



FORMATION OF STUDENTS' RESEARCH SKILLS IN CHEMISTRY CLASSES

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Annotation: *Participation of schoolchildren in research and project activities, including in the team, together with the educational process, seem to be effective ways of mobilizing the activity of schoolchildren in acquiring new knowledge and acquiring the necessary skills.*

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The development of chemical and biological sciences in our country, the improvement of the quality of education and the effectiveness of science in these fields are among the priorities of the State Program "Year of Science, Enlightenment and Digital Economy". After all, in-depth education of our sons and daughters in chemistry and biology will encourage the establishment of new production enterprises in the regions, the rapid development of pharmaceutical, oil, gas, chemical, mining, and food industries, which create high added value, and ultimately our people. Prepares a solid ground for increasing living conditions and incomes.

Today, the urgent task of education is to form students' research competence in chemistry classes. Research competence refers to the skills and abilities necessary to conduct research, including the ability to analyze and process information, think critically, and formulate scientific hypotheses and conclusions [3]. During the learning process in the chemistry class, the teacher gives the student the opportunity to imagine himself as a scientist, researcher, discoverer, which allows to attract and interest the student. In the process of learning a science like chemistry, the organization and implementation of the process of scientific research activity of schoolchildren is a direct primary point, which in turn significantly increases interest in chemistry as a science, makes it very interesting and useful. Research activities can be organized at any stage of the study of chemistry: in the study of theory, in solving problems, in practical or laboratory work, in extracurricular activities or in competitive training [2].

In the process of scientific research activities in chemistry classes, students constantly expand their knowledge and improve their skills in working with literature, master the methods of conducting experiments and data processing, participate in scientific discussions, prepare lectures and reports, as well as formulating the obtained results in the form of theses and reports, which together help to fully identify and develop the creative abilities of students [1].

Research activities have a beneficial effect on the formation and development of students' cognitive interest in chemistry, help to form research skills, open students' self-awareness and creative abilities, as well as interests. allows them to give and helps them to

choose attitude towards future profession and life. Of course, the most important and main points of the research activities of schoolchildren in the study of chemistry are described below:

- the ability to solve various types of chemical problems;
- the ability to solve practice-oriented problems;
- searching for information, preparing abstracts and other types of work;
- planning and independent repetition of chemical reactions;
- project work.

In the process of solving experimental problems, students consistently acquire the following skills: thinking about the problem; think about a hypothesis; work on problem design; detailed experimental plan; organization and implementation of the experiment; drawing conclusions from experience; organizing and implementing experimental responses. School students must master certain knowledge and perform related tasks before conducting practical or laboratory activities in chemistry class, many of which require additional preparation at home. First, children learn the theory and perform tasks based on it, solve problems, and finally prepare and perform experiments and laboratory work.

At the stage of preparing for the experiment and solving theoretical problems, schoolchildren build the experimental course in their heads, and the teacher, in turn, gives the appropriate assignments. During this activity, students independently choose the most appropriate methods of conducting experiments, and therefore, appropriate research should be carried out. At the final stage, students analyze the obtained results and draw conclusions independently. The acquired knowledge should not be redundant, the work itself should be presented clearly and concisely, without taking much time. As a result of the lesson, each student can present the result of his experience, briefly describe the project activities, and draw clear conclusions and conclusions due to the work done. When solving such experimental problems, schoolchildren become participants in the process of self-education, update the necessary knowledge, learn to effectively plan activities and analyze the results of their activities.

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