

SIGNIFICANCE OF INNOVATIVE TECHNOLOGIES IN THE MECHANISM OF IMPROVING THE EDUCATION QUALITY OF FUTURE MEDICAL PROFESSIONALS AS ILLUSTRATED BY TEACHING THE DISCIPLINE «PATHOMORPHOLOGY»

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The process of creation, introduction and spreading of new ideas, tools, pedagogical and managerial technologies in educational practice will facilitate the transition of the education system to a qualitatively different state, which increases the indices (levels) of achievements of education structural components.

The objective of the study—to substantiate the importance of innovation in the mechanism of improving the education quality of students as illustrated by the experience of teaching the discipline «Pathomorphology» for future medical professionals.

Conclusions. *The identified ways of influencing innovative technologies and teaching methods on the use of innovations in the educational process will improve the quality of students' education by intensifying their research work, developing skills of self-acquisition, training of independent personality capable of self-education and self-development, stimulation of figurative, associative, logical thinking. Systematic application of innovations not only helps to increase the professional competence of a student, but also lays down special demands to the teacher, leads to his professional growth, because it stimulates his activity in achieving professional acme. All this makes the teaching-learning process interesting and effective.*

Key words:

innovations in pedagogy, interactive technologies, teaching pathomorphology.

Clinical and experimental pathology 2022. Vol.21, № 4 (82). P. 91-95.

DOI:10.24061/1727-4338.XX1.4.82.2022.14

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ЗНАЧЕННЯ ІННОВАЦІЙНИХ ТЕХНОЛОГІЙ У МЕХАНІЗМАХ ПОКРАЩЕННЯ ЯКОСТІ ЗДОБУТТЯ ОСВІТИ МАЙБУТНІМИ ФАХІВЦЯМИ-МЕДИКАМИ НА ПРИКЛАДІ ВИКЛАДАННЯ ДИСЦИПЛІНИ «ПАТОМОРФОЛОГІЯ»

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Процес творення, запровадження та поширення в освітній практиці нових ідей, засобів, педагогічних та управлінських технологій сприятиме переходу системи освіти до якісно іншого стану, за яким підвищуються показники досягнень структурних компонентів освіти.

Мета роботи—обґрунтувати вагомість інновацій у механізмах покращення якості освіти майбутніх фахівців-медиків на прикладі досвіду викладання дисципліни «Патоморфологія».

Висновки. *Виявлені шляхи впливу інноваційних технологій та методів навчання на освітній процесі сприятиме покращенню якості освіти студентів завдяки активізації їх пошукової роботи, формуванню вмін самостійного оволодіння знаннями, вихованню самостійної особистості, здатної до самоосвіти та саморозвитку, стимулюванню образного, асоціативного, логічного мислення. Систематичне застосування інновацій не тільки сприяє підвищенню фахової компетентності здобувача освіти, а й висуває особливі вимоги до педагога, призводить до його професійного зростання, адже стимулює його активність у досягненні професійного акме. Усе це робить процес викладання-навчання цікавим та ефективним.*

Ключові слова:

інновації в педагогіці, інтерактивні технології, викладання патоморфології.

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Introduction

Difficult social realities of recent years, in particular the aftermath of the COVID-19 pandemic, and today's military action in Ukraine, led to the rapid expansion of modern technologies in national educational activities and formed a trend towards innovative learning technologies at the current stage of education in Ukraine.

As N. H. Sharata aptly noted: «Innovation in education is a fundamentally important response to

modern challenges, determined by the transition of the society to innovative development and determine the flexibility of the education system, its openness to the new, the implementation of competitive national and transnational educational projects» [1].

Based on the theoretical foundations of pedagogical science, we can say that innovative learning technologies should be understood as the purposeful application of new techniques, methods and means of organizing

educational activities in the educational process aimed at improving its efficiency and improving its results. As V. V. Khiminets emphasized «... innovative learning is focused on dynamic changes in the world teaching and educational activities based on the development of various forms of thinking, creative abilities, high social and adaptive capabilities of the individual» [2].

The process of creation, introduction and dissemination of new ideas, tools, pedagogical and managerial technologies will facilitate the transition of the education system to a qualitatively different state, which increases the indicators (levels) of achievements of structural components of education, because pedagogical innovation is an innovation in pedagogical activities, changes in the content and technology of teaching and education, which aim to increase their effectiveness [3, 4]. V. I. Zagviazytsky aptly clarifies: the new in pedagogy is not only ideas, approaches, methods, technologies that have not been yet put forward or used in such combinations, but also the set of elements or individual elements of the pedagogical process that carry progressive beginning, which gives opportunity to solve effectively the problem of upbringing and education in the course of changing conditions and situations [5].

The objective of the study

Substantiation of the considerable significance of innovations in the mechanism of improving the quality of the students' education as illustrated by the experience of teaching the discipline «Pathomorphology» for future medical professionals.

Innovative activity encourages teachers to look for new ways of educational activities and methods of interaction with the student's personality, which would guarantee a high result. Modern creative educators cannot be satisfied with technologies that guarantee only the acquisition of subject knowledge; the method of «remember and repeat» with a ready-made algorithm of actions should be changed to the method of finding, designing, solving life situations. The student must be able to acquire knowledge and be able to apply it to solve problems. Thanks to the use of innovative technologies, the teacher creates such pedagogical conditions under which the student will discover, acquire and construct knowledge and personal competence. Consequently, new technologies intensify the students' pilot study, form their interest, stimulate figurative, associative, logical thinking and make the learning process effective.

In general, the use of innovative technologies encourages students to acquire knowledge independently, to educate a responsible person capable of self-education and self-development, able to think critically and act actively in situations that have undergone social change. O. A. Dubaseniuk states that the specific features of innovative learning are its openness to the future, the ability to predict on the basis of constant reassessment of values, the willingness to take constructive action in renewable situations [6].

For example, in pedagogical practice we actively and successfully use the following innovations: integrated learning, group learning technologies, personality-oriented learning, information and multimedia learning

technologies, interactive technologies of situational modeling and discussion issues, project technologies, etc.

We want to pay special attention to the methods of collective learning with the creation of a situation of mutual learning, game methods and project methods. Regarding the latter, we point out that during the study of «Pathomorphology» brainstorming techniques are systematically used to discuss certain problems of the discipline including the description of macro- and micro-drugs by both the whole group of participants and small groups, such technique gives rise to as many ideas as possible on a given topic for a limited period of time. It helps to initiate cognitive processes, makes students think, encourages them to show imagination and creativity, gives them the opportunity to freely express their thoughts, and teaches to be tolerant to other people's opinion. In addition, as A. D. Diudiun and co-authors emphasize that brainstorming makes it possible to unite very different people in the process of finding solutions, and if a group manages to find a solution, its members usually become staunch supporters of its implementation [7].

The case method (situational analysis) is used quite effectively – discussion of real situations related to a burning topic. Situations are formulated in the form of test tasks, the content of which describes the real pathology that took place in life, or hypothetically could have taken place. The task of students is to analyze real situations, identify key issues, and formulate ideas for their possible solutions. A group of students together analyzes the situation-case that arises in a particular situation, and develops a practical solution; finally, the proposed algorithms are evaluated and the best solution to the problem is selected. This method is used as a pedagogical technique to provoke a discussion in the classroom, it enables an optimal combination of theory and practice and forms a professionally necessary set of competencies, helps to develop students' creative independent thinking, which is rather vital in training highly qualified specialist.

An important remark was made by O. O. Petutina and M. M. Mishchenko, who underline that the case method is based on approaches that actually force to reconsider the traditional roles of a teacher and a student as a subject and object of the educational process. When applying this method, the teacher creates such conditions in the classroom that would develop students' ability to think critically, analyze, and encourage them to share their own thoughts and ideas in the discussion. And the student, in turn, takes responsibility for learning outcomes and realizes that the teacher helps him and he must take full advantage of this help. However, the case method provides an opportunity to create an atmosphere in which the student feels free and comfortable, to stimulate his own interests, to develop a desire for practical application of learning outcomes. The development of emotions, feelings, creative abilities of a young person is relevant as well [8].

We fully share the position of H.A Ridkodubska, according to which the use of the case method, on the one hand, stimulates individual activity of students, forms a positive motivation to learn, provides high efficiency of the educational process, models professionally necessary

competencies, and on the other hand, allows the teacher to improve himself, to perceive the surrounding world in a different way and constantly develop his own creative potential [9, p. 249]. This method is able to change the paradigms of thinking and develop the ability to process a lot of information [10].

The technique of business games is also in demand. For example, we conduct the following ones: «Round table» – while interpreting educational microslides to determine pathologies of the hypothalamic-pituitary system, tumors, which contributes to a meaningful response of students not only to the visual macroscopic characteristics of the detected pathology, but also to describe the microscopic manifestations of various pathological processes diagnosed by a pathologist; simulation game on the topic «Ethical aspects of the specialty of a pathologist» – aimed at modeling potential situations in practice in order to learn the rules of communication with relatives of the deceased; situation game «Model of the autopsy protocol of the deceased», aimed at mastering the algorithm of autopsy, design of the autopsy canal and mastering the rules of formulation of mono- and polycasual pathological diagnosis and others. The use of business games during training enables to bring the learning process to practical activities as close as possible, take into account the realities of today, make decisions in conflict situations, defend their proposals, develop teamwork and team spirit, get results in a very limited time. In specially created conditions the student «works through» the most various life situations which give him the chance to form world outlook, to stand his ground, to prepare for the future professional activity.

Work in small groups is periodically used in classes, which gives all students the opportunity to participate in work, practice skills of cooperation, interpersonal communication, which is often impossible in a large team. Investigating the problem of joint educational activities, scientists emphasize that work in small groups 1) generates interactive speech; 2) stimulates the responsibility and autonomy of the student; 3) is a step towards individualization of learning; 4) creates an emotionally positive climate that provides a sense of security [11]. Thus, working in small groups, silent students usually become active participants in communicative interaction, overcoming their own shyness and fear of criticism and disapproval from peers. In the context of mutual learning, students help each other intellectually and emotionally and, accordingly, overcome the difficulties that arise in their path more easily.

Particular attention should be paid to distance learning technologies, the relevance of which is undeniable in the rapid development of the information society, the spread of the COVID-19 pandemic and the imposition of martial law in Ukraine and the impossibility of conducting classic classroom classes. Distance learning as one of the elements of innovative learning technologies involves the use of computer and telecommunications technologies, which provide interactive interaction between participants in the educational process.

J.L. Moore defines distance education as a set of related methods that allow the teaching and learning process to be conducted separately from each other so that

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the connection between student and teacher is facilitated by electronic, mechanical or other devices [12].

Distance learning has a number of advantages over other forms of learning, even for medical students. You can definitely maintain regular contact with the teacher through telecommunications technology, including video, and receive structured learning material in electronic form, virtually without leaving home or leaving your workplace. Along with this, there are a number of disadvantages; in particular the use of remote technologies is possible only in some sections, in the study of theoretical issues, in the independent work of students, when there is no need to be directly in classrooms.

For successful distance learning in the study of pathomorphology by medical students under quarantine and martial law in Ukraine, we use:

– MOODLE system, which is implemented in the form of a distance learning server (moodle.bsmu.edu.ua), where electronic training courses are created for each discipline and they contain organizational and methodological, training and reference units, as well as tools for self-monitoring and testing students' knowledge. According to T. Poiasok, this system is instrumental for making up training courses in disciplines and managing them. The teacher monitors the individual educational activities of the student in the process of working with the specified learning environment, developing educational material and individual curriculum, providing individual counseling, supervising undergraduate papers, dissertations, answering students' questions, etc. [13];

– every class, according to the time-table, is an online lesson with students by means of Google Meet, because the lack of communication between teacher and student minimizes the possibility of individual knowledge transfer, as well as lack of communication with fellow students eliminates the possibility of discussing obtained knowledge and conducting discussions and debates. This online platform offers an opportunity to demonstrate pre-prepared materials during classes: providing access to your screen, showing presentations, a database of macro and micro photos on the topic of the lesson, analyzing test tasks from the database of integrated exam 'Step 1' and exam in English for Professional Purposes. In addition, an integral part of the online meeting is an oral conversation with each student on the topic of the lesson in order to determine the level of preparation for the class;

– 15 minutes before the end of the class students receive a link to the distance learning server MOODLE to solve test tasks on the topic, the results of which come to the personal account of the teacher, who in addition to test results can see the number of attempts and time spent, determine the «easiest» and the most «challenging» test tasks for students. The latter helps to determine the accents both in terms of the group and in terms of a particular student, which makes it possible to individualize the learning process.

Conclusions

Modern education in Ukraine, ensuring its quality in today's difficult conditions is in the core of public attention. It is innovation direction, intensive reforming

of the national education system in accordance with the requirements of the time, the formation of a fundamentally new education system that will gradually replace the traditional one is considered the most significant vector for the development of modern educational process.

The use of innovations in the educational process will improve the quality of students' education by intensifying their research work, developing skills of independent mastery of knowledge, education of independent personality capable of self-education and self-development, stimulating figurative, associative and logical thinking. Systematic application of innovations not only helps to increase the professional competence of the student, but also makes special demands on the teacher, leads to his professional growth, because it stimulates his activity in achieving professional acme. All this makes the teaching-learning process inspiring and effective.

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Стаття надійшла до редакції 24.11.2022

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