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STUDY IN STEAM DIRECTION IN MODERN EDUCATION THE IMPORTANCE OF GETTING

Abstract. This article discusses the role and application of STEAM and the importance of STEAM technology for students based on the connection between logical thinking, science and life. It is to invite students to search and analyze through science, to study theoretical knowledge with practical skills and to learn the connection between different subjects, to learn to apply the knowledge gained in life activities. Today, opinions have been put forward about the priority of quality education, the increased prestige of teachers in our country, and the advantages of the conditions created for students.

Key word: STEM, practical skills, qualifications, educational standard, modern technologies, educational participants.

Абстрактный. В этой статье обсуждаются роль и применение STEAM, а также важность технологии STEAM для студентов, основанная на связи между логическим мышлением, наукой и жизнью. Он заключается в том, чтобы предложить студентам искать и анализировать посредством науки, изучать теоретические знания с практическими навыками и узнавать связь между различными предметами, учиться применять полученные знания в жизненной деятельности. Сегодня высказаны мнения о приоритете качественного образования, возросшем престиже учителей в нашей стране, преимуществах условий, созданных для студентов.

Ключевые слова: STEM, практические навыки, квалификации, образовательный стандарт, современные технологии, участники обучения.

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Abstract. This article discusses the role and the use of STEAM and the importance of STEAM technology for students based on the connection between logical thinking, science and life. It is to invite students to search and analyze through science, to study theoretical knowledge with practical skills and to learn the connection between different subjects, to learn to apply the knowledge gained in life activities. Today, opinions have been put forward about the priority of quality education, the increased prestige of teachers in our country, and the advantages of the conditions created for students.

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Relevance of the topic. The importance of the education system is becoming very important not only in our country, but also in the whole world. In developed countries, new technologies and programs of new directions for solving problems in education are being developed. The direction of STEAM in today's modern education is a clear proof of this. Approved by the decision 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" PQ-3931 "In 2018-2021 the Republic of Uzbekistan program of measures for the further improvement of the public education system" in section II, paragraph 11, improvement and development of new state educational standards and curricula of general secondary education, together with STEM (science, technology, engineering and mathematics) step-by-step implementation of education is defined. In order to fulfill these tasks, first of all, participants of education, teachers, students, parents, etc. should be aware of the information about the international research conducted in the field of STEM education and apply them in practice. they will need to be qualified.

The term STEM was initially included in the school program in the USA, to provide students with not only theoretical knowledge, but also practical skills, compensation (Lat. - to equalize, replace) in their scientific and technical fields. aimed at development, later this direction was expanded and additional letters were added to this term. Also, adding the "A" that makes us think - art, it was called STEAM.

The main part

STEAM education directly connects the student's development with the outside world. The science of technology is constantly used in our daily life, and engineering is a profession that has proven itself in structures, houses, roads and machinery, and our daily life is more or less connected with mathematical calculations¹.

In the system of the Ministry of Public Education of the Republic of Uzbekistan, in 2019, the position and prestige of teachers in the society, improving the infrastructure of schools, attracting students to clubs within the framework of 5 initiatives put forward by the President of the Republic of Uzbekistan and increasing education in schools a number of practical works have been carried out. On November 26, 2019, the President of the Republic of Uzbekistan Shavkat Mirziyoyev signed the decision "On measures to establish modern schools". Presidential schools were established, which serve as locomotives for improving the quality of education in all schools. Presidential schools first began to operate in the cities of Tashkent, Khiva, Nukus and Namangan. In presidential schools, the educational process is conducted according to the "STEAM education" program (Science - natural sciences, Technology - technologies, Engineering - technical creativity, Art - art, Mathematics - mathematics). This allows the development of thinking ability, will, creative potential, and flexibility of talented young people. Classes in this direction are conducted in English. At the moment, the Presidential School in all regional centers and the "Agency of Specialized Educational Institutions" on STEAM technology were established in the district centers of the republic, training manuals and textbooks are provided in educational institutions according to the STEAM methodology.

In order to educate the young generation in the spirit of love for the Motherland and loyalty to the country, special attention is paid to the in-depth study of the native language and literature, history and other subjects taught in the Uzbek language in Presidential schools.²

STEAM is an educational model that integrates natural and engineering sciences into a single, interdependent system. It envisages the study of subjects such as physics, mathematics, and biology within the framework of a specific curriculum, as well as their integration into a new system. That is, school subjects are taught from the point of view of interdependence. Scientists say that such a comprehensive study allows to consider and solve problems on a broader and global scale, rather than in parts, relying only on one area. This approach defines the main aspect and main principle of STEAM education - interdisciplinary integration. Applying knowledge in practice, that is, solving

¹ Mirziyoyev Sh.M. Critical analysis, strict order - discipline and personal responsibility - should be the daily rule of every leader's activity. - T.: "UZBEKISTAN", 2017.-102 p

² Mirziyoyev Sh.M. We will build our great future together with our brave and noble people.-T: "Uzbekistan", 2017.-488 p

practical problems, is another principle of this education. Creativity and innovation, critical thinking, design work are the main features of this education. Because the modern society needs specialists who think creatively, make innovative decisions, are flexible, have a broad outlook and management skills.

STEAM is used as a supplement to school programs. It increases the interest of students aged 7-14 in regular classes. Below, I would like to present methods of explanation based on the approach to STEAM in the 6th grade mother tongue textbook on the topic "Son word group".

1. First of all, this model focuses on developing the basic skills of students. In covering the above topic, 3 main skills are identified.
 - Asking questions and identifying problems;
 - Analysis and interpretation of information;
 - Making comments and designing solutions;
2. What students need to know is determined based on the plan;
 - Number of words;
 - spiritual groups of numbers;
- spelling of numbers;
3. What students need to understand is defined;
 - methods of performing given exercises;
 - to create knowledge, skills, and abilities based on the acquired knowledge;³

Taking into account that the main goal of teaching the mother tongue is the formation of oral and written communication skills in students, based on the STEAM approach, knowledge and skills are formed on the topic of "Number series" on the basis of the following tasks. In order to interest students, we will divide them into 3 small groups. We call them "WISE", "SCIENTISTS", "INTELLIGENT".

to the "WISE" group;

- A piece of wood and its construction;
- Chama number and its construction;

It is possible to enrich students' imagination and keep in mind by bringing digital stickers to represent the number of pieces from the "WISE" group and pictures of a group to indicate the type of things, pictures of people in the sense of person (person), pictures of roses (plants) gives When expressing even numbers, a task is given related to the additions that form even numbers.

To the group "Scientists";

- Cumulative number and its formation;
- Distribution number and its construction;

In the task given to the group of "SCIENTISTS", the students were given pencils in order to express summative numbers and division numbers, and they were divided into 2, 6, 7, and the changes were added to them to form summative numbers. Ask the students. raladi, this method further expands the range of logical thinking in students. In the task of dividing numbers, students are assigned the task of dividing the same pencils into one, two, three.

to the "Zukkolar" group;

- Fractional numbers and their spelling
- Count about words;

In the task given to the "ZUKKOLAR" group, students are required to think about interesting information in the fractional part. For example, questions such as: how much of the earth's surface is covered by water, how much of the territory of the Republic of Uzbekistan consists of plains, hills,

³ Tahirov O.O. Methodology of introducing the state educational standard and curriculum of technology subject into educational practice.// Methodological description.- T.: RTM,2017.-72

mountains and highlands, etc. In this, the student is asked not only knowledge of the mother tongue, but also knowledge of geography. Tasks related to counting words are given, and the student's knowledge is further strengthened.

Along with the knowledge of numbers, students are also required to have mathematical and geographical knowledge. In addition, in addition to the knowledge of numbers, the student develops spelling literacy skills and the ability to think logically.

In turn, a question arises, why do you need the STEAM course? Creative (eng. create) - creation, creativity (creative) means creator, creative concepts and gives meanings of the ability to produce new ideas and creativity. STEAM educational technology develops children's scientific and technical competences (Lat. Compito-achieving, worthy)

In developmental STEAM activities, students can easily understand these terms through fun hands-on experiences⁴. It is also relevant that the basic idea of the STEAM approach is that practice is as important as theoretical knowledge. That is, during learning, we need to work not only with our brain, but also with our hands. Learning in class is incompatible with a fast-paced world. The main difference between the STEAM approach and the traditional approach is that children use their minds and hands to successfully learn different subjects. They learn knowledge "on their own". Intelligence is the ability to organize knowledge in order to achieve the goal in the most effective way, that is, with the least expenditure of time and resources. The modern perspective on the mental development and content of schoolchildren is closely related to theoretical ideas about cognitive structures, through which a person draws conclusions about the environment.

The importance of studying STEAM in modern education allows students to systematically study the world, to logically observe the processes taking place around them, to understand their interrelation, to get new, unusual and interesting things for themselves. allows. It increases the reader's interest by waiting for something new. It leads to the understanding of an interesting problem and the development of an algorithm for finding its solution, a critical evaluation of its results, thinking, and the formation of an engineering method. Forms the skills of team work. All this makes it possible for the student's development to rise to a higher level and to choose the right profession in the future. In short, in STEAM, the formation of students' practical skills is important. For example, in biology, we don't talk about green and yellow peas in order to find out the dominance of genes, but in practice, by experimenting on them, or by crossing two living organisms, the students themselves can apply these in practice, teaching the lessons with visual aids. not in a decorated room, but by passing in the heart of nature, it strengthens its knowledge by forming the skill of instilling love for nature in the student.

Summary

In short, STEAM is one of the most important innovative methods of the world education system today. As you can see, the subjects included in the acronym STEAM (lat. abbrevio- I shorten) are necessary for life. It is no secret that in order to achieve great achievements in many branches of science, integration of knowledge in different fields is required. Such problems are solved by the STEAM course. In addition to learning sciences in connection with everyday life, it is important to be able to use knowledge practically and apply it in life activities. He sets a number of tasks before students and learns to reveal his creativity and abilities in solving these tasks. In such situations, the student comes up with different ideas and applies them in life. This is one of the main factors in the development of this methodology in the world education system.

⁴ Shomansurova G. The role of STEAM education. 2022. – 10 p.

REFERENCES USED:

1. Aripov I.Y. Development of interdisciplinarity and practical approach and interest in education of students in technology classes on an international scale based on STEAM requirements of the time.-T. 2021.
2. Mirziyoyev Sh.M. Critical analysis, strict order - discipline and personal responsibility - should be the daily rule of every leader's activity. - T: "UZBEKISTAN", 2017.-102 p
3. Mirziyoyev Sh.M. We will build our great future together with our brave and noble people.-T: "Uzbekistan", 2017.-488 p
4. Mahmudov N, Nurmonov A, Sobirov A, Nabiyeva D. Mother tongue . Textbook for the 6th grade of general secondary schools,-T.:2017-y
5. Tahirov O.O. Methodology of introducing the state educational standard and curriculum of technology subject into educational practice.// Methodological description.-T.: RTM,2017.-72
6. Shomansurova G. The role of STEAM education. 2022. – 10 p.
7. News of UzMU. Journal No. 2. 2022-y 222-224 p.
8. <https://link.springer.com/book/10.1007/978-3-030-04003-1>