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The Content Of Using Steam Technology In Teaching English To Primary Class Students

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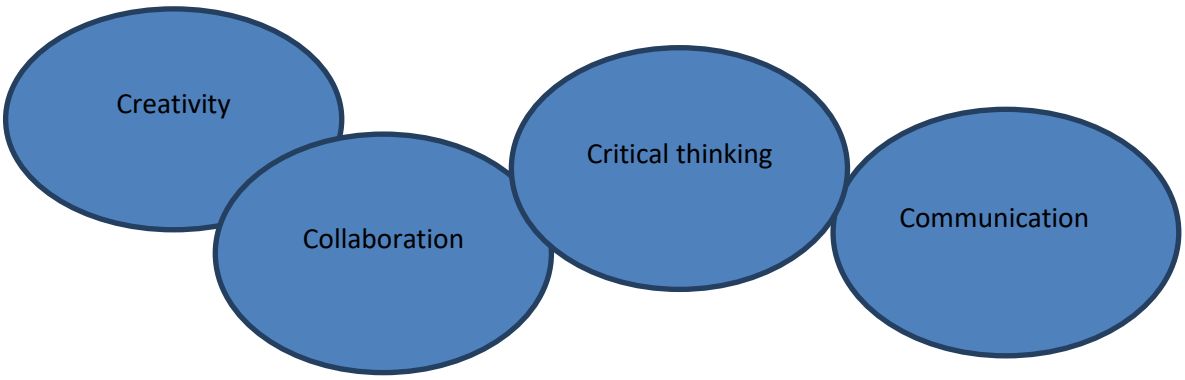
Annotation. This article presents facts and opinions about STEAM technology, when and in which countries it was first used as an approach, and today it is used in the education system of the whole world, and about the effectiveness of teaching in the integrated state of several subjects. It has been revealed how relevant it is to learn the terms of integrated subjects in English at the same time that elementary school students learn the STEAM approach. The introduction of STEAM education based on international experiences changes the approach to the education system and the attitude to education today. By focusing on practical skills, future teachers will develop their knowledge of scientific research, creativity, and collaborative competencies. In today's era of development in all areas, the reduction of educational and professional subjects without the concept of STEAM (Science, Technology, Engineering, Arts, Mathematics) and a new approach to the training of specialists cannot be realized without clear technological, engineering science and mathematics.

Keywords: Science, engineering, technology, mathematics, art, collaboration, critical thinking.

Today, in the era of globalization, education around the world is developing rapidly, like other fields. Today, education aims to educate the young generation who can independently solve various problems and make decisions. Also, in the educational system, it is an urgent task to raise the activity of students and increase their creativity, meaningfully carry out extracurricular tasks. Today, it is very difficult to imagine education without English. The teacher faces a number of difficulties in teaching English to the young generation, especially elementary school students who have just started their education. Because a child who has never heard or spoken a language other than his mother tongue seems to have fallen into a new world. That's why today linguists are coming up with a number of new methods so that elementary school students don't get bored when they encounter difficulties while learning a new language. The role of STEAM technology in teaching English to elementary school students is gaining great importance. The essence of using STEAM technology in teaching English to elementary students is to create a fun and interactive learning environment that encourages creativity, critical thinking, and collaboration by integrating science, technology, engineering, art, and mathematics to enhance students' hands-on language acquisition.

In the 21st century education, it is necessary for students to develop 4 most important abilities. These four abilities form the basis of STEAM technology and form the student's ability to learn. They consist of:



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The above abilities are one of the most important tasks of today's student, in which creativity takes the main place. The word creativity is derived from the Latin language, and "Creato" means creative thinking, creativity. Creativity is one of the categories that develop the student's free thinking. Creativity is not a student's versatility, but rather his ability to search for new ideas, create innovations and freely change them, and make unexpected decisions when finding solutions to life's problems. The role of innovation in creativity is incomparable, because it is important for the student to be constantly aware of new information and to be able to use innovative news throughout his life in order to develop his creativity.

It is very important for today's student to have the ability to work cooperatively. In cooperation, the teacher teaches students to work in groups. In this case, a small group, a large group, or a whole class is taught by a single teacher, and two students work equally among themselves. The purpose of this is to form the skills of students to exchange ideas in cooperation, conversation, analysis, debate, and discussion.Critical thinking includes such processes as students' observation of a problem, experimenting with it, thinking, active participation in the process, analyzing and evaluating it.Communicative ability mainly refers to the exchange of thoughts, information, ideas, and feelings between people. The essence of communicative ability is the establishment of relationships between students. THESE four skills are closely related and lie at the heart of STEAM technology.

Advantages of using STEAM technology in teaching English to elementary school students:

1. Multi-sensory learning:

STEAM includes a variety of tools such as visual guides, audio recordings, animations and physical activities to cater for different learning styles and make language acquisition more fun.

2. Project-based learning:

Students are actively involved in creating projects that require the application of English language skills in real-world scenarios, such as designing digital stories, creating interactive presentations, or creating short films.

3. Inquiry-based learning:

STEAM encourages students to ask questions, explore different approaches and solve problems, and promotes critical thinking and language development.

4. Cooperation:

Working on STEAM projects often requires teamwork, allowing students to communicate collaboratively, brainstorm ideas, and build vocabulary.

5. Digital Literacy:

Integrating technologies such as coding, animation programs or online platforms to help students develop digital literacy skills while practicing English.

6. Motivation and activity:

STEAM activities are very interesting and stimulate interest and excitement in learning English.

7. Creating art-based vocabulary:

Create digital artwork to represent new vocabulary words, then present and explain the artwork to the class.

8. Coding the story:

Using simple coding platforms to create interactive stories with characters and dialogue.

9. Virtual tours:

Teaching virtual environments related to English-speaking cultures using interactive tools to practice language skills.

We looked at the importance of STEAM technology and how important it is to teach English to elementary school students. It is also very important to know what STEAM technology is and its creation and development evaluation.

We know that major reforms are being carried out in education, like all other sectors, in our Republic. For example, the good sides of the current education are preserved, and innovations are introduced to it based on world experience. Among them, such things as transition to 11-year education and maintaining it as education. Decree No. PF-5538 of the President of the Republic of

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Uzbekistan "On additional measures to improve the management system of public education" was adopted on September 5, 2018 in order to advance the education sector to greater heights. It defines as the main directions of reforming the public education system: the introduction of advanced foreign experience into the public education system, the introduction of modern pedagogical technologies into the educational process, including innovative methods of teaching, the creation of a new generation of educational and teaching-methodical literature, and the implementation of fundamental and applied scientific research.In order to ensure the implementation of this Decree, in Section II, Clause 11 of the "Program of Measures to Further Improve the Public Education System of the Republic of Uzbekistan in 2018-2021" approved by the Decision No. PP-3931 of the President of the Republic of Uzbekistan dated September 5, 2018 "On Measures to Introduce New Principles of Management into the Public Education System": improvement of new state educational standards and curricula, and at the same time the gradual introduction of STEAM (science, technology, engineering and mathematics, art) methods into practice.

In the performance of the above tasks, the participants of education - pedagogues, methodologists, students, parents should know information about STEAM method and international studies conducted in the direction of educational quality, and have knowledge and skills to use them in life.

In the field of education, "What should be taught?", "How should be taught?" and "Who Teaches?" questions such as "What should be taught?" we have to answer the question. The fact that this question has not been answered for a long time, the lack of integration of subjects in education, and the lack of many measures have brought this problem to an urgent process. It is considered important to have a connection between the types of education, and there should be cooperation between subjects, classes, and courses.

Wide use of the achievements of science and innovation activities in the world education system, consistent and stable development of all spheres of society and state life is an important factor in building a worthy future of the country. Training of competitive personnel with high professional competence, innovations in education, wide introduction of modern, interactive and creative methods of teaching play an important role in the development of students' abilities to carry out scientific research based on indicators such as motivational, cognitive, operational, reflexive and self-assessment.

The results and efficiency of the reforms in the education system in our republic are also reflected in global rankings. In 2020, the Republic of Uzbekistan participated for the first time in the ranking of the Human Capital Index, which includes 174 countries where 98 percent of the world's population lives. In this rating, the index value of the rating of the countries was estimated from 0 to 1, and the Republic of Uzbekistan showed a result of 0.62. The level of health and education is one of the main factors in the assessment of human capital

In the Decree of the President of the Republic of Uzbekistan dated April 29, 2019 "On approval of the Concept of the Development of the Public Education System of the Republic of Uzbekistan until 2030" No. PF-5712 "General education programs that meet the requirements of the modern innovative economy and new state education, taking into account special emphasis on the development of competencies and skills of STEAM sciences and critical thinking, independent search and analysis of information" The introduction of "standards" was highlighted. This puts the task of introducing STEAM education into the content of future teacher training in pedagogical higher education institutions.

All directions in education are developing step by step in a modern way in line with the innovative process. All kinds of ideas, technologies, and trends are being developed to make the lessons interesting. It can be said that one of the most successful and effectively developed pedagogical theories and trends in the world today, which can be easily applied in practice, is STEAM technology. STEAM education is based on the integration of five subjects into a single educational system.

Initially, the term "STEM" (science, technology, engineering and mathematics) was proposed in the United States in 1990 by the bacteriologist R. Colwell, and in 2001 it was actively

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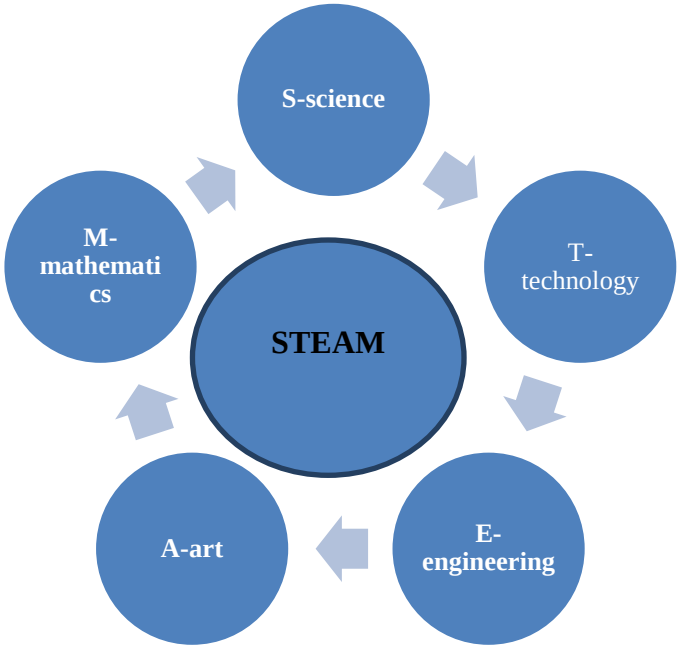
used by the American biologist D. Ramaley (J. Ramaley). After that, several forms of STEM education began to emerge. In 2012, the National Research Council of the United States proposed STEAM (Science, Technology, Engineering, Arts, and Mathematics) as a new form of K-12 science education to promote curricular integration.

The term STEAM was one of the first to be included in the educational program in the United States of America, to develop children's scientific and technical talents at school. Gradually, attention to this trend increased and other disciplines began to be integrated. For example, at first the term STEM was added to the sentence "R"-robotics-robototechnika and STREM was formed, and later the term STEAM was formed by adding "A"-art.

The main goal of applying the letter A in the term STEAM is to make the educational process interesting, fun and artistic, to help prevent wrong ideas, and to create a creative process. The acronym STEAM was first used at the School of Design in Rhode Island (USA) to show the main role of art in design and natural sciences.

This technology is based on collaboration between learners. A proposal issued by the US National Research Council states that the need for STEAM educational technology is critical to solving the technological challenges of a post-industrial society with a strong foundation based on scientific skills. The concept of STEAM was used in the USA at the end of the 20th century by high-tech companies of the country in order to achieve high results in some fields of science and train qualified specialists. In 2015, the president of the country, Barack Obama, developed a separate government decision on the financing of schools in this direction. Today, a special "STEAM" award was announced for teachers to introduce this education in America.



S-natural sciences (natural sciences) is a set of sciences about animate and inanimate nature, phenomena and laws related to the external world of the entire humanity, which reflects accurate knowledge about everything that really exists in society. Expanding and deepening the relations of natural sciences with society and production implies increasing attention to the human factor in solving modern problems of society.

T-Technology - creation of something new in the natural environment or changing the existing situation by a person to satisfy his needs and desires in life. We know that in all historical periods, people have created new technologies to satisfy their needs and desires. Most of the

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modern technologies created are the product of the natural sciences and engineering fields, and technological tools are actively used in both major fields.

E-engineering is a set of knowledge about the process of designing objects, processes and systems used to meet human needs, designing mutual parts and bringing them into a whole. Engineering uses natural sciences and mathematical knowledge, technological tools and art as the basis of design activities.

A-Art is a person's interpretation of the surrounding world on the basis of music and visual arts, assimilation, development of existing creative abilities. In the above picture, A-Art is taken as a field that was later included in STEAM education, and the implementation of this educational technology is reflected in the areas of each subject and their areas of activity.

M-Mathematics-mathematics is the science of spatial forms and quantitative relations of existence. It is the use of knowledge related to natural sciences, engineering, technology and art in the study of students' mathematical imagination, operations and their properties, quantitative and qualitative changes, calculations and geometric shapes.

At the heart of the modern trend of STEAM lies knowledge and the ability to apply it in practice. During the lesson, the student learns theoretical and practical knowledge and skills and uses them again in the process of practice, in which the student performs various games, constructs, and uses technical and creative elements.

Advantages of STEAM education:

STEAM increases the interest of students from 7 to 14 years old in the activities they are constantly participating in at school. For example: if a child goes to a regular math class, he will definitely get bored at some point, and using the STEAM trend will be more interesting, because there is not only theory, but also practice, and there is an opportunity to do what he has studied and learned. Children do not always learn the terms they hear quickly, and they may get bored because they are difficult and unheard, but in STEAM circles, it will be more interesting when they try to make it and put it into practice. If we consider the science of physics, formulas are often explained on the board, the law of gravity is taught, and in the STEAM trend, airplanes, helicopters, and rockets are made and launched, and the experiments are demonstrated in practice as a game by landing them on the ground, and this seems much more enjoyable to the child.

The most famous example of STEAM education is the Massachusetts Institute of Technology (MIT), and the content of education is also reflected in the corporate image of the institute. The fact that the motto of this higher education institution is "Mens et Manus" (Mind and Hand) also proves the breadth of opportunities of STEAM education. Massachusetts Institute of Technology has developed STEAM courses to provide the learner with an opportunity to learn and familiarize themselves with the concept of STEAM. He created STEAM training centers in some educational institutions. At the international conference "STEAM forward" held in Jerusalem in 2014, it was emphasized that STEAM education should start from preschool educational institutions. From this it can be concluded that the importance of STEAM education is important.

High-tech production puts new demands on education and the labor market. Brad Smith, vice president of Microsoft Corporation, addressed in 2012, "There is a shortage of qualified personnel for high-tech companies, and this can lead to a real crisis of professionals." In the last report of the Royal Academy of Engineering Education and Skills, it was noted that the insufficient quality level of engineering specialists is related to the satisfactory teaching of physics and mathematics in education. Also, teaching of STEAM education subjects with low motivation and, as a result, less selection of engineering education areas compared to other areas, was shown as a problem.

As mentioned above, STEAM education is developing in harmony with the qualification requirements of the modern labor market. Modern technologies serve as the foundation of the innovative economy and impose new requirements on all specialists. The requirements imposed by the manufacturer can be divided into three parts: the requirement of a new type of engineering thinking and inventive potential of the specialist, the requirement of a unit of competences in the

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management and development of technologies; the need for qualified specialists to have practical skills in complex technological facilities.

In conclusion, it should be said that the STEAM education aligns the student's views directly with the outside world. We know that natural sciences are inextricably linked with the world around us. Technology is constantly used throughout the day, and engineering is manifested in constructions. Mathematics is found in every step we take.

In many countries of the world today, STEAM technology has entered and is developing, for example, more than 10 European countries are using this trend in education. For example, Austria, Ireland, Germany, France, Italy, Netherlands, Norway, Great Britain and many other countries. It can be seen that the STEAM approach has gained its place in today's education.

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