

ENHANCING CLINICAL THINKING COMPETENCE IN
FUTURE DOCTORS ON THE BASIS OF DIGITALIZED
EDUCATIONAL TECHNOLOGIES

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Abstract: *This thesis examines the issue of enhancing clinical thinking competence in future doctors on the basis of digitalized educational technologies. The relevance of the study is determined by the growing need to modernize medical education through innovative teaching methods that support active learning, diagnostic reasoning, and professional decision-making. Clinical thinking is viewed as an essential component of professional competence, since it enables future physicians to interpret symptoms, analyze patient data, identify relationships between clinical signs, formulate diagnostic hypotheses, and select appropriate medical actions. The thesis substantiates that digitalized educational technologies, including virtual simulation, interactive case platforms, learning management systems, multimedia resources, and digital assessment tools, create favorable pedagogical conditions for the formation of clinical thinking competence. The study emphasizes that the effective use of such technologies contributes to the integration of theoretical knowledge with practical reasoning and improves the professional preparedness of future doctors.*

Keywords: *future doctors, clinical thinking competence, digitalized educational technologies, medical education, professional competence, simulation, diagnostic reasoning.*

Introduction.

The digital transformation of higher medical education has significantly influenced the content, methods, and organization of the teaching process. In contemporary conditions, the training of future doctors should not be limited to the acquisition of theoretical knowledge alone; it should also ensure the development of clinical thinking, which is necessary for successful professional performance in real healthcare settings. Clinical thinking competence allows medical students to move from simple knowledge reproduction to analytical interpretation, diagnostic reasoning, and evidence-based problem solving. At the same time, digitalized educational technologies have opened new opportunities for creating flexible, interactive, and clinically relevant learning environments. Through virtual cases, simulation-based practice, multimedia diagnostics, and electronic feedback systems, students can repeatedly engage in reasoning tasks and develop more stable professional skills. Therefore, the purpose of this thesis is to substantiate the pedagogical potential of digitalized educational technologies in enhancing clinical thinking competence in future doctors.

Materials and methods.

The study was carried out through theoretical analysis, comparative review, and pedagogical modeling. The methodological basis included competency-based, learner-centered, integrative, practice-oriented, and reflective approaches. Scientific literature on medical pedagogy, digital learning, and competence formation was analyzed in order to determine the role

of digital technologies in the development of clinical thinking. Comparative analysis was used to identify the educational differences between traditional instructional methods and digitalized approaches in the teaching of clinical disciplines. Pedagogical modeling was applied to define the structural elements of the proposed methodology, including aims, content, methods, digital tools, and assessment strategies. The study focused on such educational instruments as virtual patient simulations, online clinical tasks, digital diagnostic algorithms, interactive video materials, discussion forums, and computer-based formative assessment.

Results.

The research showed that digitalized educational technologies provide significant methodological opportunities for enhancing clinical thinking competence in future doctors. First, they create realistic and dynamic clinical contexts in which students can interpret symptoms, laboratory findings, instrumental results, and patient complaints in an integrated manner. Second, digital environments support repeated practice, which is essential for developing analytical consistency and diagnostic flexibility. Third, interactive technologies stimulate active participation and strengthen students' motivation to solve clinical problems independently. Fourth, digital assessment tools make it possible to evaluate not only final answers but also the logic of reasoning, sequence of actions, and justification of decisions. As a result, clinical thinking competence is formed as a multidimensional quality that includes observation, analysis, differential reasoning, professional judgment, and reflection. The study also revealed that digitalized technologies increase the pedagogical effectiveness of instruction by connecting subject content with realistic professional tasks.

Discussion.

The findings confirm that digitalized educational technologies should be considered not merely as technical resources, but as important methodological instruments for competence development in medical education. Their educational value lies in the fact that they support the transition from passive learning to interactive and problem-oriented learning. In the context of clinical training, this is especially important because future doctors must be prepared to act in complex, uncertain, and rapidly changing situations. Digital simulations and interactive case systems provide conditions for such preparation by allowing students to test hypotheses, make errors in safe environments, receive immediate feedback, and improve their reasoning strategies. In addition, the use of digital platforms encourages self-directed learning and reflection, which are essential for long-term professional growth. Thus, the enhancement of clinical thinking competence depends not only on the availability of technology, but on its pedagogically meaningful integration into the educational process. This makes it necessary to rethink the methodology of teaching clinical disciplines in accordance with the goals of digitalized medical education.

Conclusion.

Enhancing clinical thinking competence in future doctors on the basis of digitalized educational technologies is an important direction in the modernization of medical education. The effective use of simulation tools, virtual cases, multimedia learning resources, and digital assessment methods promotes the development of analytical reasoning, diagnostic interpretation, and professional decision-making. Digitalized educational technologies create conditions for the integration of theoretical and practical training, increase

students' engagement, and strengthen their readiness for clinical activity. Therefore, their pedagogically grounded use can serve as an effective methodological basis for improving the quality of professional training in future physicians.

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