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DEVELOPING STEAM COMPETENCIES IN OLDER PRESCHOOLERS

Andijan State pedagogical Institude
Teacher Mirzayev Otabek Khusanovich
Andijan State pedagogical Institude
student Siradjinova Zarnigor Alijon kizi

Annotation: This article focuses on STEAM - education, which is based on the design of innovative teaching within the modern preschool educational process.

Keywords: STEAM education, STEAM technologies, math development, Froebel's didactic system , robotics, Lego, animation studio.

STEM-education is a modular direction of education, the purpose of which is to develop children's intellectual abilities with the possibility of involving it in scientific and technical creativity.

STEAM includes: S - science "science" T - technology "technology" E - engineering "engineering" A - art "art" M -mathematics "mathematics". An umbrella term used to group these separate but closely related technical disciplines in the context of describing an institution's educational policy or curriculum. The term emerged in the United States in the early 2000s and was coined by scientists at the National Science Foundation of America.

STEAM education fosters critical thinking, increases scientific literacy, and empowers the next generation of innovators.

STEAM education is not just the study of biology, physics and mathematics within the curriculum, but the integration of these into a new "whole". The disciplines are taught in terms of their relationship to each other. This allows

problems to be viewed and solved in a more integrated and global way, rather than piecemeal, relying on only one area.

STEAM-technologies were originally developed to improve and revitalize the process of training professional researchers and engineers in higher education institutions. However, practice shows that a much greater effect can be achieved by introducing elements of interdisciplinary integrative approach starting from kindergarten. Preschoolers are more receptive to new information, their psyche is more malleable, plastic, so knowledge is assimilated faster, skills and abilities are formed without much resistance. Such a good baggage at the very beginning will be a significant advantage, an additional plus in the competence bank, a guarantee of high competitiveness of a specialist in the future.

The best time to lay the foundation for future knowledge, character, temperament, personality traits, unique abilities and talents is early childhood. Already at preschool age it is possible to form STEAM-competencies - to mold from plasticine and develop modeling skills, to make toys from salt dough and at the same time get acquainted with the length, width and height of objects or to build three-dimensional constructions from cardboard. It is good if such useful games at home are continued in preschools and then in school.

One of the peculiarities of STEAM-technology implementation in the educational process in preschools is the modular system.

There are six educational modules, each of which is aimed at solving a certain range of tasks. The use of these modules in a complex promotes the development of intellectual abilities and involves children in research activities, familiarizes them with scientific and technical creativity.

-Mathematical Development. Classes include games and hands-on activities aimed at understanding counting, geometric shapes, learning the relationship between numbers and solving simple math problems.

-Experiments with living and non-living nature. In this module they get

acquainted with various phenomena of nature, experiment with living organisms and non-living materials, which allows them to develop observation and scientific approach to the study of the world around them.

-Froebel's didactic system. In this module, they master the mathematical reality by carrying out actions with geometric bodies and figures, as well as learning to understand spatial relationships. An important part of the lessons is construction in different perspectives and projections, which develops their receptivity to creativity and logical thinking.

-Robotics. Children are introduced to the basics of robotics: they learn to create simple robots, program their movements and perform various tasks. This develops logical thinking, technical skill and the ability to solve problems using technology.

-LEGO construction. Children use LEGO constructors to create different models and structures. This develops creative skills, spatial thinking and the ability to work with different materials.

-Multistudio "I Create the World". Children are immersed in the process of creating cartoons, where they learn about the history of animation, study various animation techniques, develop plots, create characters, animate them and assemble the finished cartoon, developing artistic, creative and technical skills in an exciting atmosphere of creativity and experimentation.

The skills students develop with STEAM provide them with a foundation for success.

Thus, the introduction of STEAM education into learning activities will provide a good foundation for children's development. Accordingly, STEAM education is one of the most attractive innovations of the 21st century.

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