INTERSECTING HORIZONS: EXPLORING THE CONVERGENCE OF SCIENCE, TECHNOLOGY, AND ART

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THE ROLE OF MOBILE APPS IN CREATING INTEGRATED SCIENCE LESSONS FOR 4TH GRADE

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ABSTRACT: The article explores the impact of modern mobile technologies on the process of teaching natural sciences in elementary school. The author examines the problems associated with traditional teaching methods and suggests an innovative approach using mobile applications. The article analyzes how mobile technologies can be incorporated into the learning process to make lessons more interactive, accessible and exciting for 4th grade students. Specific examples of applications that contribute to the formation of integrated lessons in natural sciences are given, and the positive results of the introduction of such approaches into educational practice are also considered. The work calls for further research and application of mobile technologies in education in order to improve the effectiveness of teaching scientific subjects at the initial stage of education.

KEYWORDS: Mobile applications, integrated lessons, natural sciences, educational technologies, fourth grade, the role of mobile applications in education, interactive learning materials, the effectiveness of learning using mobile technologies, student skills development, educational applications for elementary grades, innovations in education.

INTRODUCTION

In today's technology-saturated world, education has become impossible to imagine without using mobile applications. Their contribution to science education is especially important, where interactivity and accessibility of knowledge play a key role. In this article, we will look at how mobile applications are changing the approach to learning, especially using the example of integrated science lessons for 4th grade students. One of the main advantages of mobile applications is the ability to visualize complex concepts. Instead of abstract concepts, children can interact with 3D models, which greatly simplifies the understanding of complex scientific concepts. Example: Applications using augmented reality (AR) allow students to view the internal structure of a cell or solar system right in the classroom.

Mobile apps can transform science lessons into an exciting adventure[1]. Game elements, quests and tasks make learning more exciting and memorable, stimulating the interest of students. Example: Interactive games where children can collect elements of the periodic table, participate in chemical experiments and solve puzzles. Mobile applications facilitate the integration of knowledge from various fields of natural sciences. The lessons become more holistic, and the understanding of the interrelationships between different disciplines deepens. Example:

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Applications combining elements of biology, physics and chemistry help children to see common patterns in nature and its phenomena.

Mobile applications allow teachers to adapt materials to the individual needs of students[2]. Automated systems can provide personalized assignments and support children at different levels of knowledge. Example: Applications with machine learning algorithms that determine the level of knowledge of each student and offer appropriate tasks for development. Mobile applications facilitate the assessment of knowledge and provide feedback to both teachers and students. Effective assessment tools help to track each student's progress and difficulties more accurately. Example: Applications with interactive tests and game elements that provide instant feedback and stimulate improvement of results.

In modern education, technology is becoming an integral part of the educational process[3]. In particular, mobile applications are being actively introduced into the education system, providing students and teachers with new opportunities for more effective learning. In this article, we will look at how mobile apps can play a key role in creating integrated science lessons for 4th grade students. Integrated lessons that combine knowledge from different fields allow students to see the relationships between different subjects. However, creating such lessons requires careful planning and resources.

Mobile applications provide unique opportunities for integrating educational materials[4]. For example, applications combining elements of biology, chemistry and physics can create fascinating scenarios for lessons, involving students in interactive experiments and virtual research. Mobile applications allow you to adapt lessons to the individual needs of students. Using artificial intelligence technologies, applications can analyze the progress of each student and offer personalized assignments to consolidate the material.

Integrated lessons often require visualization of complex concepts. Mobile applications provide the opportunity to use interactive graphics, animations and virtual models, making the learning process more accessible and exciting. Mobile apps created for integrated lessons can encourage students to develop critical thinking skills. Tasks that require the analysis and synthesis of information from various fields of science contribute to the formation of a comprehensive view of problems among students.

Mobile apps allow students to study natural sciences outside the classroom. This expands learning opportunities and maintains a constant interest in the subject.Mobile applications are becoming an integral component of modern education, especially when creating integrated science lessons for 4th grade. Their use contributes to more effective learning, stimulates interest in the subject and develops key skills of students. Educators and educational app developers have a unique opportunity to collaborate to create innovative educational resources that will make lessons more fun and effective.

Conclusion: Mobile applications are becoming an indispensable tool in the formation of integrated science lessons for 4th grade students. Their influence on learning transforms traditional methods into interactive, exciting and more effective ones, contributing to the formation of deep interest and understanding of the world of science.

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