Czech
Journal of Multidisciplinary Innovations
Volume 3, March, 2022.
ISSN (E): 2788-0389
Website: www.peerianjournal.com
Email: editor@peerianjournal.com

What Is Steam Education?

Koychiyeva Zarnigor Abdumannob qizi
Andijan State Pedagogical Institute,
Theory and methods of education (primary education) 1st year master

Annotation: This article provides insights into STEAM education, its specific features and functions. Recommendations for the introduction of STEAM education in secondary schools are given.

Keywords: STEAM, interactive methods, ICT, pedagogical technologies, local technologies.

Today STEAM (S - science, T - technology, E - engineering, A - art, M - mathematics, ie natural sciences, technology, engineering, art, mathematics) has become one of the main directions of world education . STEAM education is based on the principle of teaching students through an interdisciplinary and practical approach. In other words, instead of studying each of the five subjects separately, they will be integrated into a single curriculum.

According to the U.S. Department of Education, only 16 percent of high school students are interested in learning more math. About 28% of primary school students are interested in a particular subject in STEAM. Unfortunately, 57% of them lose interest after graduation. On a broader scale, the deterioration of teacher skills, student motivation, and the quality of education is becoming an increasingly global problem. In today's market economy, employers are willing to pay professionals for their work. But what if the student doesn't want to study them and the core subjects? Don't they also have a voluntary choice? From this point of view, STEAM education or YITI (scientific and technical creativity of young people) has a special priority in countries with high technology production. This has been recognized by the state as the most appropriate method for IT companies experiencing an urgent need for scientific and engineering personnel in the context of technological progress and rapid growth of the innovative economy, as well as a shortage of qualified personnel. In many countries, STEAM education is a priority for the following reasons: - In the near future, the world will have a significant shortage of IT specialists, programmers, engineers, high-tech manufacturers. "It's hard to imagine a long-term career in the

Czech
Journal of Multidisciplinary Innovations
Volume 3, March, 2022. ISSN (E): 2788-0389
Website: www.peerianjournal.com Email: editor@peerianjournal.com

natural sciences and high-tech manufacturing." There is a growing demand for specialists in bio and nanotechnology. - Prospective specialists are required to have a comprehensive knowledge in various fields of education in natural sciences, engineering and technology. Currently, STEAM education programs are being implemented in many countries, including Australia, China, the United Kingdom, Israel, South Korea, Singapore, and the United States. In Russia, in particular, the issue of attracting young people to engineering and robotics through the Center for Technical Education Support is being partially addressed. Reforms in Kazakhstan's secondary schools have been underway since 2015. This year, a pilot-exam initiative has been launched in Israel. After graduating from high school, the student conducts compulsory research. Students are assigned to work as university professors or PhDs. In addition, under a new national education program created this year, 70 percent of students will study traditionally, with 30 percent focusing on research. Even if the child is not a lawyer or an economist, he or she will follow the path of modern science, discovery, or professional development through programming. Unlike traditional science teaching and mathematics education, STEAM provides students with a mixed learning environment and shows them how the scientific method can be applied in everyday life. STEAM is one of the areas of implementation of project and research activities in school and out of school.

Everything is new - is it better to forget the old? In addition to physics and math, students learn robotics, programming, and designing their own robots, according to the STEAM curriculum. The training will use special technology laboratories and training equipment, such as 3D printers and visualization equipment. It should be noted that the form of STEAM education is based on the old traditional approaches to vocational training of children in the classroom, only the methods and means of teaching will change. In this way, the new format of knowledge helps to broaden students' horizons. In the course, students will have the opportunity to develop their natural desires and acquire research skills that will be useful in the study of any subject in the future. The following STEAM Forward international conference in Jerusalem in 2014 concluded: - Involvement of children in STEAM should begin at preschool age. - The language of science is English (Nobel laureates also speak this language). Most of the important scientific sources are in English. If you want to study science and become a scientist, you have to know this language. - We need a STEAM training program for girls. Because girls are more disciplined and more inclined to work with scientific knowledge, boys can create things they can’t do, but they need to be taught properly. "Although there are no borders in science, it is important to train qualified specialists who will improve the image of the country's scientific potential."

Czech
Journal of Multidisciplinary Innovations
Volume 3, March, 2022. ISSN (E): 2788-0389
Website: www.peerianjournal.com Email: editor@peerianjournal.com

STEAM education should be applied to patriotism and love of country. "Science should be a holiday that prepares people for independent living, it should be an interest in science, an attempt to cover it completely." Currently, investors and large businesses are showing interest in science and innovative projects, start-ups. For many positive changes to take place in the future, it is necessary to create STEAM-centers, integrate robotics into computer science, which includes the basics of programming in secondary schools, and develop existing experience based on the capabilities of teachers.

References

1. Decree of the President of the Republic of Uzbekistan dated April 29, 2019 No. PFRQ - 5712 "On approval of the Concept of development of the public education system of the Republic of Uzbekistan until 2030". (National Database of Legislation, April 29, 2019, No. 06/19/5712/3034)
2. Andreyeva, N.D. Methods of teaching biology in modern schools: textbook and practice for bachelors and masters / 2-e edition, ispr. and dop. - M.: Izdatelstvo Yurayt, 2017. - 294 p.
3. AA Ismailov, GO Togayeva and others. “Assessment of students' literacy in natural sciences in international research”, methodical manual, Tashkent, “Sharq” publishing house, 2019, p. 112.
4. AA Ismailov, H.J. Daminov and others. Handbook for Preparing Students for International Studies, No. 2, Tashkent, 2020, p. 128

E-learning resources

1. Website of the Ministry of Higher and Secondary Special Education of the Republic of Uzbekistan: www.edu.uz.
2. Website of the Ministry of Public Education of the Republic of Uzbekistan: www.uzedu.uz
3. Website of the Center for Development of Information and Communication Technologies in Public Education: www.multimediya.uz
4. Website of the Main Scientific and Methodological Center under the Ministry of Higher and Secondary Special Education of the Republic of Uzbekistan: www.bimm.uz
5. http://www.eduportal.uz, www.multimedia.uz - Center for Development of Multimedia General Education Programs under the Ministry of Public Education of the Republic of Uzbekistan.