

# THE IMPORTANCE OF THE STEAM APPROACH IN TODAY'S EDUCATION SYSTEM

Pazilova Shokhida Abdulbasitovna

PhD, Associate Professor of the Academy of the  
Armed Forces of the Republic of Uzbekistan

## Abstract

This article discusses the importance of the STEAM approach today, its capabilities and achievements, and its advantages in the education system.

**Keywords:** STEAM approach, quality of education, capabilities, integration, science, technology, engineering, art, mathematics, integration.

## Introduction

STEAM is currently considered one of the most modern innovative methods of the world's education system, with the help of this method, subjects are taught not in separate sectors, but in an integrated manner, showing their general interdependence. As technological development continues, STEAM skills are considered the basis of this development. If we expand the abbreviation STEAM, we get the following: S-science, T-technology, E-engineering, A-art and M-math. If we translate these words from English, they mean natural sciences, technology, engineering, art and mathematics. These areas are becoming the most relevant in the modern world. The STEAM education direction and the use of a practical approach are based on the integration of these five areas into a single educational system.

STEAM is a logical result of the combination of theory and practice, developed in America. It is taken into account that the knowledge gained from natural sciences, technology, engineering, art and mathematics will help students become qualified specialists in the future. Therefore, students strive to get good knowledge and immediately apply it in practice.

The main idea of the STEAM approach is that practice is closely connected with theoretical knowledge. In a STEAM educational environment, students learn to use knowledge immediately after acquiring it. Therefore, when faced with life problems, they understand that these problems can be solved by relying on knowledge from different fields and working together.

In the STEAM approach, learners develop their abilities, creativity, flexibility, and learn to cooperate with others. These skills and knowledge are the main task of education.

Today's rapid changes, new inventions, new types of work, and the emergence of new professions lead to the emergence of new problems. The knowledge and skills that modern teachers teach must meet today's requirements. If the main goal of traditional education is to teach knowledge and use this knowledge to think and create, the STEAM approach teaches to combine the acquired knowledge with real skills.

STEM education should start in school. Learns. Good mastery of science (Science) helps the student to better understand the environment around him. Technology makes humanity adaptable to the digital world, which is the future. With Engineering, students develop problem-solving skills and can apply their knowledge to create new projects. Mathematics is needed to analyze data, correct errors, and find the right solutions. STEM brings these areas together and prepares professionals who can create innovations for society and find solutions to problems. STEM allows students to succeed in education, work, and in various professions. During the study of STEM subjects, the following skills are formed in the student:

1. Problem solving;
2. Creativity; critical thinking;
3. Teamwork;
4. Independent thinking;
5. Initiative;
6. Communication;
7. Digital literacy.

STEM prepares specialists who have mastered the interrelated fields of science, technology, engineering and mathematics, who can apply what they have learned in practice, who have computer skills, and who are able to work well in a team and take independent initiatives. In STEM professions, mastering each subject is important.

Technology is developing day by day. But even so, someone has to do the work that has not been done, such as creating new software, discovering the necessary materials for spacecraft, studying renewable energies, finding cures for diseases that have no cure yet. Good mastery of STEM subjects prepares specialists who can cope with such difficult professions. Since these specialists have modern knowledge, employers also offer them high salaries.

In the near future, the demand for engineers and high-tech production specialists will be very high in the world and in Uzbekistan. Along with natural sciences, we will have professions related to technology and high-tech production, especially bio- and nanotechnology specialists will be in great demand. Specialists will need extensive education and experience in various fields of technology, natural sciences and engineering.

One of the main tasks of the ongoing reforms in the system of the Armed Forces of the Republic of Uzbekistan is to provide professional military specialists and train them. For this, special attention should be paid to the level of professional training of military personnel. Today, it is advisable to develop the education system in higher military educational institutions in our Republic on the basis of unique principles. In order to achieve new aspects of military education or to increase its effectiveness, it is necessary to rebuild and provide a system of military education and training in state defense. For this, it is advisable to use theoretical and practical knowledge, scientific manuals and new teaching methods.

In modern armed conflicts, the requirements for the level of professional training of military specialists are increasing. Today's military specialist must be an intelligent, highly qualified officer, be able to make non-standard decisions in a complex situation, and skillfully lead a subordinate unit both in battle and during daily activities. To this end, it is necessary to

effectively use modern teaching methods in the educational system of higher military educational institutions.

## CONCLUSION

In conclusion, it can be said that STEAM is a method of teaching natural sciences, technology, engineering, art and mathematics in harmony. STEAM technology, unlike traditional education, provides for the acquisition of knowledge not separately, but in a balanced manner. Students develop non-standard thinking, finding multiple solutions to problems and creativity skills, which will be very useful in their future work. This shows that STEAM technologies have a great role in today's education system.

Compared with traditional teaching methods, the STEAM approach in high school encourages students to conduct experiments, build models, independently create music and films, translate their ideas into reality and create a final product. This educational approach allows students to effectively combine theory and practical skills and facilitates admission to university and further education.

Considering the current popularity and effectiveness of STEAM technologies, as well as their educational benefits, it is recommended to use STEAM technologies in educational processes.

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