

MODERN INNOVATIONS AND PROMISING WAYS OF DEVELOPMENT OF CULTURE AND SCIENCE

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MEDICAL EDUCATION OF UKRAINE: REAL WAYS AND APPROACHES OF OPTIMIZATION DURING THE PERIOD OF ADAPTIVE QUARANTINE AND WAR

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Background. Spirituality, progress of science, education of the community, the level of application of innovative technologies and information communications determine the level of global competitiveness of Ukraine. Main task of the higher education institution at the present stage of modernization of higher education of Ukraine is to ensure the quality of training of specialists at the level of international standards (Kazymyr Levkivskyi, 2019).

This problem can be solved if the conditions for the students to realize their intellectual potential are created on the basis of the introduction of innovative pedagogical technologies in the educational process, a significant increase in the efficiency of the educational process, individualization of learning, continuous activity and the teacher, and each student.

Objective is to optimize the professional training of medical students at the university based on innovative technologies for teaching histology.

Results. Based on our experience and the results of the analysis of scientific and pedagogical literature in the structure of competence, creative should be considered, which involves activities in the field of methodology and 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. Important place is occupied by the problems of group cohesion and

the emergence of junior medical students psychological maladjustment, prompted us to find ways to improve methods that would greatly facilitate the perception and assimilation of the material, activate independent work, create a favorable ground for it.

To meet these requirements, we have identified the main stages of our activities: 1) organization of problem-oriented independent work in the classroom or outside; 2) systematic, consistent, hard work of each student in the presence of a common goal and a clearly planned expected learning outcome in the positive interdependence of students; 3) creation of comfortable learning conditions. In our studies, the presence of a problem is envisaged, in the solution of which there is an exchange of knowledge, ideas, methods of activity, etc., one's own position is developed and defended (or changed under the influence of arguments) in an atmosphere of mutual support, benevolence the exclusion of the dominance of one thought over another, a combination of individual, pair, group, collective work; 4) way to achieve the goal – disclosure of the system of evidence, comparison of points of view, different approaches

Taking into account the fact that an important role of histology knowledge in training students of medical university at the Department of Histology and Embryology is the formation of the correct visual image of the normal structure of tissues and organs, we drew attention to the fact that the achievement of this goal is complicated by the fact that not all students, preparing for the lesson, are not able to find the described object in the figure or in the histological drugs. For some students, the process of abstract thinking does not allow to create the correct image of a specific structure, which in this case the "wrong image" of the norm can cause an erroneous diagnosis when describing the pathological process.

During the study of this problem, it was determined that its occurrence is associated with memorization and assimilation of the necessary amount of educational information, the ability to operate with the knowledge gained, correlate them and draw their own conclusions. Of course, in our opinion, in these cases, the training, the educational aspect of the teacher requires a very delicate attitude to the abilities of students in acquiring diagnostic skills at various objects: preparations, multimedia presentations, photographs, diagrams, electronic micrographs, etc. Such an approach, of course, can improve psychological and pedagogical relations and contribute to the formation of students' ability to introspection, self-esteem regarding their cognitive activity. During adaptive quarantine, a period of war in Ukraine have organized on-line Zoom conferences, studying the units of histology: cytology, general histology and special histology. Knowledge of all learning units we carried out in horizontal direction for students of 1 and 2 courses. At each stage, on the basis of the research method, we gradually introduced into the educational process data of scientific fundamental research through interactive communication, multimedia interpretation by students of previous fundamental knowledge and their acquired skills to compare and distinguish and skills, to rely on existing conceptual frameworks of knowledge, to interpret histological structures under normal conditions and under conditions of pathological changes. During the pandemic, we developed a methodology and methodology for diagnostic analysis of histological drugs in the form of a multimedia presentation

through the organization of ZOOM-conferences (1 and 2). At the first, the discussion of the studied object (cells It should be noted that either the tissue or organ) is carried out from general to partial, with an emphasis on the integrity and connection of structure and function. During the conversation, the teacher directs the activities of students to consolidate the theory and practical skills. It should be emphasized that the obligatory element of discussion is ultrastructural, histochemical, functional characteristics of histological structures. In this process, discussions and setting up problematic issues (situations) are envisaged. To this stage of practical training according to the methodology, it is envisaged to prepare in the following sequence: 1) the student performs his homework – gives answers to the questions posed by the teacher; 2) the initial independent study by the student of histological drugs, in the multimedia presentation of micrographs and in the atlas; 3) the student forms a picture in his album and determines the structures. At the first stage (ZOOM-1), each student participates in the process of discussing multimedia presentations, and the teacher provides the necessary explanations for the formation of the ability to apply knowledge in the diagnosis of histological structures of the norm and interpret possible manifestations of pathological changes using information about COVID-19. 1) If the organ is studied, then first it is necessary to determine its place in the functional system of the body, and provide a general characteristic (origin, determine the general plan of its structure, show parts or shells, identify diagnostic signs; 2) detailed histological analysis of structures and their functional properties is provided; 3) Each histological specimen is studied in two stages. At the first stage, the student learns to "read" the micrographs and form its "visual image" normally and acquires the ability to diagnose possible changes in the normal structure. At the second (ZOOM-2) the teacher and monitors have the acquisition and consolidation of practical skills in diagnostic analysis of histological specimens. 1) The teacher shows students for pattern recognition, electrograms and multimedia presentations of those micrographs that were presented to students for the formation of drawings. 2) Each student presents his drawings in albums and gives their characteristics. 3) The teacher and students analyze the activity of each student. 4) Conclusions are made by the teacher and determines the assessment (the number of points, taking into account the student's activity at all stages of the class and the results of the control test on Likar – NMU platform.

Our research has also revealed a significant role in screen visual clarity. Its effectiveness is due to its high demonstration properties: frontality, contrast, brightness, etc. Students perceive information from the screen emotionally, which contributes to the focus of their attention on the objects of study, and this is important for the intensification of the educational process. Histological preparations can be demonstrated with a large, small increase in various combinations in comparative terms of the norm and manifestations of pathological changes and at the same time encouraging all students in the discussion process.

It should be emphasized that in the process of our research, psychological and pedagogical efforts were aimed at the process of mental activity of the student in order to contribute not only to the assimilation of knowledge, but also to the education of independent, productive, creative thinking. Regardless of the level of students' abilities, the teaching of fundamental medical and biological discipline requires the need to

focus students' attention on the assimilation of patterns of structural and functional connections, age-related adaptive and regenerative capabilities of tissues and organs to form their long-term memory.

Using the method of problematic presentation of the material, the teacher poses a problem, formulates a cognitive task on the basis of different sources and means, shows a way to solve the task, as well as a way to achieve the goal - the disclosure of a system of evidence, comparison of points of view, different approaches. In this process, students also become accomplices in the scientific search, perceive, realize and memorize ready information, but also follow the logic of evidence, following the movement of the teacher's thoughts.

Optimal innovative technologies in the teaching of fundamental disciplines can be interactive learning technology (use of lecture multimedia tools, e-learning tools, Internet network resources), situational learning technology (trainings, presentation of own project ideas, computer testing), problem learning technology (application of the project teaching method), information technology (use of the system curation of scientific research). It is the pedagogically oriented creative environment that is a relatively integral part of the real pedagogical interaction of the participants in the educational process, which optimizes the positive development of each student. Teachers are constantly looking for effective organizational and methodological activities that would help achieve the goal of training professionals based on a combination of traditional and modern information technology training. Considerable place in the independent work of students is the use of Internet technologies to effectively search for information. The availability of a large number of electronic articles, reference books, electronic educational and methodological developments, which are presented on the websites of universities, certainly extend the creative potential of students, provided that they are able to work creatively with the obtained information. In addition to knowledge of search methods, students must master methods of analysis, synthesis and processing of information.

Our study applied a differential approach to actively encouraging students to engage in educational, research and research independent work.

During the educational process, each student has the opportunity to prepare a scientific report and present it in class, which at the same time take the form of interactive, problematic with the use of elements of discussion, with the solution of problematic scientific issues of medical importance. Students have the opportunity to fully show initiative, independence, creative search in educational and research activities.

Extracurricular research work involves students who have a high level of knowledge and ability to scientific activities. Under the guidance of the teacher, a scientific search is carried out in the form of reports at scientific conferences. More often, such students become members of the scientific student society, acquire the necessary competence for the future professional activity of the doctor.

Conclusionis. A differential approach to the use of information and communication technologies, problem-oriented teaching of histology allows to expand the availability of training, to form practical skills in diagnosing histological preparations and to improve the psychological and pedagogical conditions in the formation of professional

and creative competence of medical students, to encourage them to continuous professional development. To improve the quality of assimilation of fundamental basic knowledge and the formation of skills of professionally oriented activities of students, assess the feasibility of creating a Ukrainian digital collection of virtual slides on histology, cytology and embryology for which you can use the best drugs accumulated in the medical universities of Ukraine.