PROBLEMS OF STUDYING MEDICAL CHEMISTRY IN THE EDUCATION SYSTEM

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Abstract: The article provides an analysis of the state of the existing system of chemical training of students at a medical university, problems in the methodology of teaching chemistry, and the importance of the chemistry course for subsequent medical education. The difficulties that arise during the study of the subject are clarified and the optimal forms of training are determined.
Key words: Education, learning, metacognition.

Modern medical education cannot exist without knowledge of the fundamental laws, biological and chemical laws necessary for the disclosure and scientific explanation of the processes occurring in a living organism and leading to certain pathological conditions. Chemistry at a medical university is a basic discipline in the formation of students' education, i.e. their professional medical education is of a high level.

At the moment, it is relevant to study the problem of the level of preparation of basic education of applicants, later first-year students, medical specialties, necessary to identify the degree of formed knowledge in the field of science chemistry for differentiation of teaching methods and adaptation of the educational process in the discipline. (Yushkova E.I., Polekhina N.N., 2021)

Chemistry plays a critical role in health, both cognitively and therapeutically. Hormones, proteins and receptors are involved in the development of many diseases. By studying their chemical structure and reactivity, we can better understand them. If we talk about medical specialties, then chemistry is recognized as useful for pharmacology, anesthesiology-resuscitation, endocrinology and nephrology (mainly by doctors and students).

Apply concepts learned in medicinal chemistry and biochemistry to the use of natural substances or synthetic products used to correct metabolic disorders or alter the efficiency of other reactions in chemistry. In-depth studies of the main classes of physiologically active compounds. Substrate-enzyme relationships, molecular modeling, confirmation of minimum energy. Extraction and purification of natural products and preparation of metabolic indicators. Study of stereospecific synthesis of some drugs.

Medicinal chemistry has revolutionized the production of drugs, clothing and cosmetics, as well as energy distribution and the production of technological devices. Chemistry is an integral part of everyday life and it is necessary to learn more about it in order to use it more effectively. Chemistry is primarily a science that studies matter and its transformations. There are many examples of the transformation of matter.

Chemistry - medicine. Pharmaceuticals, food industry, ecology, perfumes and cosmetics, biotechnology are just some of the industries that you can get into after studying biology or chemistry. The branch of physical science that studies the atomic and molecular structure of matter and the specific interactions of its constituents.

Numerous empirical studies demonstrate the added value of active learning in medicinal chemistry, that is, a constructive approach to knowledge. If a teacher follows this method without understanding the fundamentals of education and the theories that flow from it, he risks following a lesson plan that remains superficial and fails to achieve its educational goal. The

hidden ingredients of learning outcomes may vary depending on the classroom situation and the students in front of you. Students are not empty vessels that can be filled with knowledge. These are called "Hidden Ingredients" which can explain why one method works with one course and not with another.

Theoretical perspectives. Disagreements and Debates; a natural part of the scientific process, can be an excellent starting point for constructivist pedagogy. Sharing points of view is an excellent and always constructive method. People must build their own understanding. In the cognitive perspective, the emphasis is on the learner's understanding and the mental representations that the learner personally creates.

It is the teacher's job to decipher students' thinking patterns. In the education system, educators must try to combat the misconceptions of some students; for example, many students establish a cause-and-effect relationship between global warming and the ozone hole. Teachers often resist this idea without any real explanation, although it can lead to discussions and a constructivist approach to knowledge. Indeed, chlorofluorocarbons (CFCs) are greenhouse gases just like ozone. The effects of carbon dioxide and methane dominate the problem of global warming, but the idea that the ozone layer is linked to it is not entirely false. And rather than dismissing the idea outright, educators should take the opportunity to revisit the concept and provide additional information.

Metacognition and epistemology. More attention should be paid to metacognition and epistemology, as well as to the student experience. Taking these variables into account can support pedagogy development. Metacognition is the awareness and ability to reflect and regulate one's own thinking (i.e., "thinking about one's own thoughts"). The work showed that metacognitive learning strategies, such as self-reflection, can significantly improve student achievement.

Epistemology refers to the study of knowledge in general. Knowledge that encourages memorization but fails to link the material to practical knowledge has an inappropriate epistemology. On the other hand, activities that focus on coherence and questioning mechanisms help students learn.

New trends and IT tools. The education of tomorrow will be largely based on educational and communication technologies. Of course, not all of these new teaching methods are created equal. Often, courses that leave the student passive, as in the case of a course with a PowerPoint presentation, do not provide any real educational benefit. Whereas a forum or meeting where students participate in constructing and sharing knowledge is much more interesting. There are still many challenges for teachers and students to overcome in the common interest of improving learning and the relationships between them.

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