DOI 10.18372/2786-5495.1.18880

Farhod Sirojov,

Applicant, Assistant,

SEI «Khujand State University named after academician Bobojon Gafurov», Khujand, Tajikistan

farhod_sirojov94@mail.ru

Saidanvar Umarov

Applicant, Assistant,

SEI «Khujand State University named after academician Bobojon Gafurov», Khujand, Tajikistan

anvar.8889@mail.ru

USING INTERACTIVE TRAINING METHODS BASED ON THE APPLICATION OF INNOVATIVE TECHNOLOGIES

Annotation. Interactive teaching method is a method of understanding that occurs in the form of joint activities of students; all participants in the educational process get along well with each other, exchange information, solve problems, create conditions for their cooperation and behavior, create an atmosphere of service to others to solve thinking problems.

Key words: education, chemistry, knowledge, methods, innovative technologies.

Анотація. Інтерактивний метод навчання — це метод розуміння, що відбувається у формі спільної діяльності учнів; всі учасники навчального процесу добре ладнають між собою, обмінюються інформацією, вирішують проблеми, створюють умови для їх співпраці та поведінки, створюють атмосферу служіння іншим для вирішення проблем мислення.

Ключові слова: освіта, хімія, знання, методи, інноваційні технології.

Introduction. The formation of the readiness of future teachers for professional innovation is possible subject to the introduction of such methodological skills as gnostic (systematic collection of information of and analytical content, interpretation of educational methodological methodological processes, analysis of cause-and-effect relationships between them, orientation in the didactic and methodological contexts of modern education, impartial perception of new methodological knowledge and experience for making the right decision, substantiation and implementation of a methodological idea through the prism of one's own methodological views and one's own attitude, identifying variability in determining ways of solving methodological problems, tasks and situations, analyzing the effectiveness of the forms, methods, means used); creatively reflexive (free use of methodological knowledge and skills, creative and independent fulfillment of tasks of the methodological direction, creative rethinking of methodological material, expressing one's methodological thoughts, ideas, suggestions, implementing one's own style of methodological activity, creative implementation of educational and methodological products and creating one's own products, independent acquisition of new methodological knowledge and experience as a factor of professional self-realization and self-development, mastering methodological skills, independent analysis, adequate assessment and selfassessment of didactic-methodological situations, effective implementation of methodological reflection) [1].

The use of interactive teaching methods based on the application of innovative technologies is gaining great importance. Therefore, the chosen research topic is relevant.

The purpose of the article is to reveal the use of interactive teaching methods based on the application of innovative technologies.

For this, special literature and own previous results were used [1 - 3].

Research Results. Interactive teaching method is a method of understanding that occurs in the form of joint activities of students; all participants in the educational process get along well with each other, exchange information, solve

problems, create conditions for their cooperation and behavior, create an atmosphere of service to others to solve thinking problems. At this time, he constantly changes the type of activity: game, discussion, work in small groups, mini-lecture.

By the time, the young generation enters a higher school, all the educational processes have already been formed and one of the main tasks of the higher school is to develop and improve these processes. Educational activity - education of students is very different in nature and content from the activity of schoolchildren. It is not only about the deepening of the content of education and the introduction of new classes of education. The main difference is that there is a lot of demand for educational activity - education of students, their activity and independence. In order for the program to be deep, the theoretical development of thinking, the formation of skills and the ability to acquire new knowledge and its way of working are necessary.

A powerful tool for the development of this kind of thinking is the science of chemistry and biology. Today's society has more and more people with full logical thinking skills, knowledge and skills to see and apply the possibilities of using chemistry in other sciences and situations. It is very necessary. Fields of work are becoming more and more extensive, professional, intellectual, independent work, analysis of complex processes, correct drawing of logical conclusions are required.

In chemical education, it is possible and advisable to develop the abilities of students if they have skills based on theoretical knowledge in order to see the possibilities of chemical transformations, predict the possibilities of ways to obtain new substances, improve process management and explain their essence in terms of the structure of substances. In general, creativity in scientific research is revealed when studying an object and interpreting its essence.

The problem of activating the educational and cognitive activity of students in the study of chemistry is an urgent problem of the day, requiring the formation of a personality necessary for the present and future society.

In recent years, the higher educational institutions of the Republic of Tajikistan have used many modern teaching tools, among them the modern classroom board.

The modern classroom blackboard is a large touch screen, which is a part of the system with which a computer and a projector work. With the help of a projector, the image of the computer workplace is depicted at the level of a modern classroom blackboard. Any texts, images, video fragments, films can be displayed on the blackboard. It is possible to work with all kinds of content: including additions, comments, showing objects more or less, showing materials.

It is very convenient to use a modern classroom board in the first stages of teaching chemistry, for example, when preparing the formulas of chemical substances during the teaching of the subject of valence. It is very convenient to prepare a certain number of chemical formulas in advance, i.e. to write chemical substances, but their coefficients can be made invisible with the help of the screen shading function (Fig. 1).

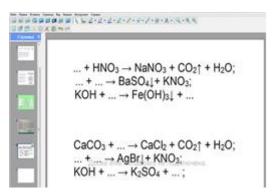


Fig. 1. Modern blackboard

With the help of this function, it is possible to invite students to the classroom, to share their opinion, and to overcome such difficult situations. Students examine each other's answers and include their own corrections.

In order to successfully use a modern blackboard in a chemistry lesson, the teacher should not forget to fill out the curriculum with a gallery of chemistry resources. Again, it is worth remembering that the modern blackboard uses various types of e-learning tools. A modern blackboard offers a special opportunity to organize observable chemical experiments in chemistry lessons. For this purpose, electronic learning tools are used-visible laboratory work. Such programs provide an

opportunity to demonstrate a chemical experiment, which for some reason cannot be carried out in the chemical laboratory of the school (Fig. 2).

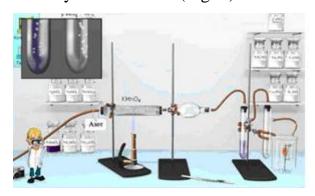


Fig. 2. Demonstration of a chemical experiment

(Cost of reagents, riskiness, and time limit).

Conclusions. In the future, modern students will need large resources of knowledge in the field of information technology use. The most important tasks of education are to learn how to live and work productively; if possible, in the world of multi-network communication, the Internet is considered to prepare a person to assimilate various information, to study his information understanding.

References

- 1. Bespartochna, O., Ovdiychuk, L., & Piddubna, N. (2021). Features of the introduction of innovative technologies professional in the training Teachers. Revista **Tempos** Educação, 14(33), e16604. Espaços em http://dx.doi.org/10.20952/revtee.v14i33.16604
- 2. Umarov S.A., Sirojov F.Z. The system of independent work of students in the 10th grade. Collection of articles of the first international scientific and practical conference «Prospects for the development of research in the field of chemistry of coordination compounds and aspects of their application», dedicated to the memory of Professor Saodat Mukhammedovna Basitova, the 80th anniversary of her birth and the 60th anniversary of the pedagogical and research activities of Doctor of Chemical Sciences, Professor Azizkulova Onajon Azizkulovna, March 30-31, 2022. Dushanbe.

3. Umarov S., Sirojov F. Methods of increasing cognitive activity on the technology of developing critical thinking in chemistry lessons. III International Scientific and Practical Conference «Formation of Competencies of Gifted Individuals in the System of Extracurricular and Higher Education» (dedicated to the 90th anniversary of the National Aviation University), on October 17, 2023, Kyiv, Ukraine. Formation of Competencies of Gifted Individuals in the System of and Higher Education. 2. Extracurricular *2023*. $N_{\underline{o}}$ P. 87 92. https://doi.org/10.18372/2786-823.1.18157. URL: https://jrnl.nau.edu.ua/index.php/FCS/article/view/18157 (last accessed: 2024/05/30).