IMPROVING THE TEACHING OF THE TOPIC OF STYRENES USING INTERACTIVE METHODS.

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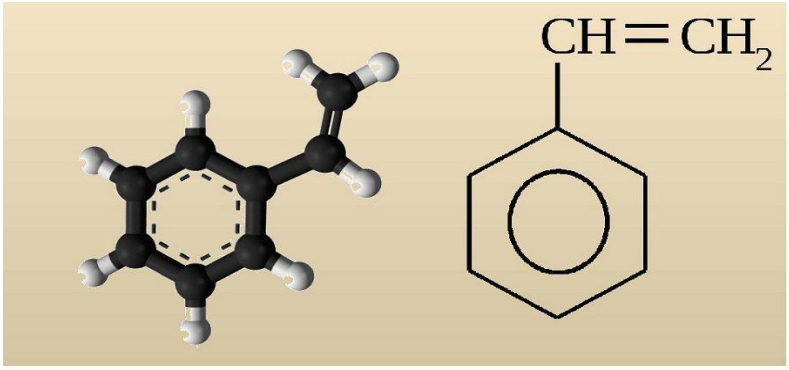
Abstract: This study aims to improve the topic of chemistry "Styrenes" through interactive teaching methods. When the chemical properties of styrenes and the polymerization process are explained to students in the traditional way, their level of mastery of the subject may be low. Therefore, it is proposed to organize the educational process using the methods of "Brainstorming", "Role Playing", "Project Learning" and "Work in Small Groups". The results of the study confirmed the effectiveness of interactive methods and showed the importance of their widespread use in the educational process.

Keywords: Styrene, interactive education, chemistry, pedagogical methods, teaching methods.

Introduction

Modern education requires interactive approaches. In chemistry, especially in explaining the specific properties of organic compounds, a theoretical approach alone is not enough. Styrenes and their polymer derivatives (e.g. polystyrene) are widely used in industry, so it is important to explain their chemical properties through practical examples. In traditional lecture-based classes, students only play the role of listeners, which can reduce their interest in the subject. Therefore, when interactive teaching methods are introduced, students actively participate in the lesson and achieve a deeper understanding of the subject.



RESEARCH

The study was conducted with the participation of 50 students and was conducted based on the following methods:

1. Theoretical analysis - The available scientific literature on the properties, applications and polymerization process of styrenes was studied.

2. Experimental teaching methods - Interactive methods were compared with the traditional approach.

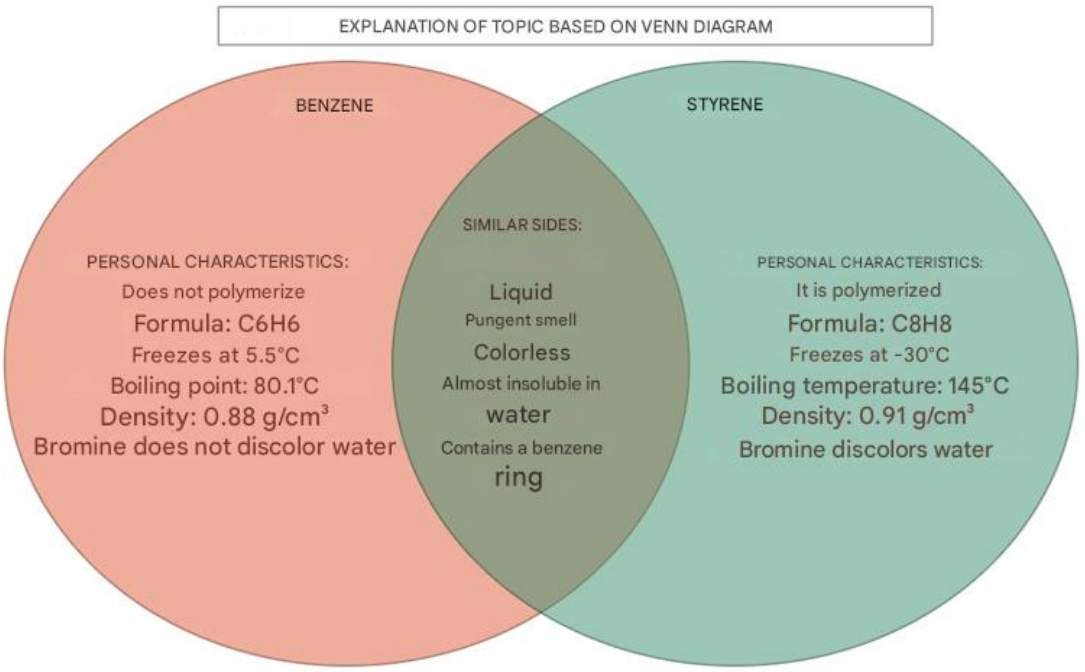
"Brainstorming" - A discussion was held on the properties and scope of application of styrene.

"Role playing" - Students played the role of chemical laboratory workers and modeled the polymerization process.

"Work in small groups" - They were asked to compare different properties of polymers and study their practical significance.

"Project-based learning" - Students developed projects on the environmental impact of styrene and its derivatives.

3. Analysis of results - Tests and questionnaires were conducted to assess the level of students' knowledge.



RESULTS

In the group using interactive methods, the level of student mastery increased by 30-40%.

Compared to the group taught using traditional methods, the interest of students in the subject in the group using interactive methods was 50% higher.

The methods of "Role playing" and "Project learning" were found to be the most effective, since students had the opportunity to conduct experiments independently.

The students developed environmental projects, which helped them develop a sense of responsibility for environmental problems.

Interactive methods created the opportunity for active participation in the learning process instead of passive listening. In particular:

The brainstorming method developed creative thinking on the topic.

Role-playing games facilitated the explanation of laboratory processes and developed interaction.

Working in small groups served to develop collective thinking and communication skills.

Through project-based learning, students gained experience in independent work on solving practical problems.o‘

The results of the study showed that as a result of the introduction of interactive methods, students’ knowledge on the topic of STIROLLS deepened and their interest in science increased.

CONCLUSION

The use of interactive methods in teaching the topic of STYROLS is important for increasing students' interest in science and strengthening their practical knowledge. The results of the study showed that the interactive approach is more effective than traditional teaching methods and significantly increases the level of students' knowledge. In the future, it is recommended to apply these methods to other topics of organic chemistry.

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