

IMPORTANCE OF USING THE EDUCATION OF STEAM IN ELEMENTARY SCHOOL IN TECHNOLOGY CLASSES

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Abstract. *This article discusses effective ways and benefits of using STEAM education in the organization of elementary school technology classes.*

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Today reforms and changes in the education system carried out in our republic have an impact on every level of education. The President of the Republic of Uzbekistan Sh.M.Mirziyoyev said that "...if the method of teaching in the school does not change, neither the quality of education, nor the content, nor the environment will change¹". President has decided to radically reform and improve the quality of education in every field of education. Many pedagogues are faced

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with tasks. Based on this, the use of STEAM education in primary education, which is considered the initial link of the education system, helps in the implementation of these tasks.

The use of STEAM education in the organization of technology lessons in primary education is very important to increase the effectiveness of the educational process. In technology lessons, we need to work not only with our brains, but also with our hands. Based on the STEAM approach, pupils apply theoretical knowledge in practice to successfully learn various subjects, solve problems based on thinking, and quickly apply thought ideas in practice, not just mastering based on taught knowledge. requires mastering the knowledge of the changing world.

When pupils grow up and face life's problems, they understand that such complex issues can be solved only by relying on knowledge from different fields. In this process, they realize that it is not enough to have knowledge on one subject or one subject.

STEAM education is an active method of teaching that helps pupils improve their thinking, decision-making, and creativity. Pupils will acquire skills and abilities such as comprehensive acquisition, application, and application of knowledge in the STEAM educational environment.

Today, the STEAM approach is changing the way we view education and training. During the learning process, students develop their will, creativity, flexibility and learn to work in cooperation with others. The knowledge, skills and competences acquired in the learning process are the main task of education, and they justify what the educational system strives for.

STEAM education was developed in America and formed on the basis of students' acquisition of knowledge by combining science, technology, engineering and mathematics, art. The knowledge acquired by students in these subjects will help them become highly qualified specialists in the future.

In the future, together with natural sciences, we will develop professions related to technology and high-tech production. This will be a great demand, especially for specialists in bio

and nanotechnology. Specialists will need extensive training and experience from various fields of technology, natural sciences and engineering.

There are 10 advantages of STEAM education in technology classes.

1. To carry out education in an integrated manner according to "topics". STEAM-education combines interdisciplinary communication and the design method, which is based on the integration of natural sciences with technology, engineering creativity and mathematics. It provides training for engineering-related professions.

2. Using scientific and technical knowledge to apply it in life. STEAM - on the basis of education, children use the scientific and technical knowledge acquired in technology lessons in life. In each lesson, students build and refine various modern models.

3. 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 speeding car and then test drive it. After the first test, they think about and find the reasons why the expected result is not achieved. Maybe the size of the wheels or the aerodynamics were not right. After each test, they eliminate the shortcomings.

4. Increased sense of self-confidence. In technology lessons, pupils set a new goal while building a model, operating a model car and airplane, and work to achieve the goal. After the result of each work, it improves various aspects of the model. In making models, he learns to overcome all problems with his mind and knowledge and achieve his goal. This inspires the pupil and causes him to set new goals. After each completed task, pupils become more confident in their abilities.

5. Active communication and working in groups. Based on the STEAM program, pupils are required to learn to work in small groups to engage in active communication in technology lessons. Pupils work in small groups to express their opinion on the topic and conduct a discussion to complete the tasks. Pupils learn to think, speak and present freely in this process. Pupils always freely communicate with the teacher and classmates on the subject. If pupils actively participate in the training process, they will remember the task well.

6. To develop their interest in technical sciences. The task of STEAM-education in elementary school technology classes is to develop pupils' interest in natural and technical sciences. Doing practical tasks with love serves as a basis for developing interests. STEAM - if the classes are lively and interesting, controversial, controversial, the students will not get bored during the class and will not notice how time has passed.

7. Creative and innovative approach to projects. STEAM education in technology lessons consists of six stages: question (task), discussion, design, construction, testing and development. These steps are the basis of the systematic design and organization STEAM approach.

8. Bridge between education and career. Currently, according to various analyzes, 9 out of 10 specialized professions chosen by people require STEAM knowledge. Such professions include:

- Engineer
- chemist; petroleum engineers;
- computer systems analysts;
- engineer-mechanics;
- an engineer

- builders;
- robot technicians; including nuclear medicine.

9. Preparing children for a technologically innovative life. STEAM education prepares pupils to live in a technologically advanced world. Over the next 60 years, technology developed rapidly.

10. STEAM is used as an additional subject in school programs. In elementary grades, classes conducted on the basis of STEAM education increase pupils' interest in science. For example, when studying the gravitational force of the earth in the physics department of medical sciences, formulas are explained on the board, and in technology classes, they build rockets, airplanes, parachutes based on the STEAM approach, and use them to fly in practice. Pupils are not always quick to understand terms they have not seen or heard. For example, concepts such as the increase in pressure or volume with an increase in temperature are incomprehensible vocabulary for them. They will be able to easily understand these terms if they conduct interesting experiments during the training.

The use of STEAM education in the course of technology lessons develops the following abilities of pupils.

- Thinking about the idea, defining the topic and risking execution;
- Engaging in specific educational and practical activities;
- Patiently solving problems that arise;
- Working in cooperation with team members;
- Creating a creative environment during training.

STEAM in primary technology education is one of the important tasks of education, it forms students' interest in natural, technical and concrete sciences, and when doing every practical work, they love to do their work with interest, responsibility and skill, solve problems teaches to move towards the goal.

Along with the given topics and tasks in the science of technology, theoretical knowledge is also given, in which brief information on each topic, rules of use, and instructions for completing the topic are given. In particular, the topic "Making appliquéés from natural materials" is given in each class. When studying this topic, pupils perform practical tasks based on theoretical knowledge. That is, they will need to learn theoretical information such as collecting, storing and preparing natural materials for work, as well as practical application. Pupils make appliquéés from leaves from natural materials. In this process, they will learn practical application making, at the same time, they will be interested in the environmental problems encountered in the environment, they will study and try to come up with measures to eliminate these problems. Based on this topic, pupils can be taught to know, learn, think, find a solution to a problem, work independently, and approach with creativity.

The STEAM education approach teaches children to conduct experiments, build models, think independently, and promote ideas. For example: children assemble a model of a fast moving car, and then test it. If the expected result is not achieved after the first test, 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 their shortcomings. Increased self-confidence Children get closer to the goal each time they build bridges, operate model cars and airplanes. After each test, they improve the model. In the end, they overcome all problems with their own strength and achieve their goal. It

means encouragement, victory and joy for children. After each victory, they become more confident in their abilities.

STEAM education should be used wisely not only in technology classes, but also in extracurricular activities. In the organization of extracurricular activities, for example, if pupils are invited to hold a conversation with professionals, employees, and if they show practical activities along with theoretical knowledge of their profession, it will leave a good impression on the children. When choosing a profession in the future, they will choose their direction or profession correctly.

In conclusion, it should be noted that when comparing education organized on the basis of the STEAM approach with traditional teaching methods, it was found that the pupils of younger ages are encouraged to conduct experiments, create models independently, is motivated to turn their ideas into reality and create the final product. This educational approach allows children to effectively combine theory and practical skills.

STEAM education directly connects the child's development with the outside world.

In this STEAM-approach allows children to systematically study the world, to logically observe the processes happening around them, to understand their interrelation, to discover new, unusual and interesting things for themselves.

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