TEACHING TECHNOLOGY IN GENERAL SECONDARY SCHOOLS ON THE "STEM" EDUCATIONAL APPROACH

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Annotation: The article discusses the importance of using the "STEM" approach in teaching "Technology" in secondary schools.

Keywords: STEM, approach, technology, profession, DTS, curriculum.

STEM education was approved according to "Program of measures to further improve the public education system of the Republic of Uzbekistan in 2018-2021" by the Resolution of the President of the Republic of Uzbekistan dated September 5, 2018 No PP-3931 "On measures to introduce new management principles in the public education system" Section 2, paragraph 11, provides for the improvement of the new state educational standards and curricula of general secondary education, and thus the gradual implementation of STEM (science, technology, engineering and mathematics) education.

In order to perform these tasks, participants - teachers, methodists, students and parents must know the information in this area and have the ability to apply them in practice. Today, there is a technological revolution, high-tech products, innovative technologies are becoming an integral part of our modern society. In modern schools, robot design, modeling, design work are leading the way.

One of the current problems is that more technical education is needed to increase the competitiveness of our country.

Today, STEM education provides an opportunity to train highly qualified professionals who will make a significant contribution to the development of society and the state.

The modern education system is a mixed environment that allows to show how the scientific and theoretical knowledge studied in practice can be applied in everyday life. In addition to learning the science of technology, students learn to research, build, brainstorm, innovate, and design.

The STEM approach develops students 'competencies in scientific and technical areas.

It is known that the science of technology is constantly applied in our daily lives, and engineering is a profession that is reflected in the mechanisms of houses, roads, bridges, cars, our daily lessons are more or less connected with mathematical calculations.

The above information is reflected in the "STS and curriculum in the field of technology of general secondary education", approved by the Cabinet of Ministers of the Republic of Uzbekistan dated April 6, 2017 No 187. In teaching the subject of technology in the primary grades "Alphabet of Economics", in the upper grades "Fundamentals of Healthy Generation", "Fundamentals of Life Safety" and "Economics Lessons" are integrated, the formation of basic competencies.

Advantages of STEM training.

Integrate education not on academic subjects, but on "topics".

STEM education combines the method of science communication and design, which is based on the integration of natural sciences into technology, engineering creativity and mathematics. This includes training for engineering-related professions.

Application of scientific and technical knowledge in real life.

Through hands-on activities in STEM education, children are shown the use of scientific and technical knowledge in real life. In each lesson, students develop, build, and refine modern design models.

They studied a specific project, resulting in a prototype of a real product. For example, students become familiar with concepts such as engineering profession, engineering design, electrical engineering, constructor, design, technological process, technological map in making a simple moving robot.

3.Develop critical thinking skills and problem solving.

The STEM program develops critical thinking and problem-solving skills that children need to overcome the challenges they face in their daily lives. For example, children assemble a fast-moving car model and then test it.

If the expected result is not achieved after the first test, think about and find out the reasons for it.

Perhaps the size of the wheels or the working mechanisms were not right. Existing deficiencies will be rectified after each test.

Increased self-confidence.

Students work to achieve their goals in launching a robotics, car and aircraft model, and other tasks.

After each test, the model is improved. In the end, they overcome all the problems on their own and achieve the goals they have in mind. It means inspiration, victory and joy for students. After each victory, they become more confident in their own strength.

Active communication and teamwork.

The STEM program is characterized by active communication and teamwork. During the dialogue, a free environment is created for them to express their opinions and discuss.

They learn to speak and make presentations. Students are in constant communication with the teacher and classmates. students will remember the lesson well if they are actively involved in each work process.

Develop an interest in technical sciences.

The task of STEM education in primary education is to develop students ’interest in the science of technology, and to do their job with love, serving as a basis for developing their interest. When STEM sessions are very dynamic and fun, students do not get bored during the sessions and use the lesson productively.

Creative and innovative approach to projects.

STEM training consists of six stages: question (task), discussion, design, construction, testing, and development. These steps are the basis of a systematic design approach.

The co-existence or shared use of different opportunities is in turn the basis of creativity and innovation. Thus, the joint study of science and technology

leads to the creation of many new innovative projects.

Abridge between education and career.

According to various estimates, 9 out of 10 professionals who are currently the most in demand will need exactly STEM knowledge. Such professions include: chemical engineer; oil engineers; computer systems analysts; mechanical engineers; civil engineers; robotics and others.

Preparing students for a technologically innovative life.

STEM education prepares children to live in a technologically advanced world. Over the next 60 years, technology has evolved rapidly. The discovery of the Internet (1960) from GPS technology (1978) to DNA scanning and of course the iPod (2001). All currently use Ipohone and other smartphones.

It is impossible to imagine the world today without technology. Technologies will continue to evolve and STEM skills will be the foundation of this development.

In addition to STEM school programs.

STEM programs increase the interest of students aged 7-14 in independent study. For example, in physics classes they are taught to write formulas on the board when studying gravity, while in STEM circles they strengthen their knowledge by doing rockets, planes, electrical work, robotics, folk crafts and other practical work.

To sum up, the STEM educational approach we offer allows students to explore the world in a systematic way, to observe the processes around them logically, to understand their interactions, to discover new, unusual and interesting things for themselves, to develop students' curiosity. , teamwork skills are formed. All this will help the student to reach a higher level of development and choose the right profession in the future.

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