

## METHODS OF EFFECTIVE USE OF THE INFORMATION SYSTEM IN IMPROVING THE QUALITY OF MEDICAL SERVICES

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### Abstract

The article discusses the issues of improving the electronic information system for the effective organization of the educational process in medical universities, the use of innovative technologies in medical education, the introduction, application, assessment and organization of medical education based on effective innovative technologies.

**Keywords:** form of education, method, technique, electronic didactic support, information system.

### Introduction

The introduction of information and communication technologies (ICT) in the educational process certainly plays an important role in the intellectual development of the young generation and the socio-economic modernization of society. The achievements achieved by incorporating ICT into the education system in our republic include:

1. **Innovative teaching methods:** Through the use of modern technologies in the educational process, interactive teaching methods have been developed in which students actively participate. This helps to improve the quality of education.
2. **Wide access to resources:** Through e-libraries and online platforms, students and teachers have instant access to their resources, which further enriches the learning process.
3. **Distance Education:** Online courses and distance learning systems are expanding the educational opportunities, which provide convenience to students and remove geographical limitations.
4. **Data analysis:** With the help of ICT, it became possible to analyze the achievements and activities of students. This helps the teachers to improve their lessons even more.
5. **Social Integration:** Facilitates the development of social connections and knowledge sharing among students from different regions through information technology.
6. **State policy:** The state policy in the field of informatization established by the President defines important directions in the introduction and development of ICT in the education system. The Concept adopted on March 13, 2013 brought this process to a new stage.



In general, the introduction of ICT in the educational process is important not only for students and teachers, but also for the general development of society. Achievements in this direction will continue and will create a basis for effective development in the future.

Development trends in the field of health and medical education at the global level are aimed at improving the quality of education. Organizations such as the Accreditation Center for Continuing Medical Education (ACCM) and the American Medical Association (AMA) are focusing on creating innovative pedagogical environments and developing new teaching paradigms. These processes include the following aspects:

1. **Innovative Pedagogical Environment:** Introduction of interactive and collaborative teaching methods between teachers and students in medical education. It helps students to actively participate in the learning process.
2. **Integration of theory and practice:** Linking theoretical knowledge with practice, preparing students for real-life situations and developing clinical skills. This, in turn, increases the level of professional training.
3. **Information and communication technologies:** Use of modern ICT, for example, to make education more effective and convenient through online courses, simulations and other interactive learning tools. This creates an interesting and motivating learning environment for students.
4. **Visualized didactic tools:** Facilitate understanding of complex medical concepts through graphics, videos, simulation programs, and other visual materials. It helps students to consolidate knowledge by using their visual skills.
5. **Research and innovation:** researching new methods and technologies for further improvement of the educational process, putting them into practice. This process is important for the global development of medical education.

These trends help to modernize the medical education system, improve the quality of education and improve professional training in the field of health care. As a result, the new generation of medical professionals will receive high-quality education and can be effective in their professional activities [1,2,3].

The increase in the demand for qualified medical personnel in the international community requires the improvement of the educational process in medical institutions of higher education. For this, it is necessary to introduce a number of innovations and evaluate the effectiveness of education. These processes include the following key aspects:

1. **Innovative pedagogical approaches:** To develop the educational process, it is important to use innovative pedagogical approaches, such as problem-based learning, interactive methods, and simulations. It helps students develop their practical skills.
2. **Categories of professional training:** Improvement of categories of training through innovative technologies to prepare medical personnel for professional activities. This, in turn, enhances students' clinical skills and professionalism.
3. **Prognostic-diagnostic skills:** It is necessary to apply teaching methods that help students develop critical analysis of medical problems and quick decision-making skills.
4. **Application of innovative technologies:** Introduction of modern technologies in the educational process, for example, electronic learning resources, virtual simulators and distance learning platforms, which makes it possible to provide high-quality education to students.



5. **Electronic didactic support:** Improving the methodology of training future medical personnel and electronic didactic support, which helps to increase the interactivity and efficiency of the educational process.

6. **Evaluating educational effectiveness:** Creating a system for evaluating and analyzing the results achieved in the educational process, which allows for continuous improvement of the quality of education.

These approaches play an important role in making the process of medical education more effective and modern, as well as in training qualified medical personnel. As a result, this process will help improve the quality of the healthcare system in the future.

New technologies have opened up great educational opportunities. The qualitative changes that are taking place show that the processes of "teaching" in the usual explanation have begun to go beyond the limits of the professional capabilities of teachers. The new technical, informational, printing, audio and exhibition tools that have come into existence bring many innovations to the educational process with new methods in their own way and remain an inseparable part of it. However, the uniqueness of the pedagogical technological process, its priority over traditional forms, and the methods of real solution to the problems of modern education have not yet been fully studied. Many foreign and Uzbek authors write about it. But everyone believes that pedagogical technologies will have a priority place in the future.

Educational innovations lead to the following changes: a fundamental change of the pedagogical system; change of educational process; change of pedagogical theory; change of teacher's activity; student (student) activity update; change of pedagogical technology; update of educational content; change of teaching form, methods and tools; educational system management change; changes in educational goals and outcomes [4,5]. In our opinion, innovative technologies in medical education are the content, form, means of assimilation, practical application, evaluation of the created medical innovations by the pedagogical community of the medical field, as well as the organization of medical education based on effective innovative technologies.

Electronic information systems are important for the effective organization of the educational process in medical institutions. These systems may consist of the following components:

1. **Curricula and programs:** The system allows you to manage curricula, lesson schedules and topics, through which the educational process can be planned more effectively.
2. **Educational materials:** Providing textbooks, articles and other educational materials for students through electronic libraries and resources.
3. **Assessment and monitoring:** Modules that allow students to monitor their learning and assessment results. It helps teachers to analyze student progress.
4. **Interactive Learning:** Provide interactive learning through online courses, video lessons, and simulation programs that help enhance hands-on experiences for students.
5. **Information Exchange:** Ensure effective information exchange between teachers, students, and administration, such as through forums, chats, and e-mail.
6. **Decision-making systems:** Analytical modules that help to develop strategies to improve the quality of education of the institution by analyzing the performance of students and teachers.
7. **Security and Privacy:** Ensuring the security of student data and protecting personal information.

These electronic information systems help to improve the educational process in medical institutions, create more opportunities for teachers and students, and optimize results.

Information systems play an important role in the management of medical institutions. They include the following aspects:

1. Database: Needed to store and manage patient information, medical histories and treatment processes.
2. Information exchange: It allows quick and efficient exchange of medical information, which improves cooperation between doctors and other medical personnel.
3. Decision Making: Information systems help doctors make quick and accurate decisions. For example, when assessing the condition of patients and developing an appropriate treatment plan.
4. Data security: Use of various technologies and protocols to protect personal data and ensure information security.
5. Statistics and reports: It allows the collection and analysis of statistical data to analyze the activities of medical institutions and improve their efficiency.
6. Urgent services: Improving the process of providing urgent care, such as patient registration, queue management and automation of other processes.

In general, information systems allow to increase the efficiency of medical institutions, improve services for patients and optimal management of resources.

The system consists of the following blocks. "Students"; "Teachers"; "Educational process"; "Electronic educational methodological support"; "Administration".

The content of the "Students" block includes: student cards, rating indicators, collective testing, exam schedule, student internships, mastering analysis, materials of the state certification commission and other additional materials.

The "Professor-Teachers" block includes: a teacher's personal sheet, awards and benefits, a set of staff reports, information about teachers, a portfolio (position, academic degree and title, award).

The target-complex model of preparing students for medical activity clearly defines the stages of independent preparation of students for medical activity, their content, time, parties responsible for this process and their tasks.

The integrated model of training of medical personnel of medical institutions, developed by us within the framework of the research, includes organizational, technological and result components.

Improving the electronic information system of effectively organizing the teaching process in medical educational institutions, using innovative technologies in medical education, assimilating medical innovations by the pedagogical community of the medical field, applying them in practice, evaluating them, and organizing medical education based on effective innovative technologies will increase the quality of education.



## References

1. Maxsudov V.G. Integration of theoretical and practical knowledge in laboratory training. - Tashkent: Pedagogy, 2016, No. 6. p. 84-88.
2. Maxsudov V.G. Yeshchyo raz o zadachax po physics. Austria, Vienna: European journal of education and applied psychology, 2016.
3. Maxsudov V.G. Improving the methodology of teaching the "Mechanical Vibrations" department of physics in higher medical educational institutions. - Tashkent: UzkSNMU, 2021. -144 p.
4. Maxsudov V.G. Improvement of methodological bases of teaching "Mechanical vibrations" in higher educational institutions. Dissertation. - Toshken: Library of UzMU, 2018. 156 p.
5. Sh Tashkenbayeva U.A., Bazarbayev M.I., Maxsudov V.G. The use of distance learning technologies in the creation of electronic training courses in the Moodle system for professors and teachers of a higher educational institution. Study guide. - Tashkent: UzkSNMU, 2021. - 144.

