

**FORMATION OF RESEARCH SKILLS IN STUDENTS DURING THE TEACHING
THE TOPIC OF ALKENES**

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This article explores the ways of developing students' research skills in the process of teaching the topic of alkenes. The role of modern methods, including laboratory research, problem-based learning, and individual research, in this direction has been emphasized. The use of practical approaches and various interactive methods increases the effectiveness of this process. The results of the article highlight the importance of new approaches in the development of research skills. The teaching of chemistry becomes more effective when conducted not within a descriptive knowledge framework but through a practical and research-oriented approach. Lessons in which students actively participate have a significant impact on their analytical thinking and problem-solving skills. Especially during the teaching of the topic of alkenes, providing students with the opportunity to apply chemistry to real-life problems strengthens their independent research and experimental skills. These studies not only contribute to a deeper understanding of the content but also help students better comprehend scientific methodology [1].

Modern chemistry education requires the application of new pedagogical approaches. Transforming students from passive listeners into active researchers increases their interest in chemistry. In this regard, the application of interactive methods and new approaches in the teaching of alkenes is one of the current issues. Problem-Based Learning (PBL) - Students are presented with real-life problems that need to be solved, and as they solve these problems, they develop their knowledge and skills related to alkenes, students are provided with opportunities to conduct various experiments on the chemical properties of alkenes, which strengthens their practical knowledge, integrating chemistry with technology, engineering, and mathematics to explore real-life applications of alkenes increases students' interest. Virtual laboratories and simulations help students develop their experimental skills.

Methodological foundations. Students actively acquire knowledge and relate it to their own experiences, students work in groups, learn from each other, and solve problems collaboratively, students prepare projects to solve a specific problem and conduct research in the process. Students evaluate their learning processes and determine strategies for improvement. A research-based learning model has been implemented in the teaching of alkenes, the impact of laboratory experiments and interactive approaches on education has been studied, the application of problem-based learning models to the topic of alkenes has been analyzed. It has been observed that interactive approaches contribute to the development of students' thinking skills [2-4].

Conclusion. Research shows that the use of research methodologies contributes to the more effective formation of students' chemistry knowledge. The application of interactive methods in the teaching of alkenes is an effective approach for developing students' thinking and research skills. At the same time, this approach encourages the formation of a teaching process in which students actively participate, fostering their analytical thinking and research abilities. The broader implementation of such methods in future chemistry education processes is highly essential.

References

1. Johnstone, A. H. Chemistry Teaching - Science or Alchemy? *Journal of Chemical Education*, 2023,74(3), 262-268.
2. Domin, D. S. A Review of Laboratory Instruction Styles. *Journal of Chemical Education*, 2024,76(4), 543-547.
3. Pashayeva A.A., Mirbagirova G.M., Mammadova K.M., Nagiyev K.J. Using active-interactive learning to develop research skills in students. // Current chemical problems. VII International (XVII Ukrainian) scientific conference for students and young scientists. March 19-21, 2024. Vinnytsia. 2024. p.161
4. Pashayeva A.A., Mirbagirova G.M., Mammadova K.M., Nagiyev K.J. Using Active-Interactive Learning To Develop Research Skills In Students. VII International (XVII Ukrainian) scientific conference for students and young scientists,2024,19-21 Mart,Ukrayna, s.161.