

ACTUAL PRIORITIES OF MODERN SCIENCE, EDUCATION AND PRACTICE

Proceedings of the XII International Scientific and Practical Conference

Paris, France
March 29 – April 01, 2022

ADAPTIVE QUARANTINE: CLASSROOM AND DISTANCE LEARNING OF HISTOLOGY AT THE MEDICAL UNIVERSITY

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Background. Implementation of pedagogical and innovations on solving modern problems of the quality of higher education in the context of the pandemic in patients with COVID-19 is becoming especially important. The review would help clinicians and researchers to understand the tissue pathology, which can help better of the management and avoiding future risks (<http://dx.doi.org/10.1136/jclinpath-2020-206995>)¹⁰.

Objective is to outline the most effective methods in optimizing the teaching in histology to students at the medical university in adaptive quarantine.

Results In our scientific pedagogical study for years (2017-2022) we have been using the Flexner report and John Dewey “project method”. An analysis of the literature on trends in medical education points to the problem of reducing the time devoted to teaching fundamental disciplines in new programs of higher medical education. This contradicts the basic model of medical education in the USA, known as the Flexner report (Cooke M, Irby DM, Sullivan W, Ludmerer KM. American medical education 100 years after the Flexner report. N Engl J Med. 2006 Sep 28;355(13):1339-443.). To increase the effectiveness of teaching basic disciplines, including human physiology and morphology identify existing problems in different categories of students. And scientific pedagogical research uses the experience of the American educator and philosopher John Dewey, who proposed a learning paradigm with simple memorization of information in the process of acquiring knowledge in accordance with their cognitive activity and interests. It is associated with his name «project method» which is the basic in various degrees of education in many countries,

Many studies, including ours, are devoted to the role of interactive teaching methods, since the educational process takes place in conditions of constant active interaction of students and teachers. This is coeducation, where the student and teacher complement

each other. The teacher is the organizer of the training. Organization of training includes modeling of real situations, the use of game elements and discussions, joint problem solving based on an analysis of circumstances and the corresponding situation. During group training, students learn to think constructively, make informed decisions, develop the ability to persuade and discuss.

We must note, that the main task of basic biomedical discipline - 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. At the present stage, it is important to justify the role of the traditional educational method for the diagnosis of histological preparations in the formation of practical skills and the development of students' clinical thinking primary courses and it is imperative to introduce innovative methods to optimize vocation training.

Of course, these processes involve the attraction of additional resources, which is not always possible in Ukraine at this difficult time, so the opportunities and pedagogical experience of teachers should not be abandoned. The focus of this lesson is on the motivational actions of students in their interest in studying the subject and their involvement in the educational and research work of the scientific circle of the department. The future doctor studies the basics of histological technique and acquires the skills of microscopy, gets acquainted with information about priority research of Ukrainian and foreign scientists in the field of morphology.

At practical sessions of the Department of Histology and Embryology of the O.O. Bogomolets Medical University the diagnostics of preparations is carried out on a specific object according to the method in the following sequence: 1) initial independent study by the student of histological preparation; 2) then each student shows the teacher the structure in the preparation, and the teacher provides the necessary explanations and controls the student's skills; 3) further discussion of this drug is carried out with the participation of all students; 4) if the organ is studied, then it is first necessary to determine its place in the functional system of the organism, and to give a general characteristic (origin, determine the general plan of its structure, show parts or shells, determine diagnostic features; 5) provide a detailed histological analysis of structures and their functional properties. Each histological preparation is studied in two stages. In the first stage, the student learns to "read" a micropreparation and to form his "visual image" in the norm and acquires the ability to diagnose possible changes in the normal structure. In the second stage, tables, diagrams, electrographs and multimedia presentations are used to provide practical skills. Discussions regarding the interpretation of the diagnostic criteria of structures at micro- and ultramicroscopic levels are also provided in this process, as well as the molecular characterization of morphofunctional connections, indication of the degree of regenerative properties of structures, or manifestations of possible disorders of structure and function and the determination of their medical correlations. In particular, the introduction of an active method of discussion, we apply the method of posing the problem and solving it by students. In such classes, the student-speaker (on topical issues of structural and functional relationships and medical importance of patterns, mechanism of interaction) presents his

educational research work with a multimedia presentation for 5-7 minutes. The other 2-3 students - "opponents" - are involved in the discussion of the data and make a correction. Other students ask questions, supplement and suggest their own solutions to the problem. The whole team scores on the traditional scale of the student-speaker. The teacher evaluates the contribution of each student in solving the problem. During quarantine we 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 s in the fpesimentsorm of micrograph 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 micropreparation 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 histoolgical 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.

Conclusion. Our study of periodic literary sources and our accumulated pedagogical experience allows us to emphasize that in the foreground in modern approaches to studying in higher medical school, there should be a practical component of the acquired knowledge on the basis of innovative methods of teaching I basic medical and biological disciplines, as well as a high level of interest and involvement of students in independent work and motivation of students to further their continuous development. It should be emphasized that flexible management of the educational process is based on pedagogical correction and continuous feedback. Qualitative changes in the control of educational activity are the implementation of control with diagnosis, feedback and evaluation of stages, providing control of the characteristics of systematic and objectivity, enhancing the motivation and cognitive interest of students in the classroom and distance learning.