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INCREASING EDUCATIONAL ACTIVITY IN CHEMISTRY LESSONS

Annotation. *In order to form a clear and deep understanding of the environment among secondary school students, a modern way of scientific thinking is needed, in which feedback is reflected both informative with the system and a professional approach to knowledge and education. The use of these methods stimulates the desire of students to complete tasks on their own, is characterized by an arbitrary concentration of attention on tasks, and there are fewer distractions in classes.*

Key words: *education, chemistry, knowledge, methods, learning technologies.*

Анотація. *Для формування у учнів середньої школи ясного і глибокого розуміння навколишнього світу необхідний сучасний спосіб наукового мислення, в якому знаходить відображення як пізнавальний, так і системний зворотний зв'язок з професійним підходом до пізнання та освіти. Використання цих методів стимулює прагнення учнів до самостійного виконання завдань, характеризується довільною концентрацією уваги на завданнях, на заняттях спостерігається менше факторів, що відволікають.*

Ключові слова: *освіта, хімія, знання, методи, технологія навчання.*

Introduction. Chemistry teachers at all levels educate students who will be future chemists, chemical engineers, biologists, other STEM professionals, and informed citizens. The better they do their job and the more inclusive they are in their teaching, the better chance of students being interested and successful in chemistry. However, chemistry teaching is a complex pursuit requiring understanding of the chemistry content, students, instructional strategies, assessment methods, and more. Just as they provide opportunities for their students to improve their understanding of chemistry, chemistry teachers need opportunities to improve and develop their knowledge and skills for teaching chemistry. With reform efforts in chemistry education occurring at all levels and with the demand for chemistry educators at the K-12 level, learning experiences which effectively impact their teaching practice are needed for chemistry teachers at all levels [3].

Improving the effectiveness of the lesson is the main task of the teacher. The success of its solution largely depends on the teaching methodology, which allows to equip students with deep and solid knowledge, teach them to work with interest and independently. It is obvious that their interest in studying and creativity makes them more active in the educational process, which leads to greater motivation, the manifestation of their talents and the achievement of success in the study of science [2]. In the organization of this kind of activity, the so-called case-study technology becomes one of the promising learning technologies. This technology is a synthesis of problem-based learning, information and communication technologies, and the project method. Increase of educational activity in chemistry LESSONS is important. Therefore, the chosen research topic is relevant.

The purpose of the article is to reveal the increase of educational activity in chemistry lessons.

For this, special literature and own previous results were used [1 - 4].

Research Results. Each teacher always tries to ensure that his students learn knowledge more clearly and efficiently. They find and use new ways and means in the course of their activities and achieve the goals and objectives of education. Style shows the same form of theoretical and practical assimilation of educational

material. The course of education depends on the choice of method. Because the material of each student can be mastered only by a certain form of theoretical and practical activity (conversation, work or observation), which is the teaching method. The choice of teaching methods is also related to the material and technical support of the school.

The Message of the President of the Republic of Tajikistan, Leader of the Nation, respected Emomali Rahmon Majlisi Oli of the Republic of Tajikistan «On the main directions of domestic and foreign policy of the Republic» says: «We must create all necessary conditions to improve the level and quality of education at all levels of education and in this process further increase the responsibility of parents, the public and teachers. In this direction, institutions of a new type since independence are leading – presidential schools, lyceums and gymnasiums, and annually more than 97% of graduates of these institutions are awarded the title of students of higher educational institutions of the country and abroad. The Ministry of Education and Science needs to widely apply the initiatives and experience of these schools to improve the level and quality of education in all educational institutions of the country. In order to further improve the quality of education, in last year's Address of the President of the Majlisi Oli, the years 2020-2040 were declared «Years of study and development of mathematical, exact and natural sciences in the field of science and education», and to implement this initiative, the Government of the country adopted an action plan for 2020-2025. The Ministries of Finance, Education and Science, the National Academy of Sciences, ministries and committees with educational institutions in their structure are instructed, together with the heads of regions, cities and districts, to prevent negligence in the implementation of this decision and take urgent measures to equip classrooms for mathematical, exact and natural sciences and report to the government on the results of the work» [1].

Today, along with the improvement of technologies and the emergence of new specialties on the labor market, the demand for qualified specialists is growing. In the context of social changes and the rapid development of society, one of the new

socially competent concepts appears -competence. One of the main requirements for today's specialist is competence, and in this regard, one of the main tasks of the education system is the creative search for knowledge associated with the application of a competence-based approach to learning in general education institutions. At the same time, one of the main results of educational activity is the competence of students of general education institutions, which are divided into basic or key competencies, interpersonal and professional competencies.

Today, an educational institution must prepare students for a future life in a developing society. Students should be prepared for new situations and changes in their future lives. They must have qualities such as creativity, mobility, dynamism, which are necessary for their future professional activities. In solving these problems, the modern education system should form professional universalism - the ability of a person to change his lifestyle and direction of activity. Based on the above, most countries are changing their development strategies in the field of education in order to prepare qualified, competitive and, most importantly, competent specialists who meet the requirements of the labor market.

Traditional pedagogical technologies in chemistry lessons have their positive sides, for example, a clear organization of the educational process, the systematic nature of learning, the influence of the teacher's personality on students in the process of communication in the lesson.

However, the modern school faces the challenges of personal development, which cannot be solved only with the help of traditional pedagogical technologies.

Under these conditions, the emergence of various modern pedagogical technologies has become natural.

The structure of modern pedagogical technology includes three parts:

- Conceptual framework;
- Component of the training content;
- The test part is the technological process.

The conceptual part of pedagogical technology is the scientific basis of technology, these are psychological and pedagogical ideas that are laid in its foundation.

In the context of the education reform, innovative activities aimed at introducing various pedagogical innovations have acquired the importance of xoca in general education. Innovative pedagogical technologies include: information technologies of learning, project-based learning technologies, technologies for the development of critical thinking, game technologies.

Problem-based learning is of great importance in the methodology of organizing school education.

Problem-based learning leads to the creation of a type of motivation - problem-solving, therefore, it requires sufficient didactic content of the material, which should be a chain of events problematic questions should be presented. Example:

How many nitrogen oxides are formed? Which of the nitrogen oxides is stable? Why?

The use of information technologies makes it possible to overcome some of the universal features of a child's personality - natural interest and curiosity about everything that exists outside and inside them, and the need for communication intelligence, the desire to collect, order, the ability to create unexpected and esthetically important works be used.

Critical thinking is one of the types of intellectual activity that is characterized by a high level of perception and objectivity in relation to the surrounding information field.

Critical thinking plays an important role in education, as it can be applied in all areas of knowledge, as well as in everyday life. This suggests that it needs to be developed. According to the results of the survey, critical thinking plays an important role in the educational process, which must be taken into account in the training of future teachers. Future teachers are not only familiar with this concept, but also interested in learning more about it for application in their educational practice [4].

The project method as a pedagogical technology includes a set of research, search, and problem methods. It is always focused on students' independent activities, individual, paired, group, which students perform over a certain period of time.

Project theme: Water is the source of life

The main question:

Why is water considered the source of life?

Questions about the educational topic (problematic):

What substances react with water?

Conclusions. Stages of work and types of scientific activity of students:

1. Collect information about the properties of water from various sources.

2. Analyze the data obtained.

3. Compare the structure of water with other chemicals such as inorganic substances.

4. Make a conclusion.

5. Format the results and create presentation reports.

It is recommended to improve and enhance cognitive functions in chemistry lessons:

- teachers should conduct classes using active teaching methods, didactic materials, so that the lessons are diverse and exciting, activate the desires and motivation of students, and contribute to improving knowledge at school;

- it should be noted that the success of learning in mastering the knowledge and abilities of students largely depends on the level of professional training of subject teachers and the improvement of their abilities and skills.

- it is necessary to take into account that students have interests and hobbies in the learning environment, and they can become even stronger in the process of future education. It is advisable to organize basic courses for students.

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