Proceedings of International Conference on Modern Science and Scientific Studies
Hosted online from Paris, France.
Date: 19th November - 2024
ISSN: 2835-3730 **Website:** econferenceseries.com

USED STREAMING TECHNOLOGIES, VR LABORATORIES IN TEACHING CHEMISTRY

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Abstract:
In the teaching of chemistry, modern technologies, in particular, streaming technologies and virtual reality (VR) laboratories, play an important role in making the educational process more effective and interesting. These technologies allow students to more easily understand complex concepts of chemistry and perform practical experiments in a virtual environment.

Keywords: chemistry, streaming technologies, laboratories, educational process, interactive games, distance education.

Through streaming technologies, teachers can conduct chemistry lessons online. This is especially useful in distance learning settings. Students can watch lessons from anywhere, anytime, which makes their learning process more convenient. Through streaming, teachers can demonstrate live chemistry experiments, interact with students, and quickly answer questions. This method increases students' interest in the lesson and encourages them to actively participate. Virtual reality labs allow students to conduct chemistry experiments in a safe and controlled manner. With the help of VR technologies, students can perform chemistry experiments in a virtual environment, which allows them to experience the same as in a real laboratory environment. Students can develop practical skills such as working with chemicals, observing reaction processes, and analyzing results.[6]

This process also helps to learn safety rules, as there is no risk of making mistakes in a virtual environment. The combined use of streaming technologies and VR labs allows students to explore chemistry in greater depth. They can understand complex concepts more easily, conduct practical experiments in a

safe and comfortable environment. This, in turn, is important in preparing the young generation who want to become specialists in the field of chemistry in the future. Also, these technologies allow teachers to make lessons more interactive and interesting. Teachers can use various multimedia materials, such as videos, animations, and interactive simulations, to increase students' interest, making the lesson more lively. This helps to strengthen students' knowledge and increase their interest in chemistry.[3]

The use of modern technologies in the teaching of chemistry includes a number of innovative approaches. These technologies allow students to combine theoretical knowledge with practical experiences, make the teaching process interactive and interesting. With the help of streaming technologies, teachers can conduct lessons online. Students can watch classes from anywhere, observe chemical processes through video materials and manage their time. It is especially useful in strengthening theoretical knowledge. Virtual labs allow students to perform chemical experiments in a safe environment. Students can develop practical skills by simulating various chemical reactions, working with substances and analyzing the results. This process gives students the feeling of being in a real laboratory environment. Interactive chemistry programs and mobile apps help students learn chemical formulas, reactions, and processes. Through these applications, students have the opportunity to consolidate their knowledge and challenge themselves through tests and tasks. Simulating chemical processes and creating 3D models can help students better understand complex concepts. For example, 3D models can be used to show the structure of molecules and their interactions. With the help of modern technology, teachers can have online discussions, ask questions and exchange ideas with students. This process helps students express themselves freely and increases their interest in learning. Students can use modern software to analyze and visualize the results of chemical experiments. This, in turn, helps students better understand the results and develop their scientific analysis skills. With the help of modern technology, teachers can provide education according to the individual needs of students. For example, tailored materials can be provided for students to self-assess and reinforce their knowledge. The use of modern technologies in the teaching of chemistry allows students to get more interesting and effective education. With the help of these technologies, teachers can strengthen students' knowledge, develop practical skills and make the teaching process interactive.

In the future, it is important to further develop these technologies and expand the possibilities of using them in the educational process.[1]

Conclusion:

In conclusion, the use of streaming technologies and virtual reality laboratories in the teaching of chemistry is important in updating the educational process and increasing its effectiveness. These technologies allow students to more easily understand the complexity of chemistry and encourage them to participate more actively through hands-on experiences. As a result, it helps the students to improve their knowledge and to be successful in the field of chemistry in the future.

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