# SECTION 6. THE PHILOSOPHY OF MODERN EDUCATION. MODERN PEDAGOGICAL TECHNOLOGIES AND METHODS

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# DEVELOPMENT OF CRITICAL THINKING IN MEDICAL STUDENTS AS AN EDUCATIONAL STRATEGY

## РОЗВИТОК КРИТИЧНОГО МИСЛЕННЯ У СТУДЕНТІВ-МЕДИКІВ ЯК ОСВІТНЯ СТРАТЕГІЯ

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Modernization of higher medical education based on competency principles and the constant changes in the conditions of professional training for medical specialists require continuous interaction between the medical and educational sectors, as well as relevant scientific research on organizing the training system for future doctors. A teacher at a modern medical university must apply a student-centered approach to organizing educational activities and employ innovative, creative methods to develop students' knowledge, skills, and practical competencies. One of the primary tasks of a contemporary teacher in higher medical education is to shape the personality of a future doctor who is capable of critical thinking, applying acquired knowledge to analyze new information, and striving for self-improvement as a specialist in their field. The development of critical thinking is a fundamental component of modern medical education. It equips students

with the ability to analyze, evaluate, and apply knowledge in diverse and complex clinical scenarios. This educational strategy fosters not only academic excellence but also the skills required for independent decisionmaking, problem-solving, and lifelong learning-qualities essential for future healthcare professionals [3, p. 26]. The ability for critical thinking involves making deliberate and well-considered decisions regarding the credibility of any statement, as well as the degree of confidence with which such decisions are made. The development of critical thinking and the didactic potential of critical thinking development technologies attract the interest of many researchers in the field of education. Their application fosters the ability to efficiently memorize large amounts of new scientific information, engage in unconventional thinking, identify multiple connections between phenomena, demonstrate cognitive flexibility and effective communication in a team, construct logical conclusions, set goals, achieve educational objectives, and develop skills in self-analysis and self-criticism, along with a drive for self-education [1, p. 950].

The methodologies for developing critical thinking in the teaching of "Histology, Cytology, and Embryology" to students of medical faculties remain underexplored. Implementing such educational technologies during the study of this discipline is a crucial step in fostering skills for independent and in-depth analysis of medical data. Therefore, strategies for developing critical thinking should incorporate diverse methods that promote not only the acquisition of theoretical knowledge but also the ability to apply this knowledge in practical situations, analyze and synthesize information. Key strategies that facilitate the development of independent thinking, logical analysis, and the ability to apply acquired knowledge to solve medical problems in practical activities include the following: 1) Integration of theoretical knowledge from various disciplines; 2) Active learning methods; 3) Use of interactive technologies and digital resources; 4) Independent learning and reflection; 5) Solving practical problems using real clinical cases; 6) Development of critical analysis skills through the study of scientific sources; 7) Development of clinical reasoning; 8) Engagement in scientific research activities; 9) Application of feedback methods; 10) Project-based learning; etc.

An interdisciplinary approach in teaching involves integrating theoretical material from the discipline of "Histology, Cytology, and Embryology" with other medical subjects such as biochemistry, physiology, pathology, etc. For example, studying the structure of cells and tissues based on their functional characteristics in the context of the organism's functioning and the development of specific pathological processes. This approach helps students form a comprehensive understanding of how cytological processes determine normal physiology and the development of pathologies.

Active learning methods and modern educational technologies are particularly promising for developing critical thinking. For instance, the case method fosters critical thinking as students solve situational problems, such as identifying pathologies using histological slides or analyzing disease cases linked to cellular anomalies. Emphasis should be placed on the idea that knowledge of normal structures and functions enables the identification of pathologies at various levels of biological organization. Drawing on their knowledge of histology, cytology, and embryology, students can analyze and establish cause-and-effect relationships in the development of pathological processes in diseases, using techniques such as brainstorming. These methods help students realize the significance of various aspects of medical knowledge, including those acquired in "Histology, Cytology, and Embryology," for their future practical work.

The development of digital resources and enhancements in interactive technologies opens new opportunities for their application in the education of future doctors, allowing educators to unleash their creative potential. Creating interactive 3D-models of cells, tissues, and organs for use in teaching requires specific skills from educators and appropriate software but significantly aids students in understanding the structure and its functional implications.

Interactive panel displays and multi-boards are gaining increasing popularity as they simplify working with theoretical material, explaining it, and demonstrating presentations, short videos, and micropreparation images to students during practical classes. These tools facilitate the analysis of specific tissue structures and clarification of complex concepts, keeping student engagement high and fostering critical thinking.

To develop students' critical thinking, working not only with educational but also with scientific literature is of paramount importance. Discussions and critical analyses of scientific sources are crucial not only for deepening knowledge in the discipline but also for understanding the integration of histology, cytology, molecular biology, and physiology with clinical disciplines. It is essential to cultivate students' skills in using online search resources, critically evaluating the reliability of scientific sources, research methods, and possible interpretations of results.

The analysis of real clinical cases also serves to enhance interest and engagement in studying "Histology, Cytology, and Embryology." Specifically, examining structural changes in tissue samples occurring during disease progression, as well as assigning tasks that involve analyzing slides or cytological smears to assess the presence of pathology, significantly increases interest and stimulates critical thinking in future doctors.

Student reflection following each practical session in histology, cytology, and embryology is important for developing a comprehensive understanding

of the structure of specific tissues and organs, as well as interpreting clinical cases. Reflection also helps students identify critical questions that remain unanswered and require further study, thereby increasing motivation for self-education and research [2, p.70].

Engaging students in experimental work and scientific research, as well as preparing materials for participation in scientific events, contributes to deepening their knowledge of the discipline. It motivates them to acquire practical skills in preparing micropreparations, learning new modern techniques for working with cell and tissue samples, developing the ability to interpret research results, and enhancing active communication and public presentation skills of scientific findings.

Undoubtedly, the development of clinical reasoning in future doctors is one of the most critical tasks for educators in medical universities. Based on histological and cytological research findings, students should be able to draw conclusions about specific clinical conditions such as cancer, inflammation, and congenital developmental defects. The development of clinical cases using laboratory data on tissue samples will help cultivate students' clinical reasoning from the early years of their education.

During practical classes, when students perform program-specific tasks or tests to assess the quality of acquired knowledge, providing feedback is essential [3, p. 31]. Feedback enables students to critically evaluate their successes and identify weaknesses in their theoretical understanding of the topic. Discussions of common errors and strategies for addressing them are equally important to prevent future mistakes.

Thus, strategies for developing critical thinking among medical students within the framework of the "Histology, Cytology, and Embryology" discipline should actively involve them in the learning process through interactive methods, interdisciplinary projects, the use of modern information technologies, research activities, and in-depth analysis of clinical cases. Educational technologies for developing critical thinking require thorough study to optimize their application in designing case-based methods for improving the quality of teaching in "Histology, Cytology, and Embryology," aimed at fostering professional competencies in medical students.

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## TRANSFORMATIONAL TRENDS OF THE CONCEPT OF 'PERSON WITH SPECIAL EDUCATIONAL NEEDS'

# ТЕНДЕНЦІЇ ТРАНСФОРМАЦІЇ ПОНЯТТЯ «ОСОБА З ОСОБЛИВИМИ ОСВІТНІМИ ПОТРЕБАМИ»

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Концепт «особа з особливими освітніми потребами» за останні п'ятнадцять років міцно закріпився як у вітчизняному нормативноправовому полі, так і в суспільній комунікації.

Зауважимо, що часом серед вітчизняних освітян виникають дискусії щодо того, яке саме поняття є коректним «з особливими освітніми потребами» чи «особливими потребами» [2, с. 59]. Відповідь на це питання – безпосередньо залежить від того, який іменник ми використовуємо у цьому концепті. Якщо вживаємо поняття «особа» або «дитина», тоді маємо вказувати – який характер мають ці потреби, тобто коректний концепт означується як «особа або дитина з особливими освітніми потребами». Адже, по-перше, особливі потреби можуть виникати в інших умовах, а не лише в освітньому середовищі; по-друге, ті потреби, які виникають у процесі здобуття освіти можуть мати якісні особливості порівняно з іншими видами діяльності. Поряд з цим, якщо ж в якості іменника в концепті використовуються такі