



## Importance and Advantages of Steam Technologies Today

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**Abstract:** This article contains comments on the activity of development centers in MTTs, the possibilities and achievements of STEAM technologies today, their advantages in the educational system, and students, free and independent researchers, and pedagogues can use this article

**Keywords:** STEAM technologies, quality of education, ability, foreign education, integration, science, technology, engineering, art, mathematics, developmental center, integration.

### INTRODUCTION

STEAM is considered to be one of the most important innovative methods of the world education system today, with the help of this method, subjects are taught not in separate branches, but in an integrated way. It is impossible to imagine our world without technology. Technological development will continue and STEAM skills will be the basis of this development. STEAM inspires children. Children conduct research as inventors and scientists, know the possibilities of technologies, create as engineers, think like mathematicians and take into account the effectiveness of the President's initiative, and of course children play with fun. With the popularity of STEAM subjects, STEAM subjects are being sold as textbooks in presidential schools.

STEAM develops children's intellectual abilities with the opportunity to engage in scientific and technological creativity. It is based on a curriculum aimed at developing children's interest in specific natural sciences. Technology, E-Engineering, A-Art, M-Mathematics.

We know very well that preschool educational organizations are organized in centers that develop children's activities. These centers are as follows:

- Language and speech;
- Science and nature;
- Art;
- Construction and construction;
- Story-role games and staging;

Developmental centers serve to effectively organize the content of children's activities. Developmental centers reflect areas that integrate STEAM. For example, the center of science and nature - with S-Science (Science), the center of art and role-playing games and staging - with A-Art (Art), the center of construction, construction and mathematics - Compatible with E-Engineering and M-Mathematics.

There are 10 advantages of STEAM education.

- To carry out education in an integrated way, not according to academic subjects, but according to "subjects". In STEAM education, the interdisciplinary communication and design method is combined, based on which natural sciences are combined with technology, engineering with creativity and integration into mathematics lies. In this, preparation for professions related to engineering is carried out.

- Application of scientific and technical knowledge in real life. In STEAM education, the use of scientific and technical knowledge in real life is shown to children with the help of practical exercises. In each lesson, students design, build, and develop models of modern industry.
- Develop critical thinking skills and problem solving. The STEAM program develops the critical thinking and problem-solving skills that children need to overcome the challenges they face in their daily lives. For example, children assemble a model of a fast moving car, and then test it. After the first test, if the expected result is not achieved, they think about the reasons and find it. Maybe the size of the wheels or the aerodynamics were not right. After each test, they eliminate the shortcomings.
- Increased self-confidence. Children get closer to their goal every time they build a bridge, start a car and an airplane model. After each test, they improve the model. In the end, they overcome all problems with their own strength and achieve their goal. This means encouragement, victory and joy for children. After each victory, they become more confident in their abilities.
- Active communication and team work. STEAM program is distinguished by active communication and team work. During the dialogue, a free environment is created to express one's opinion and conduct a debate. They learn to speak and give presentations. Children are always in communication with the teacher and classmates. If children actively participate in the process, they will remember the lesson well.
- Development of interest in technical sciences. The task of STEAM education in primary education is to develop students' interest in natural and technical sciences. Loving what you do is the basis for developing your interests. Since STEAM classes are very dynamic and interesting, children don't get bored during the class and don't notice how time has passed.
- Creative and innovative approach to projects. STEAM-education consists of six stages: question (task), discussion, design, construction, testing and development. These steps are the basis of a systematic design approach.
- A bridge between education and career According to various assessments, 9 out of 10 specialists who are in demand today require STEAM knowledge. Such professions include: engineer-chemist; petroleum engineers; computer systems analysts; engineer-mechanics; engineer-builders; roboticists; including nuclear medicine.
- Preparing children for a technologically innovative life. STEAM education prepares children to live in a technologically advanced world. Over the next 60 years, technology developed rapidly.
- STEAM is used as an addition to school programs. It is appropriate to organize STEAM classes, give directions to students, and organize seminars, because for the development of our country, it is important to abandon the old traditional methods and organize lessons using international methods in order to further increase the quality of education. In order to progress in education, we must first use programs that can meet the requirements of today's international standards, textbooks with modern design and content. Instead, it is appropriate to use direct integration in teaching students the topics given in these textbooks.

Involvement of children in STEAM, this education should start from preschool age, therefore, it is necessary to include programs in kindergarten. Through the STEAM education system, creativity, curiosity, curiosity and the most important feature - the ability to solve problems are formed in the child. . "STEAM thinking" starts in childhood.

In conclusion, it can be said that STEAM is a method of teaching natural sciences, technologies, engineering, art and mathematics in harmony. Unlike education, STEAM technology ensures that knowledge is not isolated, but mutually proportional. Children develop the skills of non-standard thinking, finding multiple solutions to problems, and creativity, which will be very useful in their future work. This shows that STEAM technologies have a great place for the young generation today. It is recommended to use STEAM technologies in educational processes, taking into account the popularity of STEAM technologies today, their effectiveness and advantages in education.

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