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МЕДИЦИНСКИЕ НАУКИ

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IMPROVING THE CHEMICAL KNOWLEDGE OF STUDENTS OF PHARMACEUTICAL PROFILE DURING PREPARATION FOR EXAMS «KROK-1. PHARMACEUTICALS»

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Introduction. The transition of traditional education to a qualitatively new level is possible only if students - pharmacists are included in the active and voluntary process of forming knowledge, skills and experience of creative activity, which will make it possible to transform a student from an object of study to a subject of activity.

It is important to focus in teaching on the development of the student's personality, concentrating not on the transfer of ready-made knowledge, but on equipping students with different ways of activity [4, p.354].

The modernization of the course of physical and colloidal chemistry, which is taught in the second year, sets the requirements for the transition to productive learning, which provides for the ability to process educational information, plan their own intellectual activity [4, p.44].

As regional standards of higher education in Ukraine, are introducing a model of professional competence (PC) - a specialist, which is called an educational qualification characteristic. Thus, the competence-based approach in education in Ukraine is being introduced as mandatory at the state level.

Professional competence, as central to the training of pharmacists, can be implemented by modernizing the content of education in such a way that already during the first year of study, students understand the connection between the

educational material and their future professional activities.The formation of professional competence is aimed at training modern pharmacists capable of carrying out professional actions in the information society, requires a radical revision of strategic guidelines in the preparation of future specialists, since the intellectual development of society and the country depends only on them.

The main achievement of the domestic education system was the implementation of the paradigm of lifelong education, including chemical education, which reflects the important provisions of the Bologna Declaration - the obligation of education and learning throughout life [4, p. 86].

The object of professional activity of a pharmacist is medicinal substances that are used for the treatment of diseases, diagnostics, prevention, rehabilitation and hygiene. Pharmaceutical graduates work not only in pharmaceutical enterprises, pharmacies, but also in control and analytical laboratories and other chemical laboratories related to chemical synthesis, analysis, research of medicines and finished dosage forms.

Purpose of work. Show the main problems of improving the study of physical and colloidal chemistry for the preparation of students - pharmacists for the delivery of "Krok-1. Pharmaceuticals".

Materials and methods. Analysis of curricula in chemical disciplines (inorganic chemistry, analytical chemistry, physical and colloidal chemistry) included in Krok-1, and the results of passing Krok-1 test tasks using a systematic approach of comparative analysis.

Results and discussion. The modernization of the chemical education of pharmacists, carried out from the standpoint of generally progressive ideas and strategies for the development of the educational system, largely depends on the revision of the goals, content, structure and process of studying the entire range of academic disciplines, including physical and colloidal chemistry, which provide a link between basic chemical knowledge and pharmaceutical disciplines. ...

Physical and colloidal chemistry, as one of the main chemical disciplines, plays an important role in the training of a pharmacist, since it has a significant potential to

influence all aspects of a student's personality and is a necessary base for studying all subsequent chemical disciplines (medical, toxicological chemistry) and pharmaceutical (pharmacology, drug technology) disciplines. Therefore, only such a course will require a serious restructuring of teaching methods.

The modernization of a fairly traditional course in physical and colloidal chemistry for pharmaceutical students is carried out by us on the basis of the use of an innovative modular teaching technology. In this regard, it became necessary to develop a modular structure and selection of content for each module of the course of physical and colloidal chemistry, taking into account the availability of the material and the volume of its assimilation by students.

For the global structuring of this chemical discipline, we use an integrated modular approach, which provides for the internal interdisciplinary integration of content, the design of subsystems of basic knowledge in the form of modules and their didactic and methodological support. The reliance on the system-activity approach allows one to present all the content in the form of a complex didactic system aimed at assimilating it in one's activity.

Therefore, the composition of this system is strengthened by a methodological block, and in the structure of the academic discipline we include a mathematical component, which is represented by different types of tasks, both in complexity and in the nature of implementation. We develop lessons on a modular basis in such a way that the student in lectures and practical classes understands the fundamental educational material, in the process of educational and research work, he learned to analyze processes, phenomena, patterns, establish the relationship between them, knew the principle of operation of devices and devices, learned to evaluate the results of the experiment, to solve design problems, to explain the essence of the phenomena, to establish interdisciplinary connections [2, p.110]. We consider the main goals of training future pharmacists in this chemical discipline: to train students on a solid foundation of theoretical and practical knowledge in the field of physical and colloidal chemistry, necessary for the study of some academic disciplines closely related to this discipline (physiology, microbiology, pharmacology, hygiene, etc. .);

the formation of students' techniques of scientific thinking, a variety of intellectual, as well as research skills to increase and apply knowledge in solving professional problems; fostering students' excellent attitude to the study of physical and colloidal chemistry, to chemical knowledge in general, which makes it possible to form a chemical picture of nature and a scientific outlook aimed at promoting a healthy lifestyle. These goals can be achieved through the modernization of the content and structure of the discipline of physical and colloidal chemistry using both interdisciplinary relations and interdisciplinary integration.

The student's desire for professional activity is associated with his needs, motivation and values, which determine the significance and content of such activities.

The readiness for professional activity is determined by the formed skills, and the level of their formation depends on the quality of knowledge and skills, the degree of their integration, on the level of development of thinking and other cognitive processes. At each stage of the formation of students' mental activity, an essential role is assigned to interdisciplinary connections [1, p.158]. They are a mechanism for increasing the efficiency of chemistry education for pharmaceutical students.

In our opinion, the methodological role of interdisciplinary ties is characterized by provisions that contribute to: increasing the scientific and theoretical level of education of students, the level of fundamental nature and effectiveness of their methodological training, achieving its modern quality; the formation of a systemic style of thinking, scientific outlook of students, acting as a guideline for self-organization, reflection; improving the consistency of the organization and management of teaching in each discipline.

If interdisciplinary ties determine the polydisciplinarity of the content of methodological training, then internal disciplinary ties determine the integrity of the content of methodological training.

The use of interdisciplinary connections as an integration mechanism and method of organizing and directing students' cognitive activity is one of the most

difficult types of pedagogical activity. At the same time, both in pedagogy and in the methodology of teaching chemistry today there is no single classification of interdisciplinary relations, and for their systematization, different authors distinguish and use different classification signs and criteria.

Most often in scientific works such types of interdisciplinary connections are distinguished: previous connections with disciplines that were studied earlier; family ties between disciplines that are studied in parallel; promising connections with academic disciplines that the student is studying now and studying earlier

To identify interdisciplinary relationships, we took as a basis the work, in which some types of interdisciplinary relationships characteristic of chemistry are distinguished: cause-and-effect; genetic; production and technological; semiotic; experimental.

When studying any section of the course of physical and colloidal chemistry, the teacher builds integration links with other fundamental and pharmaceutical disciplines. For example, when studying the section "Buffer systems", the concepts of alkalosis, acidosis begin to form in the course of inorganic chemistry, then they are fixed and improve in the study of analytical chemistry, physical and colloidal chemistry, biochemistry, normal and pathological physiology, as well as in the study of pharmaceutical disciplines (pharmaceutical chemistry, pharmacology, etc.), and then in professional activities. Introduction to the content of the course in physical and colloidal chemistry of such sections as "Surface phenomena", "Disperse systems", "Redox processes and equilibria" contributes to the understanding of methods of obtaining drugs in the form of suspensions, the emergence of bioelectric potentials, cardiac arrhythmias. No less important and professionally directed in the structure of the course of physical and colloidal chemistry is the section "The doctrine of solutions", during the development of which students can: perform the calculations necessary for the preparation of perfusion solutions; calculate the pH value; predict processes such as plasmolysis, hemolysis, acidosis, alkalosis; to understand the processes that occur during the operation of the "Artificial kidney" apparatus, as well as to simulate biochemical processes. The textbook "Analytical,

physical chemistry and metrology", created by the teachers of the department in three chemical disciplines [3,238], textbooks for students preparing for «Krok 1.Pharmaceuticals» chemical disciplines [5,207], and to identify all types of interdisciplinary relationships.

Conclusions. Physical and colloidal chemistry, like all chemical disciplines, is a connecting link, a fundamental component of pharmaceutical disciplines, which are studied by students - pharmacists throughout the entire period of study and allow to assert the great importance of these disciplines. The problem-integrative approach orients students towards the integration of all disciplines of the chemical cycle, the integration of the content of the studied disciplines of the chemical cycle and pharmaceutical disciplines. Interdisciplinary connections play an important role in enhancing the practical and scientific-theoretical training of pharmaceutical students. From the point of view of the role and functions of chemical disciplines in the training of a pharmacist, a very important aspect of the student learning process is the formation of their chemical knowledge and skills, as a single, monolithic basis for future professional competencies as a solid foundation for future successful pharmaceutical activities.

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