

**ON THE EXAMPLE OF STUDENTS OF THE DIRECTION OF CHEMICAL
TECHNOLOGY OF THE DEVELOPMENT OF CHEMICAL TECHNOLOGICAL
COMPETENCIES**

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Abstract: In this article, the theoretical importance of using interactive media and interactive educational technology as a method for improving chemistry and its teaching methodology in higher education is explained. Also, modern advanced pedagogical technologies encourage future chemistry students to independently study and analyze acquired knowledge and skills by using interactive media. The use of interactive media and interactive educational technologies as a method in improving chemistry and its teaching methods in higher education not only broadens students' worldview, but also encourages independent thinking, creative research, and increases their initiative.

Key words: chemistry, interactive media, method, modern pedagogical technology, smart technology, discussion, independent thinking, creative research.

Introduction. Today, the use of interactive methods in teaching chemistry is closely related to ideas about the main methodology. The use of interactive forms and methods of teaching helps to activate the cognitive activity of students, independently understand the educational material. Interactive methods make it possible to work, practice and develop knowledge, skills, new skills on oneself, that is, the student's main competencies: learning, seeking, thinking, collaborating. It is interactive education that helps the teacher organize cognitive activity, so that almost all learners participate in the process of research, learning.

Today, the main methodological innovations are associated with the use of interactive teaching methods. The concept of "interactive “comes from the English word” interact (“inter –” mutual“,” act “ – ” act”). Interactive education is a special form of Organization of cognitive activity. This implies very specific and predictable goals.

In interactive education, the needs of the student are taken into account, his personal experience is involved, a targeted correction of knowledge is carried out, an optimal result is achieved through cooperation, joint creation, independence and freedom of choice, the student analyzes his activities. own activities. The scheme of relations between participants in the educational process is radically changing, in contact with the teacher and peers, the student feels comfortable. While maintaining the ultimate goal and core of the educational process, interactive learning changes the usual forms of broadcasting to dialogue based on mutual understanding and interaction. The use of an interactive educational model involves simulating life situations, using role-playing games, and solving problems together. The superiority of any participant or any idea in the educational process is excluded. From the object of influence, the student becomes a subject of interaction, himself actively participates in the educational process in his individual direction.

The educational process, based on the use of interactive methods of education, is organized taking into account the involvement of all students of the class in the process of cognition without exception. Joint activity means that each person makes his own individual contribution, in the process of work there is an exchange of knowledge, ideas, methods of activity. Individual, pair and group work are organized, project work, role-playing games are used, work with documents and various

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sources of information is carried out. Interactive methods are based on the principles of interaction, listener activity, reliance on group experience, forced feedback. An educational communication environment is being created, characterized by openness, interaction of participants, equality of their arguments, the possibility of joint knowledge accumulation, mutual assessment and control.

In order to effectively use interactive education, the teacher must, first of all, carefully plan his activities: give students a task to prepare in advance (reading the text, thinking about answers to questions, completing assignments), study and think deeply over the material, set lesson time, tasks for groups, the role of participants, prepare questions and possible answers, develop criteria for assessing the effectiveness of

Research techniques. While we analyze the use of interactive mediavocre and interactive learning technologies as a method in teaching chemistry, interactive mediavocre in chemistry is a media that has the ability to reflect, communicate with the audience on the subject of primary chemistry. Their implementation is carried out using a mobile phone, video, satellite and internet connection, computer and video games. Also, interactive educational technologies include:

- Debate
- Computer simulations
- Business game
- Keys technology
- Smart technology
- Lecture with errors
- Mental attack
- Videoconference
- Webinar
- Project

Discussion is one of the types of interactive educational technologies. It is a joint study, discussion of a particular topic, task and phenomenon among all participants in the educational process. Conducting discussion classes stimulates student cognitive activity, helps to more meaningfully assimilate new knowledge by preparing evidence on the topic under discussion and defending their position.

Computer simulations are also one of the types of interactive educational technologies.

They represent the work of students with a computer-aided virtual model of the object under study, phenomenon.

The use of computer simulation technology allows students to independently master theoretical knowledge, practical (professional) skills, learning to work with software complexes necessary for their professional activities in conditions where there are no real objects, phenomena for various reasons.

The business game is achieved by modeling a problematic professional situation, in the process of interaction of the role of participants according to a particular case in solving the issue, by establishing rules, developing a plot, forming teams of players and a “group of specialists”, and the final decision is that the issue solution is evaluated. Conducting a business game will help in the process of joint preparation of team decisions in the acquisition of professional knowledge and skills of students, solving non-standard professional tasks, organizing Independent Education.

Keys technology is a solution to a problem in the form of describing a student's problem situation. The implementation of Keys technology allows students to form the ability to take an integrated approach to solving professional, practical problems, stimulates the development of critical, analytical, creative thinking, soft skills in students.

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In Smart technology, knowledge is simple, simple, purposeful, motivational, meaningful, as well as closely interwoven with other science Sox to give accurate data based on realistic facts, based on properly distributed time.

The lecture refers to analytical activities aimed at detecting errors with errors, planned by the teacher during the lecture of students.

Finding errors in the lecture, and then analyzing and correcting them, will help to strengthen student knowledge, to deepen the learning material, its most difficult aspects.

Mental attack, increases the creative activity of students, expands their existing knowledge on a specific topic, develops their critical and analytical thinking.

Video conferencing, Video Communication - the ability to present constructive, logical and concise communication skills, the skills of presenting the results of the work performed.

A webinar, or webinar, is organized through a virtual classroom with computers connected to the internet and the ability to receive feedback from participants online using specialized software.

Webinar is applied to classes for study groups of 12-15 people. The recommended duration of the webinar does not exceed 1.5 astronomical hours (2 academic hours).

Training is used in classes for study groups of up to 25 people. Conditions must be created for free movement of students in the classroom, the possibility of organizing seats in the "exercise Circle" must be ensured.

The project method is used for training groups of up to 30 people. It can be done individually, in pairs or by dividing students into groups (from 5-6 people each).

Pedagogical scientists M.A.Danilov and B.P.Esipov divides the methods of conducting classes according to the goals of organizing the educational process and the stages of its implementation into the following groups:

- acquisition of knowledge;
- formation of skills and abilities
- practical application of acquired knowledge;
- creative activity;
- strengthening the acquired knowledge methods of checking knowledge, skills and skills.

Interactive methods can be used when the teacher organizes the following work with students:

- thematic lessons
- Organization of temporary creative groups when working on an educational project;
- Organization of discussion and discussion of controversial issues arising in the team;
- creation of educational resources.

The following interactive forms for solving educational and educational tasks by the teacher are the most common:

"Mental attack". To solve a problem, students are offered to find as many methods, ideas, proposals as possible, each of which is written on a board or paper. After the creation of such a "Bank of ideas", analysis and discussions are carried out.

"Teaching-learning". The lesson material is divided into separate blocks according to the number of students in the group. Students work and exchange information, create temporary couples, after which collective discussion and unification of educational material is carried out.

"Select status". A problematic question is proposed, with two opposing views and three positions: "yes" (for the first sentence), "No" (for the second sentence), "I do not know, I have not defined my position.". Student groups choose a specific position, discuss the correctness of their positions. One or more students from each group argue their positions, after which a collective discussion of the problem and a correct decision is made.

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“Joint project”. Groups perform different tasks on the same topic. After completing the work, each group presents its own research, as a result of which all students get to know the subject as a whole.

Thus, interactive education increases the motivation of participants in solving the problems discussed, which gives an emotional impetus to the further research activity of students, motivating them to specific actions. Interactive education is characterized by the fact that everyone succeeds, everyone contributes to the overall result of teamwork, the educational process is more meaningful and interesting.

Based on the analysis of the theory and practice of using interactive teaching methods in the process of preparing students of the Institute for specialist subjects, it can be concluded that interactive teaching methods complement and develop already known scientific pedagogical methods, therefore they are actively introduced into the educational process. Interactive education is undoubtedly an interesting, creative and promising direction of our pedagogy.

Conclusions

In conclusion, the organization of the educational process at the required level of time, the use of interactive media and interactive education technologies as a method in the teaching of chemistry is of particular importance, helping to guarantee the achievement of the intended goal.

The teacher is an important tool in the development of students' creative activity in interactive mediavosites and educational technologies, which serve to form the creative thinking of students. Interactive mediavosite and interactive education in the teaching of chemistry in higher education the application of technologies saves time, serves to conduct classes in an interesting, time-specific way and increase the activity of students in learning, teaches independent creative thinking. Conducting training on the basis of interactive mediavosite and interactive educational technology provides the basis for a more thorough study of science.

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