



## INTRODUCTION OF INTERACTIVE FORMS OF EDUCATION IN TEACHING CHEMISTRY

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### ABSTRACT

*This article develops scientific conclusions and recommendations for the widespread use of interactive methods in the teaching of chemistry in higher education, the activation of multimedia visual education.*

Introduction. The development of modern science and technology requires a new approach to the teaching of chemistry in higher education, and high demands on the content and level of knowledge and skills that students need to master this science. The overpopulation requires not only the education of higher education students, but also their teaching to "read and learn" independently. and living students should not only be able to acquire ready-made knowledge, but also be able to independently collect information using information technology, process it where needed, and use it effectively in a variety of real-life situations.

Main part. It is not enough for a modern chemistry teacher to have a strong knowledge in the field of knowledge, but also to have the skills to use methodological

innovations wisely in the teaching process using interactive teaching methods. The introduction of interactive forms of education is one of the most important directions in improving the system of student education. The comprehensive development of students and the use of all necessary forms of information that contribute to their formation leads to the development of interactive methods. The most widely used interactive method in the classroom is the method of collaborative learning. In this method, all participants of education (teachers and students) interact with each other, share information, solve problems together. , model different processes and situations together. By itself, interactive methods imply the partnership and equality of all subjects of education. The use of an interactive model involves



modeling learning in real-life situations, which include the use of role-playing (business) games, problem-solving together. Collaborative activity means that each participant shares his / her knowledge, ideas, methods of activity and contributes individually to the course process. based on the principles of playing games, working with documents and learning from different sources of information. The advantage of any participant in the learning process is removed from the interaction, the activity of the audience, based on the experience of the group, and the mandatory feedback from the participants. The advantage of interactive teaching methods in chemistry is that the support of a "weak" student friend is always felt, both on the board and in the work process. In this way, all the children have the opportunity to speak, exchange ideas with their partner, and only then announce them to the whole class. In addition, everyone is involved in the work. Examples of such activities include discussing a text, talking to a partner, analyzing a partners written work, developing questions for the class, or answering teachers questions, and so on.

Results and discussion. The idea of education acquires a completely new quality when taught in chemistry classes using interactive computer technologies. In this process, interactivity is achieved through the special organization of computer programs and the use of technical manuals such as interactive whiteboards. . I believe that understanding the role of these interactive tools in teaching, developing appropriate didactic manuals for them, will contribute to a radical change in traditional teaching, to a new level of quality. The average percentage of materials we know is

as follows: lectures - 5%; when using elements of self-education - 10%; visual and audio materials - 20%; audiovisual materials - 30-40%; work in disputed groups - 50%; exercise through movements - 75%; use of multimedia technologies - 80-85%; the method of teaching others is 90% .Therefore, in order to maximize the quality of knowledge and interest of students in chemistry and increase their personal competence, I combine it with interactive methods using audiovisual and multimedia tools. A modern multimedia lesson has the same structure and uses the same methods as a traditional lesson, but in today's lessons, dynamic information models can be used to instantly visualize the process being studied and model the event being studied. The use of e-learning tools in today's information environment leads to operational feedback, the ability to build individual learning trajectories, and a radical change in the didactic methods of traditional teaching. A modern multimedia lesson is an intermediate link between a traditional lesson and online learning. The interactive elements of chemistry curricula allow for a transition from passive to active assimilation, as students independently model events and processes, returning information to any piece with the same or different initial parameters rather than linear „ will be able to accept and learn by repeating the virtual experiment as needed. The use of multimedia in chemistry will increase the time spent working with students in the classroom, all will be able to see, hear and strengthen their knowledge together. have the opportunity. Thus, the level of individualization of training is significantly increased. Working with an interactive whiteboard creates a comfortable learning environment in which



all students interact with the teacher and interact.

Challenges a teacher faces when working with these technologies:

1. It is very difficult to complete a lesson on these technologies in the classroom - (like any other lesson).
2. Not all children are able to work with large amounts of information. Reading techniques are not the same for everyone, not everyone can work synchronously.
3. In low-performing classes, these technologies are not always effective.
4. You should be familiar with the technology used in the classroom, improve your skills in the required courses, attend seminars, classes of your colleagues.
5. Misunderstanding of the strategy and methods of the audience.
6. Difficulty in choosing a material (including searching for the necessary materials from different sources).
7. Excessive moral and material costs, the ability to allocate time correctly.

Conclusions. Preparation for the lesson (in terms of quality) requires a lot of time and a lot of information, a lot of paper and paint are used. The student must be able to independently prepare for both the task and the whole set of techniques.

The new quality of education is determined by the effectiveness of the educational activities of the institution, the community, each teacher and student. In turn, the success of a graduate of an educational institution is to grow into a worker who is ready to compete in the dynamically changing situation in this country. It is not enough to have a certain amount of knowledge, skills and qualifications. This requires the mastery of basic techniques such as research, design, organization, communication with the world, and self-communication that enhance the graduate's skills in conjunction with the IFC. To achieve this quality of educational services, it is necessary to use interactive educational technologies, to move to interactive learning.

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