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SOME QUESTIONS OF PERSONAL DEVELOPMENT OF STUDENTS IN TEACHING CHEMISTRY

ANNOTATION

The article describes the pedagogical and psychological conditions for the comprehensive development of the student's personality (education, education and general level of maturity, worldview, the ability to apply the acquired knowledge in practice, etc.) in the teaching of chemistry.

Key words: chemistry, teaching chemistry, personality development, pedagogical conditions, psychological conditions.

It is known from pedagogy that teaching is the process of realization of cognitive activity of learners on the basis of cooperation between the teacher and the students. The weight of the result determines the all-round harmonic perfection of the person (education, upbringing and general level of maturity, worldview, ability to apply the acquired knowledge in practice). A high level of this indicator requires the three tasks of teaching in secondary schools to be carried out in an integrated manner.

From the point of view of modern didactics, the task of the educational process is not only to impart knowledge, to form skills and competencies, but also to have a collective effect on the individual. The concept of teaching often includes imparting empirical and theoretical knowledge. In the process of education, not only the knowledge and skills related to this field, but also the qualities of a person: faith, worldview, spirituality, inner world, etc. are formed and developed. [1].

The educational, educational and developmental tasks of teaching are interrelated, and the teacher is required to take these tasks into account in his practical activities, during lesson planning, and when determining the purpose of the lesson.

To solve this problem, the teacher:

1. Pupils learn the basics of science (important chemical concepts to achieve conscious assimilation of rules, laws, theories), to introduce the methods of science.

2. Formation of a scientific materialistic outlook.

3. Correct political ideas, hard work, interest in the subject and educates to treat nature with care.

4. Development of students' thinking ability, independence and activity in acquiring knowledge.

5. Introduction to the main directions of chemicalization of the national economy, the growing role of chemistry in the main processes of production, formation of the ability to apply knowledge and skills in practice; it is necessary to prepare students for the profession, to achieve a conscious choice of profession.

On the basis of the chemistry course, there is a didactic opportunity to prove the dialectical interconnectedness and connectedness of chemical arguments. As an example, it is a proof of our opinion that the properties of elements are related to the atomic structure, and the properties of organic substances are related to their structure. In both cases, if the structure is the cause, the property (consequence) is the conclusion. All this helps the student to be sure of the authenticity of knowledge.

The most important condition for the formation of a worldview is the implementation of systematic activities. The educational subject provides information (content) to the student, and philosophical views are formed in the independent activities of students during the application of the ideas of mastering and worldview. The teacher is required to be able to organize this activity.

The formation of a scientific outlook is carried out in several stages.

Stage 1. Separate ideological views are considered (preparatory stage). This is the lower stage of mental generalization. For example, in the topic "Initial chemical concepts" concepts are given about substance properties, quantity and quality (when writing chemical formulas and equations, when studying the laws of conservation of mass and constancy of composition). Concepts of opposition are given in the study of simple and complex substances, metals and non-metals, and the real existence of atoms and molecules is given in the study of atomic molecular theory. When studying the law of conservation of mass of matter, the non-disappearance of matter is considered. Here, the chemical reaction is divided into quantitative and qualitative aspects.

Stage 2. A number of basic views of the movement of matter at the level of chemical form are formed. This is done on the topic of D. I. Mendeleev's "Darvian law and the periodic table of chemical elements". It reveals the internal contradictions of atoms, the interaction of elements in the periodic table, the fact that quantitative changes lead to qualitative changes, etc. About the periodic law knowledge allows determining the properties of elements and substances in advance and determines the objectivity of the law and its importance in understanding the world.

Stage 3. At the end of the 8th-9th grade topics, deepening the ideological views, filling them with the newly studied topic, the cooperative activity of the teacher and students is created.

Step 4. Summarizing ideas and concepts at the philosophical level, clarifying and developing them based on the topics of organic chemistry, studying their relationship with natural sciences, teaching students about the nature of bonding, valence angle, etc. in the course of organic chemistry forms it as a science. The mechanism and duration of organic reactions allows us to talk about time. This means that there is a philosophical concept of "time". In the course of organic chemistry, general concepts of specificity and specificity should be formed on the basis of the following classes of organic compounds: hydrocarbons, alcohols, aldehydes, amines, and so on.

Step 5. Pupils' ideas about the chemical form of matter movement are put into a certain system at the level of natural sciences and philosophy. This is done in the process of summarizing the basics of general chemistry.

The role of the subject of chemistry in the formation of a scientific materialistic outlook is extremely important.

The teaching process, which ensures the full assimilation of knowledge, forms the educational activity and thereby affects the mental development by itself.

In order for the developmental task to be successful in the educational process, it is necessary to develop a special methodology for the chemical content, to prepare for the educational process, and to penetrate deeply into the psyche of each student.

The complexity of developmental education is that the development of each student is unique. They achieve the same result in different ways and in different times.

The main cases of the theory of developmental education are as follows:

1) Education is high, but structured at the level of mastery, and at the same time, the level of difficulty of mastering the material should be kept to a certain extent. Otherwise, mechanical memorization is observed instead of conscious learning.

2) The speed of teaching the material should not exceed the capabilities of the students.

3) A sharp increase in the amount of theoretical knowledge. This situation is reflected in the modern school chemistry program.

4) Conscious understanding of the educational process by students. This implies not only the conscious acquisition of knowledge, but also the conscious use of methods.

The development of students' thinking can be achieved by constantly activating the educational process, increasing the activity of learners in the process of learning. For this, it is not enough to increase the stock of knowledge, it is necessary to show mental activity, to strengthen knowledge, to draw conclusions for the repetition and processing of acquired knowledge.

Psychological conditions for the development of education are very important, and they are as follows:

1) It is necessary to show which methods and thought processes should be used in the formation and development of chemical knowledge, mental activity, that is, in the formation of chemical concepts. Development of knowledge is the basis of development of creative ability and independence.

2) Formation and development of intellectual skills. In this case, it is important to teach students to think logically. It is necessary to form qualities such as the use of

comparison methods, analysis and synthesis, the ability to draw conclusions, generalize, imagine, and justify.

3) Formation and development of the ability to use rational ways of learning (reading skills).

In the process of teaching, if all mental conditions are followed, the mental development of students is gradually achieved. According to psychologists, this can be seen from the following:

- the systematicity of thinking, which means the sequential order of the level of complexity;
- Formation of the ability to widely apply knowledge in solving new tasks;
- relatively quick thinking, solidity of the thinking process, independence. '

Comprehensive development of students in the process of chemical education is one of the problems facing the school.

We have all the conditions to implement the developmental task of education in chemistry teaching: its theoretical foundations have been developed in didactics and psychology, the means of its implementation are shown in the chemistry methodology, the task of the methodology is to provide the teacher with school chemistry education. is to make recommendations regarding the implementation of the task of development. Active description of the educational process and content system, as well as problem-based teaching, can be used as tools for the development of students in teaching chemistry.

Problem-based learning is an important tool for developing students' minds. Methodology of problem-based teaching is determined based on the content of the subject and the knowledge capabilities of the students. The main step in problem-based learning is to create a problem situation in different ways. In problem-based teaching, the teaching methodology of the teacher changes, he must have the ability to organize a debate in the lesson [2-4].

In short, the relationship between education and upbringing is not one-sided. A properly organized educational process quickly bears its fruit, that is, it affects the learning of students. Cultivation of discipline, organization, activity and other similar qualities in students is the reason for active and successful acquisition of knowledge. The unity of education leads to comprehensive development of the student's personality during the educational process.

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