TEACHING MEDICAL INFORMATION TECHNOLOGIES USING MODERN ELECTRONIC LEARNING PLATFORMS.

Z.A. Temirova

Assistant of Department of Biological Physics, Informatics, and Medical Technologies

Andijan State Medical Institute.

Abstract

The rapid development of information and communication technologies has significantly influenced the transformation of medical education. Modern electronic learning platforms provide new opportunities for organizing the educational process, improving teaching quality, and developing digital competencies among future physicians. Medical Information Technologies (MIT) is a key discipline that prepares students to effectively use digital tools, healthcare information systems, and data technologies in clinical practice. This article analyzes the pedagogical potential of modern electronic learning platforms in teaching Medical Information Technologies and evaluates their impact on student engagement, learning outcomes, and professional competence development.

Keywords: medical information technologies, electronic learning platforms, medical education, digital learning, learning management systems, student-centered learning, professional competencies.

Introduction

Modern medical education increasingly emphasizes student-centered learning, critical thinking, and the formation of professional competencies required for effective healthcare practice. In the context of digitalization of healthcare systems, telemedicine, electronic health records, and artificial intelligence applications, future physicians must possess strong digital and information literacy skills. Therefore, the

integration of modern electronic learning platforms has become an essential component of contemporary medical education, especially in disciplines related to information technologies.

Medical Information Technologies is a fundamental subject that introduces students to the principles of medical informatics, healthcare information systems, digital diagnostics, data management, and decision-support technologies. This discipline plays a crucial role in preparing medical students for working in digitally driven clinical environments. However, traditional teaching methods often fail to fully reflect the dynamic and applied nature of information technologies, leading to reduced student motivation and limited practical skill development.

Materials and Methods

The study was conducted during the teaching of the Medical Information Technologies course to undergraduate medical students. A blended learning model combining face-to-face instruction with electronic learning platforms was implemented. The following digital tools and platforms were used:

- Learning Management Systems (LMS): Platforms such as Moodle and Google Classroom were used to organize course content, distribute learning materials, manage assignments, and conduct online assessments.
- Interactive Educational Resources: Video lectures, multimedia presentations, and interactive tutorials were integrated into the learning process.
- Online Assessment Tools: Automated tests, quizzes, and formative assessments with immediate feedback were applied to monitor students' learning progress.
- Collaborative Digital Tools: Discussion forums, cloud-based documents, and online communication tools were used to support teamwork and collaborative learning.

The effectiveness of electronic learning platforms was evaluated through analysis of academic performance, student participation, and feedback surveys.

Results

The use of modern electronic learning platforms in teaching Medical Information Technologies demonstrated positive educational outcomes. Students showed increased engagement, improved understanding of theoretical concepts, and enhanced practical skills related to digital technologies.

Quantitative analysis revealed higher average test scores and improved task completion rates compared to traditional teaching approaches. Students reported that electronic platforms provided flexibility, better access to learning resources, and opportunities for self-paced learning. The interactive nature of digital tools also contributed to the development of independent learning skills and digital competence.

Discussion

The results confirm that modern electronic learning platforms are effective tools for teaching Medical Information Technologies in medical education. These platforms support active learning, continuous assessment, and personalized learning pathways, which are essential for developing digital and professional competencies.

Electronic learning platforms allow instructors to integrate up-to-date content, simulate real clinical information systems, and provide practical tasks related to electronic health records, medical databases, and decision-support systems. However, successful implementation requires reliable technical infrastructure, methodological planning, and continuous professional development of teaching staff.

Conclusion

The use of modern electronic learning platforms significantly enhances the effectiveness of teaching Medical Information Technologies. These platforms improve student motivation, learning outcomes, and digital competence while supporting student-centered and competency-based education.

The findings suggest that electronic learning platforms should be systematically integrated into the Medical Information Technologies curriculum in medical universities. Further research is recommended to evaluate long-term educational outcomes and to develop standardized models for digital medical education.

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