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PECULIARITIES OF TEACHING PATHOMORPHOLOGY AND SECTIONAL COURSE TO FOREIGN STUDENTS IN TERMS OF DISTANCE LEARNING

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The technology of visualization of educational information is a system that includes a set of educational knowledge; visual ways of their presentation; visual and technical means of information transmission; psychological methods of using and developing visual thinking in the learning process. The visualization technology displays key elements of the educational material content. Scribing methodologies (English «scribe» in the sense of «drive a pen»), the use of WebQuests when working with macro drugs in preparation for the final module control № 2 in «Pathomorphology» and the use of mental maps have proven themselves in terms of distance learning. The article evaluates questions about the peculiarities of teaching the subject «Pathomorphology» and sectional course to foreign students in terms of distance learning and in the context of proper preparation for the Unified State Qualifying Exam Step-1, discusses effective practical training in general.

***The aim** – to analyze the peculiarities of teaching the subject «Pathomorphology» and the sectional course to foreign students in terms of distance learning and to determine further prospects.*

***Conclusions.** The use of modern teaching technologies can help to improve the process of learning material from disciplines, to increase the efficiency and quality of modern student learning. Skillfully used computer technology should help to develop a student's creativity, develop clinical thinking, and promote better memorization.*

Ключові слова:
технологія візуалізації, педагогічний процес, практичне заняття, патоморфологія.

Клінічна та експериментальна патологія 2022. Т.21, №4 (82). С. 84-90.

ОСОБЛИВОСТІ ВИКЛАДАННЯ ПАТОМОРФОЛОГІЇ ТА СЕКЦІЙНОГО КУРСУ ІНОЗЕМНИМ СТУДЕНТАМ В УМОВАХ ДИСТАНЦІЙНОГО НАВЧАННЯ

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Технологія візуалізації навчальної інформації – система, яка містить комплекс навчальних знань, візуальні способи їхнього представлення, візуально-технічні засоби передачі інформації, психологічні прийоми використання та розвитку візуального мислення у процесі навчання. Технологія візуалізації забезпечує відображення ключових елементів змісту навчального матеріалу. Методології скрайбінгу (англ. «scribe» в розумінні «drive a pen» – водити ручкою), застосування вебквестів під час роботи з макропрепаратами при підготовці до підсумкового модульного контролю № 2 з предмета «Патоморфологія» та застосування ментальних карт ефективно зарекомендували себе в умовах дистанційного навчання. У статті порушуються питання щодо особливостей викладання предмета «Патоморфологія» та секційного курсу іноземним студентам в умовах дистанційного навчання та в контексті належної підготовки до Єдиного державного кваліфікаційного іспиту Крок-1, обговорюється питання ефективності практичного заняття в цілому.

***Мета роботи** – здійснити аналіз особливостей викладання предмета «Патоморфологія» та секційного курсу іноземним студентам в умовах дистанційного навчання і визначити подальші перспективи.*

***Висновки.** Застосування сучасних технологій викладання надасть змогу удосконалити процес засвоєння навчального матеріалу з дисципліни, підвищити ефективність та якість навчання сучасного студента. Майстерно використані комп'ютерні технології повинні допомогти розвитку творчих здібностей студента, розвивати клінічне мислення та сприяти кращому запам'ятовуванню матеріалу.*

Introduction

Obtaining higher medical education is a prestigious task for contemporary applicants. The main tasks of higher medical education are high-quality students, interns, doctors training, as well as broad European and international recognition of national diplomas. All steps in the training of a health worker should be based on the professional principle, i.e. focus on the ultimate goal of training and the professional goal of each doctor [1, 2].

Ukraine has undoubtedly defined its focus on entering Europe. There is a need to bring our medical education closer to world standards. Ukraine has become a full

participant in the Bologna process, which solves the problem of developing and reforming the national higher education system, integrating it into the European and global market of educational services [3, 4].

As a result, the number of foreign students has been increasing in recent years. Highly qualified training of future doctors in the future will increase the rating of Ukrainian medical universities in the global educational market. That is why the urgent need of higher medical school is the training of competitive doctors, whose professional knowledge, experience and practical skills must be at a high level [5, 6, 7]. All this requires appropriate methodological support in teaching the discipline «Pathomorphology» and a sectional course for students, including foreign students from India, Ghana, Nigeria, Egypt and other countries studying at Bukovina State Medical University.

The aim of the study

To analyze the peculiarities of teaching the subject «Pathomorphology» and the sectional course to foreign students in terms of distance learning and determining future prospects.

Main part

Curricula in pathomorphology and sectional course include a thematic plan of lectures, practical classes, independent extracurricular activities of students, knowledge control and a list of educational literature.

Pathomorphology is a compulsory subject that is included in the list for students of all faculties, because it was and remains a kind of bridge that connects basic biological sciences and practical medicine. One of the tasks of pathomorphology is the development of clinical thinking in future physicians [8]. In this regard, the traditional practical lesson on pathomorphology at the Department of Pathological Anatomy of Bukovinian State Medical University consist of two parts – theoretical and practical. The theoretical part consists of an oral analysis of the material according to the thematic plan, and the practical part consists of a description of macroscopic and histological specimens, analysis of test and situational tasks. The practical part of the lesson should also include students' demonstrations of autopsies in the section hall.

Practical (Greek prakticos – active) classes are given an important place in educational activities among the various forms of organization in higher education. Practical classes remain the most common form of organization of the educational process in higher education institutions and one of the most effective forms of classes [9]. In addition to the main purpose, practical classes help the teacher better understand the intellectual level of each student, to convey knowledge to them, in different ways to check how this knowledge is acquired. Practical classes are designed to deepen, expand and detail knowledge, develop students' skills in their use in practice, to develop students' initiative to self-study the material [10].

Consequently, an effective seminar or practical session should be planned and prepared in advance. A lesson is effective if both parties (teacher – student) know what they need to do at each moment of the lesson. Hence, in preparation for the lesson, the teacher must count every minute [11].

Becoming skilled at the specialty of a doctor is the mastering of professional language, i.e. perfect mastery of certain terminological material [12]. Thus, a part of the practical lesson is constantly devoted to the repetition of basic definitions, classifications, terminology, the most important manifestations of pathological processes and diseases, causes, mechanisms of their development and morphological changes. Tables, microphotographs, slides, macro- and micro-preparations are used in the study of the topic in the traditional practical lesson. When considering test tasks, teachers of the department analyze and explain each distractor. After all, if the student will be guided in the correct interpretation of all answer options for a test task, correctly interpret, for example, the presence or absence of certain cells in the biopsy, or correctly explain the increase or decrease of specific components in the proposed analysis, it will allow to answer the question of the test task, and, as a result, pass the Unified State Qualification Exam Step-1 with a good result.

A significant component of training is the control, which, if used properly, should help to achieve this goal. So, one of the options for preparing students for the Unified State Qualifying Exam Step-1 is to analyze a selection of test tasks at the end of each practical session on a specific topic, such work aims to test knowledge, skills and abilities of students within the studied topic.

Much attention is paid to the effective organization of individual student's work, which is a significant part of the study of the discipline. The student's individual work can be effective only if the teacher coordinates the student's activities, helps him in professional self-determination [13]. After all, the individual work of a student in a broad sense is all the work of mastering scientific knowledge and practical skills. Consequently, today, a great importance should be given to the individual work, education of its culture, rational orientation, the formation of methods as a part of the development of various skills and abilities in the process of preparing students for work in the specialty. Increasing the creative potential and promoting a deeper mastery of educational material by students is to involve them in the research work, which is a mandatory element of the training system for specialists with higher education [14].

To facilitate the educational process, as well as the accurate direction of foreign students, teachers of the department have developed a selection of so-called digests. The digest is a short information product (publication, article, selection), which contains organized small annotations and the main provisions of the sources used, which briefly conveys their content. The format of the digest is convenient for reading basic information on a particular topic. Digests are posted according to a specific topic on the distance learning server Moodle of our university, which is designed to assist students in learning [15, 16].

Of great importance in the development of pathomorphology by future physicians is not only the achievement of knowledge of the morphology of each pathological process, but also its morphological evolution, links in pathogenesis, which encourages future

understanding of treatment tactics at different stages of disease [17, 18].

Taking into account the requirements that apply in international medical practice, there is also a need to unify teaching in accordance with the requirements and rules of world medical practice and the international classification of diseases [19, 20]. Given the experience of the teaching staff of the Department of Pathological Anatomy with international students, the problem should be emphasized, which is as follows: abroad in higher medical school teaches such a discipline as pathology. In Ukraine, this discipline is divided into two components – pathomorphology (pathological anatomy) and pathological physiology [21]. Unfortunately, there are still some differences in the approach to the etiology, pathogenesis, interpretation of the following sections – dystrophy (cellular and extracellular accumulations), compensatory-adaptive processes, tumors of hematopoietic tissue, and so on.

Due to this fact in some countries, especially Muslims, there is a complete lack of autopsies, teachers of the Department of Pathological Anatomy consider it appropriate during practical classes in pathomorphology and sectional course to pay more attention to studying the features of biopsy in a common research method to improve the lifelong diagnosis of various diseases, primarily – tumor and precancerous processes, tumor-like conditions, chronic inflammatory diseases, new and unclear nosologies. Therefore, the principle of teaching pathomorphology to foreign students is individual. For example, students from India need to pass the MCI (Medical Council of India) test in India after graduation, so teachers of the department practice the analysis and explanation of these tests in practical classes. Depending on the territorial diversity of students, especially those living in warm countries, a greater emphasis in practical classes is the discussion of infectious and parasitic diseases.

It is of high importance to remember that in high school, teachers are currently dealing with the Z generation (individuals born in 2003). In order to establish effective personal relationships, it is necessary to know what features are inherent in this group of students. Thus, communication on the Internet is a higher priority for them than in reality; they perceive information exclusively visually (images, videos); talented, creative, imaginative; not prone to subordination; their feelings are smiles, statuses, emojis. The life of the Z generation is completely connected with technology, they grow «in the arms» of gadgets, learn new things faster and prefer a healthy lifestyle. Everything they do requires a reaction from others, whether negative or positive. The main thing is attention to their personality [22].

How to win the attention of a modern student? Literature data show that everything needs to be visualized and creative, do everything quickly, motivate, be attentive to everyone, given the opportunity to express themselves, give tasks clearly and in detail, limit time, tasks in its turn should be creative, interesting, to involve in team work [23].

Thus, an individual approach to the student, the ability to find the right words, intonation, be friendly, have modern teaching aids and technologies are all requirements for a modern teacher.

At this stage, the key task of medical education at all levels is to create conditions for the development of competencies and perfect mastery of practical skills by students. Yes, many doctors admit that at the beginning of their careers they lacked teamwork skills and confidence in emergency situations. That is why new approaches are needed to improve soft-skills. In fact, soft-skills are personal characteristics that allow a person to successfully interact in a team when solving any work issues. It is believed that simulation training can significantly contribute to the achievement of these learning objectives [24].

During the conversion from full-time to distance and / or mixed learning, the process of teaching pathomorphology was transformed, digitalized and became even more various [25, 26].

Contemporary methodologies for teaching the discipline «Pathomorphology» are actively applied for the third-year students of various specialties [27, 28]. Thus, the traditional work with macro-drugs, where the teacher used to explain all the pathological processes visible to the naked eye, and students were active listeners, turned into interactive quests and trainings. Applicants, based on the prepared material, individually or in groups develop the proposed selection of macro-drugs. The staff of the department created an algorithm for describing macro-drugs, which consistently and logically summarizes the name of the pathological process (final module control № 1) or the name of the disease and its clinical and morphological classification (final module control № 2).

In terms of distance learning, the subject «Pathomorphology» at the Department of Pathological Anatomy is provided, including imaging technology. Visualization technology displays key elements of the content of educational material through the use of simple graphic symbols, words, pictures, tables, diagrams, which are consistently created on the screen according to its oral presentation (scribe) [29, 30, 31] Thus, using a variety of computer programs, you can easily and simply explain the morphogenesis of various pathologies.

Using Google Meet video conferencing system, in addition to showing pictures, diagrams and tables, a thematic selection of test tasks is displayed on the monitor screen. Working in a Word document allows you to highlight keywords with a color marker or highlight different distractors, which helps studentsto master the material better. In addition to the traditional justification of the correct answer, the value of all distractors is analyzed logically and consistently, rejecting all incorrect answers. This ensures the repetition of material from previous practical classes, which in turn works as an effect of accumulation [32, 33].

Involving the standard Paint 3D program has become an integral part of practical pathomorphology. The program helps to schematically depict pathological changes in cells or to understand the localization of a pathological process.

One of the important positive aspects of multimedia technologies is the ability to preserve museum products of the department and the ability to work with macro-

drugs open-endedly. The Museum of Macro-Drugs of the Department of Pathological Anatomy is unique and exclusive and needs proper treatment. You can work with images or videos of macro-drugs both at the department and in any convenient place, which in its turn increases the level of preparation of students for practical classes and final modular tests [34].

The use of WebQuests, when working with macro-drugs, which are assigned to the final module control 2, has become effective. The WebQuest in pedagogy is a problem task, a project using Internet resources. The technology involves the use of information technology to solve the problem, to find the necessary information, registration of results in the form of presentations, etc.; self-study and self-organization; team work; public speaking skills [35, 36].

More and more often in the process of teaching the subject «Pathomorphology» helps the so-called mental cards (mind cards) or Internet maps. A mental map is a way of depicting a general system (structure, classification) with the help of visual diagrams. The mental map helps to quickly and conveniently memorize the basic terms and concepts on the topic of practical training, and on the other hand it is easy to demonstrate the main provisions of the topic of lecture material [37, 38].

Conclusions

1. Hence, due to the defined direction of study and the form of control, the level of theoretical mastering of the material and its clinical comprehension is well revealed; the student does not automatically repeat the theoretical material, but uses all his baggage of knowledge, both new and previously acquired, adapting it to the specific situation.

2. The use of modern teaching technologies can help to improve the process of learning material from disciplines, to increase the productivity and quality of modern student learning.

3. Competently used computer technology should help to develop a student's creativity, to develop clinical thinking, and to promote a better memorization.

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