# The Use of VR in Chemistry Education

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*Abstract*

In recent years, the integration of modern technologies in education has gained significant attention. This study aims to explore the potential of virtual reality (VR) in enhancing chemistry education at the elementary school level. The purpose of this research is to investigate the impact of VR-based learning on students' understanding of chemical concepts.

A mixed-methods approach will be employed to achieve the research objectives. Firstly, a comprehensive review of literature will be conducted to establish the theoretical framework and identify key elements for successful implementation of VR in chemistry education. Secondly, a controlled experimental study will be conducted with a group of elementary school students. The students will be divided into two groups, with one group receiving traditional classroom instruction and the other group participating in VR-based chemistry lessons.

Currently, testing of created applications focused on various areas of chemistry education is underway. Students can get in contact with the structure of an atom and carry out hazardous experiments. Furthermore, students can practice molecular composition in organic chemistry or review laboratory safety in a playful manner within the virtual reality environment. Emphasis is also placed on working with the periodic table of elements, which is available in the VR setting, and students have the opportunity to balance chemical equations.

I would be really glad if this research contributes to the understanding of how VR can be effectively utilized in the context of chemistry education at the elementary school level. By leveraging VR technology, students get a chance to go deeper conceptual understanding, and the development of practical laboratory skills in chemistry education.

*References*

- https://www.vrtraining.services/vr-school

*Keywords*

Virtual reality, modern technology, education, chemical laboratory, teaching