

The importance of pedagogical technologies in teaching chemistry

Ismatova Nozima Rakhmatilloevna

Is a chemistry teacher at the academic lyceum under the Samarkand State University of Veterinary, Animal Husbandry and Biotechnology

Abstract: Since the independence of the Republic of Uzbekistan, we have witnessed a sharp increase in the need for qualified and mature specialists. Educating independent thinking boys and girls starting from school is one of the urgent tasks of this day. The young generation should not only learn a certain amount of knowledge, but also possess the spirituality and enlightenment characteristic of the builder of an independent state, and its attitude to work and behavior should be envied by everyone.

Key words: Chemistry, teaching methodology, chemical reaction, chemical knowledge, laws, pedagogical technologies.

In our country, great privileges are given to the teacher and the education of the young generation. For this reason, it is necessary for higher education to accept young people who are educated, spiritual and have a unique mindset of the Uzbek nation, to arm them with knowledge and to raise them to the level of a great person in the highest sense. The service of science teachers is great in doing this. The teacher should be a well-rounded expert in chemistry. In addition to chemistry, chemical knowledge and practical methods, it is necessary to know the psychology of children depending on their age. He must perfectly master the methods of implementation of all stages of advance education. He should learn the didactic foundations of the subject he teaches, take into account the general methods of imparting knowledge to children and convey knowledge based on his life experience. The teacher must constantly improve his knowledge, that is, his pedagogical technologies acquire, the educational process should try to perfect. Because if the teacher stops in his research, the next day he will have a stereotyped thinking and will be removed from the group of people with a high level of desire, and the respect for him will decrease among the students, and the children will begin to imitate and desire him. A teacher should fill it with his own experience and not just copy the experience of others, and then the learning process will be perfect because each person has his own style and personal qualities. Methods of teaching chemistry are studied in a certain order. First, the main tasks of the study process are considered. Then the methods of organization of the learning process, teaching tools, form and methods of scientific organization of the teacher's work are considered. Chemistry teaching methods are not only imparted through lectures, students need to know the methods of demonstration of experiments, lesson planning, methods of solving chemical problems, teaching methods, etc.

Therefore, they should do coursework and work independently in pedagogical practice. When teaching styles, it is necessary to make excursions to schools, academic lyceums, vocational colleges. It is important to organize special courses and internships from special courses. The development of science and technology increases students' interest in the flow of knowledge and the tide of events. If we look at it from today's point of view, it is necessary for students to have high cognitive activity, good intellectual activity and be able to think independently. School teachers develop such qualities in students. It is the duty of every pedagogue to work responsibly in such an honorable work for the development of our independent country and for our future generation. Solving such a responsible task depends on the method of arming students with deep and solid knowledge, interest in science, independent work and thinking. The more any specialist pays attention to the methodology of his work, the greater results he will achieve. The main teaching method of the teacher's work is the method of teaching and educating students. The basis of the work of a chemistry teacher is the

methodology of teaching chemistry. The methodology of chemistry, like the methodology of teaching other subjects, in its essence, addresses three main issues:

goals and tasks of educational work;

the content of this work;

determines the nature of the process of educating and educating students.

In his work, the teacher is obliged to perform the duties of director, actor, editor, organizer, if one of them is not present, it will have a negative effect on the learning process. In the chemistry teaching methodology classes, University intellectuals do not impart new knowledge, but teach methods of conveying student's knowledge to students. Methods of chemistry can be distinguished from general pedagogical directions, therefore, the methodology of teaching chemistry tries to fulfill the following three tasks:

Choosing the right amount of evidence for the school chemistry textbook;

Choice of chemistry teaching methods;

To teach students to use books, movies, radio, television and other tools through teacher's activities to improve students' knowledge.

The conclusions of chemistry require a close connection with life and a philosophical interpretation. Teaching chemistry should gradually create a chemical outlook in students. The role of the chemistry teacher:

- for the future of our great independent Uzbekistan, students will be able to consciously and thoroughly master the basics of modern chemistry;

- to acquaint students with the scientific foundations of chemistry necessary for explaining the surrounding nature and using it;

- paying special attention to the development of students' characteristics of a correct, materialistic view of nature;

- educating students to be able to use the chemical experiment, which is one of the means of scientific knowledge;

- it is necessary to train students for work - to prepare them for future practical activities;

- to increase students' interest in chemistry;

- to teach students to be independent and seek knowledge;

- formation of educational and skills that students will have in everyday life, in life;

- involvement of students in socially useful work;

- explain the importance of chemistry in our life;

- bringing to the level of physically strong, mentally mature people;

- concrete acquaintance with the periodic law of elements and the periodic system is the main content of the chemistry course;

Teaching chemistry is a powerful means of educating students, teaching chemistry makes students hardworking and love their country, deeply interested in science, having the ability to think independently about scientific subjects, and creative activity. shows, should educate in a way that looks at the basic concepts and laws in chemistry from the correct perspective. Among the methods of teaching chemistry, it is possible to use methods specific to teaching chemistry, as well as general pedagogical methods. For example, an experiment and explanation problem might be:

a) experience first, then explanation;

b) first explanation, then experience;

c) explanation and experience together;

g) Homework is assigned, showing the experience and then explaining.

In the development of new methods of teaching chemistry, it is necessary to use general pedagogical research: pedagogical observation, interview of the researcher with the teacher and the student, questionnaire, pedagogical organization of the observed lesson, experiment and offer it to many people. A chemistry teacher should be an ideologically formed person, have a deep knowledge of science, be able to correctly apply the basic theoretical knowledge of education and training in practical activities, and be aware of pedagogical experiences. has a special place. Because this subject is a pedagogical tool that teaches and directs the content of chemistry teaching at school and the

laws of its understanding by students. The essence of the methods of teaching chemistry as a science is the laws of the process of teaching chemistry, which includes: the purpose of teaching, content, methods, forms, tools, and activities between the teacher and the student. The function of the chemistry methodology is to find the optimal ways of expressing the main facts, laws and theories of high school students in sentences typical of chemistry.

Based on the main conclusions, laws and principles of didactics, the methodology solves the main tasks of teaching chemistry that develops education and maturity. A great deal of attention is paid to the problems of the polytechnic teaching of students' career choice. Methodology, like didactics, examines the issues of development, cultivation of students' learning activities and formation of dialectical materialistic worldview. In this case, it is necessary to pay attention to the fact that the effect of the chemical method is different on different young people with different interests and other specific characteristics. In order to solve the chemistry methodology on a scientific basis, it is absolutely necessary to consider the concrete materials of the school chemistry course from the point of view of dialectical-materialistic philosophy, to take into account the current information of pedagogy, physiology and psychology in all respects. In the process of teaching chemistry, students' generalized form of knowledge and understanding is through concepts. Concepts can be: element, substance, chemical reaction, chemical laws. The main task of teaching chemistry is to explain chemical laws and changes. Seeing, thinking and imaging play a major role in this. The first concepts are learned through experience in school, and then their qualitative and quantitative changes are studied. In order to improve the chemical concepts, it is necessary to pay attention to the characteristics and reactions to the qualitative changes of substances, where it is necessary to pay attention to the stoichiometric laws. Chemical concepts are theoretical and empirical. Methodist Chemists offer the following. Concept of element: Atom, position of element in periodic table, signs and properties of element, form of combination of element, etc. Understanding of matter: composition, structure, properties, use, distribution and formation of substances, their definition, classification of substances. The concept of dispersed systems and states includes pure matter and mixtures, phase states, solubility and dissociation, solvents, alloys, equilibrium. Chemical reaction concepts include rates, mechanisms, rates, types, and types of chemical reactions about energetics. Chemical bonds and interrelationships. Stoichiometric laws, structure and structure dependence, structure dependence of properties of substances and particles, analogy and homology in chemistry, cycle of elements in nature. Chemical knowledge and learning activities often depend on teacher and student activities. The teacher guides the students in teaching the concepts. And students should learn the concepts and apply them in practice. In the 8th grade, the laws of the electronic structure of substances are considered (chemical bonds were passed before physics). A deeper understanding of chemical bonds includes quantum-mechanical elements, attention is paid to the mechanisms of bond formation. When Butlerov states the rule of the theory of structure, it is enriched with electronic and spatial concepts, the place of hydrocarbons in space, the concepts of hybridization and molecular geometry are also given. The interaction of atoms in the molecule is also revealed in the examples of halogen oxygen substances, the concept of the structure of substances is expanded and the dependence of the properties of substances on the structure is explained through geometric isomerism. Later, thermochemistry, chemical reaction kinetics, electrolytic dissociations are taught. In the last generalization lessons, the classification of general knowledge through the periodic law and leading theories is taught.

In teaching chemistry attention is paid to:

The system of general knowledge about chemical elements, the compounds formed by them and their changes, some chemical peculiarities, the study of the environment and their laws in the knowledge of chemical knowledge.

The chemical picture of nature is to know it based on scientific materialistic knowledge.

Basic components of chemical technology and industry, polytechnic education.

Chemicalization of the country, explaining the relationship between industry and science.

Chemical reactions, modeling, analysis and syntheses. Speaking the language of science, knowing experiments and operations in chemical laboratories, preparing students for work. In the 8th grade,

by the middle of the year, theoretical and abstract ideas should be given, and at this time, theory and practice, as well as home lessons, should be taught. Often, the educational process should be gradually made more complicated, students should be encouraged to work independently, to be curious and active.

Conclusion:

Based on the methodology of teaching chemistry, there are the following methodological directions:

1. The general dialectic method, in which the development of concepts during thinking, the interdependence of various parts of teaching, the interdependence of internal contradictions, a problem approach to solving them.
2. Systematic-structural approach, in which to separate the main sections for teaching, to find their interdependence, and to show the stability and closeness of the interaction of elements and to see the unity of the school chemistry teaching methodology 'show.
3. View the above methodical categories based on three teaching functions: education, education and development.
4. Looking at the basis of chemistry teaching methodology through a didactic approach. In the methodology of teaching chemistry, didactic training is taught by the laws of education, and the development of knowledge is taught by the sciences of psychology. During training, these three components interact, and the chemistry lesson is based on the dental methodology. Therefore, the methodology of teaching chemistry is a pedagogical science that teaches students to educate, educate and develop their knowledge during the teaching of chemistry classes. The methodology of teaching chemistry is located in the heart of pedagogy, chemistry, social studies and other sciences and is inextricably linked with them..

Reference:

1. 7 – sinf kimyo darsligi I. R. Asqarov, N. X. To'xtaboyev, K. G'oirov 3 – nashri.[1]
2. 8 – sinf kimyo darsligi I. R. Asqarov, N. X. To'xtaboyev, K. G'oirov 2 – nashri.[2]
3. X.T.Omonov., M.N.Mirvoxidova. "Kimyo o'qitish metodikasi" ma'ruzalar matni. 2001[3]
4. www.ziyonet.uz[4]