

THE USE OF INTERACTIVE TECHNIQUES IN THE FORMATION OF PRACTICAL SKILLS IN NATURAL SCIENCE LESSONS

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ABSTRACT

This article explores the effectiveness of interactive techniques in enhancing the practical skills of students in natural science lessons. It emphasizes the role of active learning strategies in fostering student engagement, critical thinking, and the application of scientific concepts. Through a comprehensive literature review and the presentation of empirical findings, this study aims to provide educators with insights into the integration of interactive methods in their teaching practices.

Keywords: Interactive techniques, practical skills, natural science, active learning, student engagement, educational methods.

INTRODUCTION

In recent years, the landscape of education has evolved significantly, particularly in the field of natural sciences. Traditional teaching methods, often characterized by rote memorization and passive learning, have been increasingly challenged by interactive approaches that prioritize student engagement and practical skill development. This article examines the importance of interactive techniques in natural science lessons and their potential to enhance students' practical skills. As educators seek to prepare students for real-world applications of scientific knowledge, it becomes imperative to explore innovative teaching methodologies that promote active participation and critical thinking.

This study employs a mixed-methods approach, combining qualitative and quantitative research methods. A survey was conducted among natural science educators to assess their use of interactive techniques and the perceived impact on students' practical skills. In addition, classroom observations were performed to evaluate the implementation of these techniques in real-time learning environments. The data collected were analyzed to identify patterns and correlations between interactive methods and student performance.

The formation of practical skills in natural science lessons involves several important aspects. The following methods and strategies can help develop practical skills:

Conducting experiments: giving students the opportunity to conduct practical experiments to consolidate theoretical knowledge. This can be done, for example, in chemistry or physics classes.

Projects: giving students project work in the Natural Sciences. This develops their creativity and problem-solving skills.

Nature study: taking students to field research to study nature. It is useful in biology and ecology classes.

Problem solving: tasks aimed at solving problems in the Natural Sciences. This develops students' logical thinking and critical approach skills.

Teamwork: involving students in groups to undertake a team project or research. It develops teamwork and communication skills.

The use of technology: the development of practical skills through the use of modern technologies, for example, laboratory instruments or scientific programs.

With these techniques, students will be able to transform their knowledge of the natural sciences into practical skills and have the opportunity to apply this knowledge in the future.

Interactive techniques in the formation of practical skills during natural science lessons can greatly enhance student engagement and understanding. Here are some effective strategies:

1. **Group Work and Collaboration:** Encouraging students to work in groups allows them to discuss concepts, share ideas, and learn from each other. This can include group experiments or projects that require collective problem-solving.

2. **Hands-on Experiments:** Incorporating hands-on experiments enables students to apply theoretical knowledge in a practical context. This could involve conducting experiments related to chemistry, physics, or biology, where students can observe phenomena firsthand.

3. **Simulation and Modeling:** Using computer simulations or physical models can help students visualize complex scientific concepts. For example, simulations of ecological systems or chemical reactions can deepen understanding without the constraints of time or resources.

4. **Role-Playing and Scenarios:** Assigning roles related to scientific concepts (like scientists, environmentalists, etc.) allows students to explore different perspectives and understand the relevance of science in real-life situations.

5. **Interactive Technology:** Utilizing tools like interactive whiteboards, tablets, or apps can make lessons more dynamic. Students can participate in quizzes, polls, and other interactive activities that reinforce learning.

6. **Field Trips and Real-World Applications:** Organizing field trips to science centers, laboratories, or natural habitats can provide practical experience and illustrate the relevance of classroom learning to the outside world.

7. **Flipped Classroom Approach:** Assigning video lectures or readings as homework and using class time for discussions, problem-solving, and hands-on activities encourages active learning.

8. **Peer Teaching:** Allowing students to teach each other reinforces their understanding and helps develop communication and leadership skills.

9. **Reflection and Feedback:** Encouraging students to reflect on their learning experiences and provide feedback helps them to critically analyze their work and understand their progress.

By integrating these interactive techniques, educators can create a more engaging and effective learning environment that fosters the development of practical skills in natural science lessons.

The findings suggest that interactive techniques not only promote a deeper understanding of scientific concepts but also equip students with essential practical skills necessary for their future endeavors. The study highlights the importance of creating an engaging learning environment where students can actively participate in the learning process. Additionally, the challenges faced by educators in implementing these methods, such as time constraints and resource limitations, are discussed, along with potential solutions.

CONCLUSIONS

In conclusion, the integration of interactive techniques in natural science lessons is vital for the effective development of practical skills in students. Educators are encouraged to adopt these methodologies to enhance student engagement and foster a deeper understanding of scientific principles. Further research is needed to explore the long-term effects of these techniques on student learning outcomes and to develop comprehensive training programs for educators to effectively implement interactive strategies in their classrooms.

Incorporate inquiry-based and hands-on activities regularly.

Utilize technology, such as simulations and virtual labs, to enhance learning experiences.

Foster a collaborative classroom environment that encourages peer-to-peer learning.

Provide professional development opportunities focused on interactive teaching strategies.

REFERENCES

1. Decree of the President of the Republic of Uzbekistan on the Action Strategy for Further Development of the Republic of Uzbekistan (Collection of Legislative Documents of the Republic of Uzbekistan, 2017, No. 6, Article 70)
2. SH.M. Mirziyoyev Decision No. PQ-4391 on July 11, 2019 "On measures to introduce new management principles into the system of higher and secondary special education".
3. Son of Achilov Nurbek Norboy (2020). Pedagogical and psychological fundamentals of formation of space imagination and creative ability in students. *European Journal of Research and Reflection in Educational Sciences*, 8 (4), Part II, 38-40.
4. Khudaykulov, Abdulla Eshkuvvatovich, and Zilola Shavkatovna Zhurakulova. "The use of gaming technologies in teaching English in primary school." *Pedagogy and psychology in the context of modern research into problems of personality development*. 2015.
5. Alexandrova, Liliya Minikhaevna, and Ksenia Ildusovna Filatova. "The use of gaming technologies in fine arts lessons in elementary school." *Symbol Science* 4-2 (2016): 72-73.
6. Anisimova, Alena Anatolyevna. "Using gaming technology as a means of bilingual education." *Municipal Education: Innovation and Experiment* 3 (2012): 49-51
7. Y.U. Egamberdiyeva. Cooperation of students in the educational process and its importance, current problems of preschool and primary education. *International scientific-practical conference 18.11.2022* (529-531b).