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STEAM EDUCATION TECHNOLOGY CONTENT IN PRIMARY EDUCATION

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Abstract: This article analyzes the theoretical foundations and practical importance of STEAM (Science, Technology, Engineering, Art, Mathematics) educational technology in primary education. The STEAM approach has been shown to develop children's creativity, critical thinking, collaboration and problem-solving skills through the integration of science, technology, engineering, art and mathematics. The article examines the advantages of implementing STEAM in elementary schools, the problems that arise, and ways to overcome them.

Key words: STEAM, primary education, innovative technology, integration, creativity, project-based teaching

Аннотация: В данной статье анализируются теоретические основы и практическое значение образовательной технологии STEAM (Science, Technology, Engineering, Art, Mathematics) в начальном образовании. Было доказано, что подход STEAM развивает у детей творческие способности, критическое мышление, навыки сотрудничества и решения проблем посредством интеграции науки, технологий, инженерии, искусства и математики. В статье рассматриваются преимущества внедрения STEAM в начальной школе, возникающие проблемы и пути их преодоления.

Ключевые слова: STEAM, начальное образование, инновационные технологии, интеграция, креативность, проектное обучение

In modern education, the development of an interdisciplinary approach and creativity is gaining importance. Especially in the context of the 21st century, students should not only acquire knowledge of science, but also be able to apply them to real-world problems of course. To this end, we can witness the widespread use of STEAM (Science, Technology, Engineering, Art, Mathematics) (which is next referred to as STEAM) educational technology in the primary educational stage.

Based on the STEAM approach, children integrate and learn science, technology, engineering, art, and mathematics to develop their critical thinking, creativity, problem-solving skills.

The Steam acronym consists of: Science (Science), Technology (Technology), Engineering (Engineering), Art (Art), Mathematics (Mathematics).

Initially, the concept of STEM appeared in the United States of America, but later the art (Art) element was added and the STEAM form was formed. When looking at the history of STEAM

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educational technology, it is natural to be interested in who is its founder. Georgetta Yakman i.e. American teacher Georgetta Yakman is the founder of STEAM educational tenology. J.Yakman developed STEAM education technology at his design-oriented school in 2006 and began introducing it as an engineering and tenology teacher in 2007.

The STEAM approach combines interdisciplinary integration, project-based teaching, creative activities, hands-on experiences, and problem-solving-oriented techniques.

The importance of steam in primary education is that it is a period when the thinking, interest and worldview of Primary School students develop rapidly. Therefore, applying STEAM elements exactly at this stage gives the following several advantages:

1. Increases students ' interest in reading, encouraging them to take an active part.

2. Forms 21st century skills such as critical thinking, creativity, collaboration, communication.

3. It makes it possible to associate science and mathematics with life examples.

4. Develops students ' penchant for research and discovery from an early age.

5. Encourages teachers to work on new methods, improving their professional skills.

In mathematics, geometric shapes can be learned not only through calculations, but also by making a layout by harmonizing with elements of art. Or if in a natural science lesson a task is given to solve the problem of “water purification” through small experiments, children will not only receive theoretical knowledge, but also have practical skills.

STEAM helps children develop the following important characteristics and skills: comprehensive understanding of problems, creative perception, engineering approach, critical thinking, understanding and application of scientific methods, understanding the basics of design.

This approach will help solve life problems in children in the future. Today, STEAM education is developing as one of the main trends in the world, and practice is based on the integration of five areas into a single training scheme when applying the approach. The conditions of such an education are its continuity and the development of children's ability to interact in groups, in which they can gather thoughts and exchange thoughts.

The main educational program includes: modules for the development of logical thinking, such as lego-technologies, children's research. Thanks to the STEAM approach, children understand nature, regularly study the world and thus learn their interests, engineering thinking, the ability to get out of critical situations, the basics of developing teamwork skills and leadership, self-expression, in turn, provide a fundamentally new level of Child Development.

The task of developing interests in technical sciences, STEAM education in primary and primary school age is to create the initial conditions for the development of interest. For children in natural sciences and Technical Sciences, a good view of what they do is the basis for the development of interest.

STEAM is very fun and dynamic for children and can prevent children from getting bored. They do not notice that time is passing, but they are not tired either.

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In conclusion, it is worth saying that STEAM educational technology plays an important role in the process of primary education in the education of students who are in accordance with modern requirements. It can serve not only to integrate knowledge, but also to form creativity, critical thinking and problem-solving skills in students. For the successful introduction of steam, it is necessary to improve the skills of teachers, provide resources and gradually integrate classes.

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