

METHODS OF SOLVING COMPLEX PROBLEMS IN SCIENCE

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THE POTENTIAL OF HIGHER MEDICAL EDUCATION IN UKRAINE: LITERATURE REVIEW AND OWN PEDAGOGICAL EXPERIENCE

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Background. Over the years of independence Ukraine has retained certain traditionally positive principles of the functioning of the national education system in the process of implementation of the Law of Ukraine "On Higher Education". Spirituality, the progress of science, the education of citizens, the level of application of innovative technologies and information communications determine the level of global competitiveness of Ukraine. (K. Levytskyi, 2019). It should be noted about the acquisition of significant relevance of the concept of "lifelong learning" Researchers T. Darahan, O. Vlasyuk, N. Tymoshenko (2019) in their article "Lifelong learning is a key generator of human development" emphasize that lifelong learning can develop creativity, initiative and responsiveness in people, allowing them to adapt to post-industrial society through the development of skills such as change management, communication in their culture, society, conflict resolution.

The purpose of our study is to consider the didactic principles and problems of organizing independent work of students (junior doctors) and determine effective methods of its organization by means of information technology training based on literary sources and own pedagogical experience.

Results. The analysis of literature data indicates the possibility of real improvement of the quality of medical education in Ukraine and raising the rating of its universities It is noted that the activities of the student scientific circles are a valuable asset of medical education in Ukraine, which can contribute to its further reform and improvement of real ways and approaches to optimization during the period of adaptive quarantine and war. Creating the necessary information base for the formation of a doctor is impossible without fundamental knowledge. Diagnosis and treatment of pathology is based on a deep understanding of the mechanisms of functioning and molecular basis of structural organization and regulation in the norm.

This is facilitated by the development of molecular biology and genetics, which today are sometimes used as examples of gene and cell therapy. The goal of the course in histology is not to study pathological changes in organs, but first of all to understand the functional characteristics of normal structures that allow the student to diagnose their possible changes. The practical classes in histology, cytology and embryology at medical universities of Ukraine play a significant role not only in illustrating theoretical knowledge, but also in providing them with understanding and in-depth training.

In the course of our research, we have determined that the research method has a significant role in the organization of extracurricular independent work. In this method, initiative, independence and creative search in research activities are most fully manifested. The role of the teacher should not be underestimated. Not all students can focus on determining the role, essence of the problem, choose the necessary knowledge from a large amount of material, group and summarize them. In this process, an individual approach to them by teachers requires systematic work. Therefore, independent work should be understood as the creative activity of the student under the guidance of a teacher. They must actively interact. The student's desire to obtain deep and fundamental special knowledge should be comprehensively supported and encouraged in order to develop in them the tendency to think independently, creatively master the latest achievements of science in medicine, constantly update their personal stock of knowledge. These data of our study prompted us to activate students to the discussion in the process of discussing the multimedia representation of histological preparations in comparison with the norm and in cases of manifestation of pathological changes, which contributed to increased interest, development of their clinical thinking, creative competence. During the period of adaptive quarantine and during the war in Ukraine, online Zoom-conferences and training sessions are held for students of 1-2 courses in classes, in classes at the Department of Histology and Embryology of the Bogomolets National University, studying the sections of histology: cytology, general histology and special histology. At every stage of our we gradually introduced into the educational process the data of scientific fundamental research through interactive communication, multimedia interpretation by students of previous fundamental knowledge and acquired skills to compare and distinguish and skills, rely on the existing conceptual framework of knowledge, interpret histological structures under normal conditions and in conditions of pathological changes. During the educational process, each student has the opportunity to prepare a scientific report and present it in class, which at the same time have the form of an interactive, problematic one using elements of discussion, with solving problematic scientific issues of medical importance. Students have the opportunity to fully show initiative, independence, creative search in educational and scientific activities. The educational process takes place in conditions of constant active interaction of all students: joint learning, discussion and joint problem solving based on an analysis of the circumstances and the relevant situation. During group learning, students learn to think constructively, make informed decisions, develop the ability to persuade and debate. In pedagogical practice, taxonomy B. Bloom in the cognitive sphere has become widely used to describe learning outcomes based on a competency - based approach [Taxonomy of educational

objectives: Handbook 1, cognitive domain / B. S. Bloom [ed.]. – New York: Longman, 1956. – P. 22-35], which contains six consecutive levels of complexity: knowledge, understanding, application, analysis, synthesis, evaluation. Assessment of the levels of formation of a certain set of organizational competencies in accordance with the activity is carried out by decomposing each of them on the basis of manifestation (assessment indicators) and their reflection on the basis of taxonomy in the form of a content-activity matrix. According to the results of the analysis of scientific and pedagogical literature and our pedagogical research, the structure of competence should be considered creative, which involves activities in the field of methodology and the development of general principles of a certain competence, making fundamental decisions, managing a team of performers, responsibility for the actions of the team and high independence in decision-making.

Conclutions. It should be emphasized that in the course of our research, psychological and pedagogical efforts were directed to the process of mental activity of students in order not only to deeply assimilate knowledge, but also to educate independent, productive, creative thinking. The student's desire to obtain deep and fundamental special knowledge should be comprehensively supported and encouraged in order to develop in them the tendency to think independently, creatively master the latest achievements of science in medicine, constantly update their personal stock of knowledge. Regardless of the level of abilities of students, teaching fundamental medical and biological discipline requires the need to focus students' attention on mastering the laws of structural and functional connections, age, adaptive and regenerative capabilities of tissues and organs for the formation of long-term memory. Our research uses a differentiated approach to encouraging students in learning and research or independent research work.