SECTION 7. THE PHILOSOPHY OF MODERN EDUCATION. MODERN PEDAGOGICAL TECHNOLOGIES AND METHODS

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PROBLEM-BASED LEARNING IN MEDICAL EDUCATION

ПРОБЛЕМНО-ПОШУКОВИЙ ПІДХІД В МЕДИЧНІЙ ОСВІТІ

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In the modern world, the demands for the quality of the educational environment and education itself are constantly increasing. Contemporary academic and pedagogical staff of higher medical educational institutions in Ukraine are particularly interested in enhancing students' motivation for learning, developing their general cognitive abilities and critical thinking, fostering their ability to operate with educational material, and encouraging the acquisition of new professional skills essential for future medical practitioners. The modernization of the educational process in teaching both fundamental and clinical disciplines remains highly relevant, as the formation of a future medical specialist begins from the very first years of study.

Many researchers in the field of pedagogy and academic staff at universities are focused on improving the quality of the educational process in medical universities. Special attention is given to the development of students' personal potential, as well as to methods for increasing motivation for self-education and self-development [1]. According to the requirements

of the educational and professional program, the training of medical professionals involves not only mastering professional competencies but also developing the ability to make well-reasoned decisions in non-standard professional and life situations, act independently, and think creatively and critically. This necessitates the refinement of relevant skills [5]. The importance of developing critical thinking among higher education students has been emphasized in numerous studies conducted by practicing educators [2; 4].

One of the most effective approaches to fostering critical thinking in medical students is the implementation of a problem-based learning approach and the realization of student-centered education, starting from the study of fundamental disciplines during the early years of medical training [3]. Within the structure of educational content for future physicians, a crucial aspect is the enhancement of knowledge levels, the methods for assessing the effectiveness of medical interventions, and the quality of the information obtained from various sources.

A relevant trend in the development of the education system, in accordance with the new state education standards, is the shift in focus towards the formation of students' personal qualities in line with the competencies of the educational program [5]. Modern teaching methods and approaches enable the transformation of reproductive learning methods into productive ones, fostering the ability to make timely and appropriate decisions in clinical situations. Specific pedagogical approaches are proposed for implementing innovative educational technologies and methods into the teaching and learning process, enhancing instruction beyond traditional text-based reproductive methods.

The integration of advanced technologies into the educational process not only facilitates the transmission of knowledge from instructor to student in the traditional sense but also contributes to the formation of a qualified specialist capable of solving a range of tasks in medical practice. In several European countries and the United States, the Problem-Based Learning (PBL) approach has demonstrated positive results for over 50 years [7], serving as a superior alternative to classical reproductive learning, which primarily focuses on lectures and the reproduction of information by students. In Ukraine, this method has gained interest among many researchers in the field of pedagogy, with a number of studies confirming its effectiveness in higher education institutions across various disciplines [3].

Problem-based learning methods involve the creation of problem-oriented questions and clinical case scenarios by instructors, requiring active student engagement, critical thinking, and decision-making. This approach facilitates independent advancement in acquiring new knowledge.

The goals and structure of Problem-Based Learning have a strong psychological foundation. The key objectives of problem-based learning include: (1) structuring knowledge within a clinical context; (2) developing clinical reasoning skills; (3) fostering self-directed learning abilities; and (4) enhancing intrinsic motivation. According to some researchers, small-group learning has proven to be particularly effective, as it allows students to engage in continuous interaction with clinical cases, assess patient problems, identify their underlying causes, and make appropriate clinical decisions [8].

The positive aspects of Problem-Based Learning (PBL) include the following: knowledge acquired in a relevant context is better retained; concepts are assimilated in a way that allows their application in solving or reassessing similar problems; exposure to "preliminary examples" during the study of a discipline facilitates pattern recognition; PBL enhances the activation of prior knowledge and facilitates the processing of new information; clarification and deepening of knowledge occur throughout the learning process; and ensuring contextual similarity between knowledge acquisition and its subsequent application improves recall [8].

When applying PBL methods, students analyze situations and, in the absence of a direct answer from the instructor, learn to draw conclusions and make well-reasoned decisions. They develop the ability to justify their viewpoints, engage in discussions, and use independently studied theoretical material for argumentation. This approach fosters self-confidence during discussions, reduces fear of making mistakes, and encourages students to address their gaps in knowledge independently. High-level preparation for classes allows students to act as consultants for their peers, which is highly valued by instructors and serves as a motivation for further academic improvement. Additionally, the availability of a comprehensive set of educational and methodological materials for all covered topics enables students to quickly review learned material and effectively prepare for final assessments.

In implementing PBL, it is crucial to emphasize students' engagement in independent scientific inquiry and theoretical preparation. Therefore, the organization of independent student work and its methodological support play a significant role in this approach [6].

Of course, the implementation of PBL methods presents several challenges that require timely identification and resolution [2]. These include insufficient methodological support, as well as the fact that students, particularly in their early years of study, are often unprepared for independent research, necessitating additional efforts to develop such skills. Other challenges include difficulties encountered by instructors in redefining their roles in student learning, the complexity of developing and

continuously updating case studies (problem scenarios), and the need to structure small groups for optimal effectiveness.

Thus, the implementation of Problem-Based Learning using instructional case studies in medical disciplines contributes to the development of clinical reasoning, provides an objective assessment of students' ability to establish connections between theoretical knowledge and practical actions, and enhances their capacity to analyze, synthesize, and predict the development of clinical situations. This methodology allows for an assessment of competency levels from both student and instructor perspectives, fosters self-organization and self-learning skills, develops critical thinking, and increases motivation for acquiring professional knowledge and skills essential for future medical practitioners.

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