the quality of students' learning,
- professional competence, ability to apply various innovative
- technologies in the learning process and its results;
- systematic and purposeful use of innovative technologies
- in education will allow to achieve great success;
- introduction of new innovative educational technologies
- Often incompatible with modern requirements
- the material and technical basis of each educational institution,
- technical base of each educational institution.

The introduction and integration of advanced technologies into the educational process of educational institutions is necessary to provide the younger generation with quality education. Therefore, the main duty of each teacher is to research, implement and successfully apply advanced educational technologies, to keep up with scientific and technological progress. One of such tools is online education. When studying medical and biological physics, a productive pedagogical factor for effective learning and development of professional culture of a future doctor could be the creation of an electronic knowledge base on the discipline on the basis of the collected material

Further, the information of this base is replenished, and additional information can be provided by both teachers and students. The electronic knowledge base can be accessed via the Internet. With the help of e-textbooks, students can improve both their subject knowledge and their computer skills. With the help of this textbook, students will be able to work independently and apply their theoretical knowledge in practice, which will allow them to achieve success in their studies through the use of electronic textbooks. Thus, in order to obtain high efficiency of training and qualitative formation of professional culture of the future doctor in the process of studying physical and mathematical material, it is necessary to use information and communication technologies both for the teacher and the student. Technical provision of the department and the active use of information technologies by the teacher give the opportunity to increase the quantity and quality of educational information, to increase the efficiency of the teacher's and student's activity (influence on the process of understanding, perception, memorization of the material by students; reduction of time in the process of calculations, statistical processing of research results; activation of independent mastering of the discipline by the student, etc.), to influence the forming professional knowledge, skills, abilities, qualities, to which the student is exposed.

In the modern world, special medical devices are used in various areas of health care (such as therapy, surgery, gynecology, oncology, etc.), so future doctors can not be treated separately from medical equipment knowing about the availability of medical equipment and the correct relationship between medical devices and physical factors in the conduct of diagnostic and therapeutic measures in the field of medical education, the ability of future doctors to improve their qualifications, the ability to work with medical equipment plays an important role in the medical education, the ability of future doctors to improve their qualifications, the ability to work with medical equipment plays an important role in the medical education. It should also be taken into account that each student works with many medical devices, based on physical phenomena in medicine (mechanical phenomena, oscillations and currents, molecular, electric field and electric current, magnetic field, electromagnetic oscillations and waves, optics, laser radiation).

The main purpose of teaching biological and medical physics in medical schools is to teach future doctors how physiological processes in the human body proceed and to use physical regularities and phenomena in medicine, for example, in diagnosis and optimal application of therapy. In this regard, medical students are obliged to seek new ways of teaching the characterization of medical technology and practice in the field of professional training. The content and purpose of professional education in modern medical schools is to demonstrate the results of the teacher's work, as well as the nature and content of work and the ways of their realization.

Accordingly, it is necessary to identify indicators that characterize students' ability to perform diagnostic, therapeutic and laboratory tests.

- To this end, students can choose the use of a medical device according to their application;
- Recording and formalizing their impact;
- Know the physical nature of the diagnostic or therapeutic effect of a physical factor used in a medical device;
- Knowledge of the harmful effects of a medical device on a patient and how to remove them;
- Information about the development of modern medical equipment, etc. can be obtained through the use of innovative educational technologies and tools.

Nowadays, modern teaching methods are widely used in the development of students' learning activities. The use of modern teaching methods leads to high efficiency of the learning process.

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