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STEAM EDUCATIONAL PROGRAMS IN IMPLEMENTATION OF INDEPENDENT EDUCATION OF STUDENTS IN THE MODULE CREDIT SYSTEM

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A B S T R A C T	***K E Y W O R D S***
This article discusses the structure of STEAM education programs and their application in various fields in the implementation of independent education of students in the Modul credit system.	STEAM education, STEAM subjects, general subjects, specialist subjects, technology, engineering, creativity, programs, integration, independent study.

It is known that increasing the independent education of students in the module credit system means improving the implementation of independent education and looking for effective ways to do it. This, in turn, shows the possibility of organizing effective education by using different methods in independent education. The following will be achieved: development of short project science syllabuses for independent education based on the integration of STEAM subjects, focusing on the unity of theory and practice, starting work on the practical application of theoretical knowledge gained in independent learning processes, organizing various clubs, workshops and courses after school, as a result of which educational to create a mutually integrated education of scientific sciences, technology, engineering, creativity and mathematics in the program, to combine the experiences of these subjects as a system that combines science and practice with the participation of experienced engineers and experienced professors, to improve independent education[3].

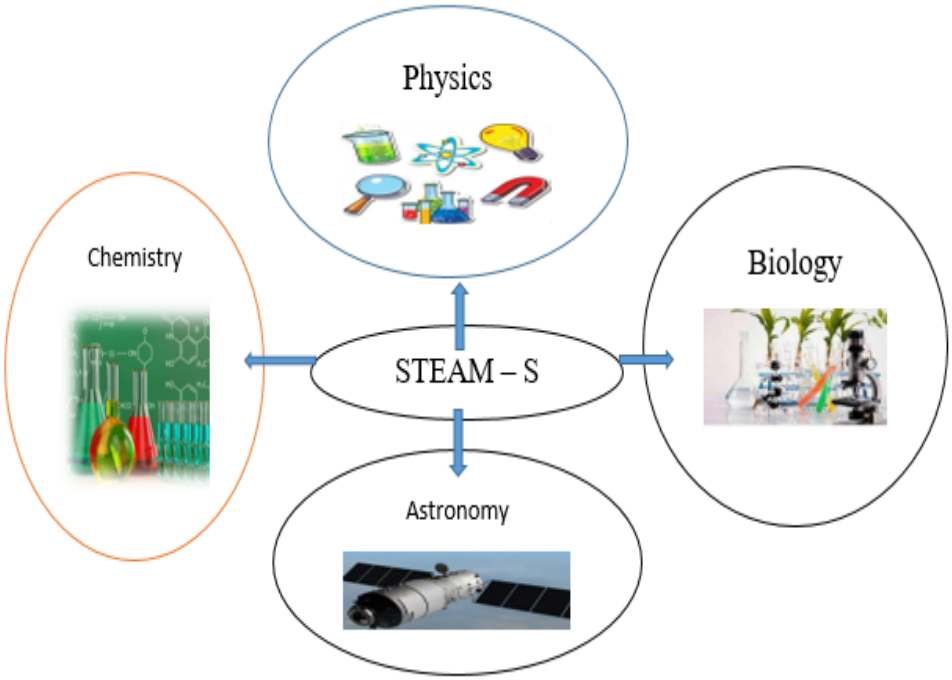
In implementing these mentioned points, we believe that the following should be implemented:

- creation of integration of modern new education and traditional education;
- a didactic approach to the content of the subject, which is suitable for the STEAM subject block;
-STEAM is a complex approach that implies the implementation of the principles of interdependence, continuity and coherence between sciences, general professional sciences and specialized sciences;
- analysis of general professional knowledge, etc.

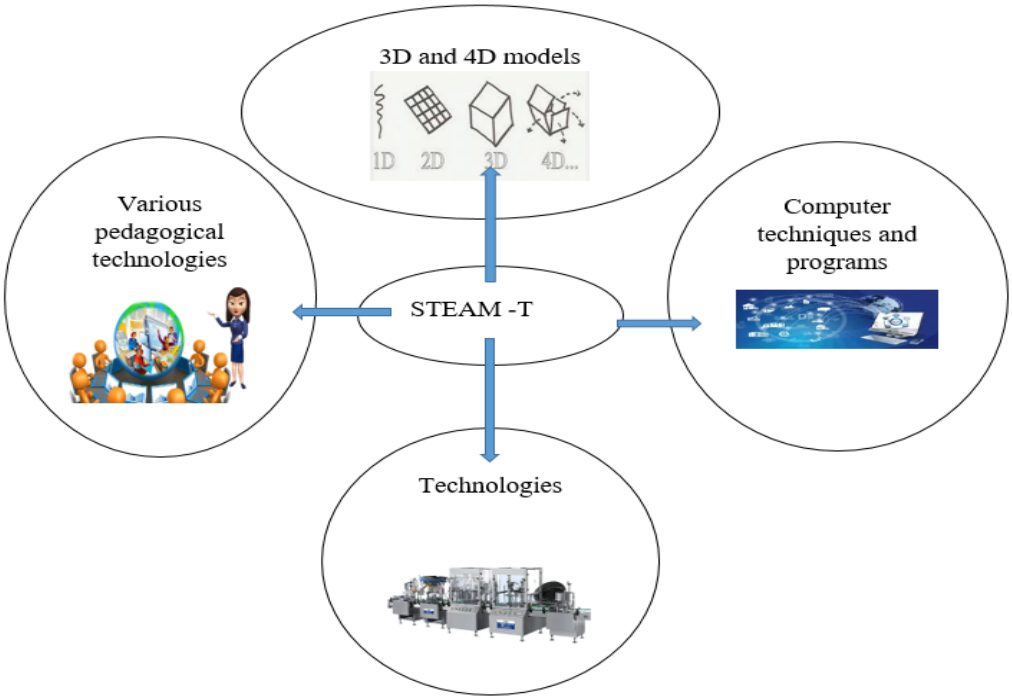
In the development of STEAM education, the training of trained personnel according to their field is the most important requirement of STEAM. For example, we can cite the following:

- STEAM – S natural sciences;
- STEAM – in the field of T technologies;
- STEAM – E in the field of engineering;
- STEAM – A in the field of art or creativity;

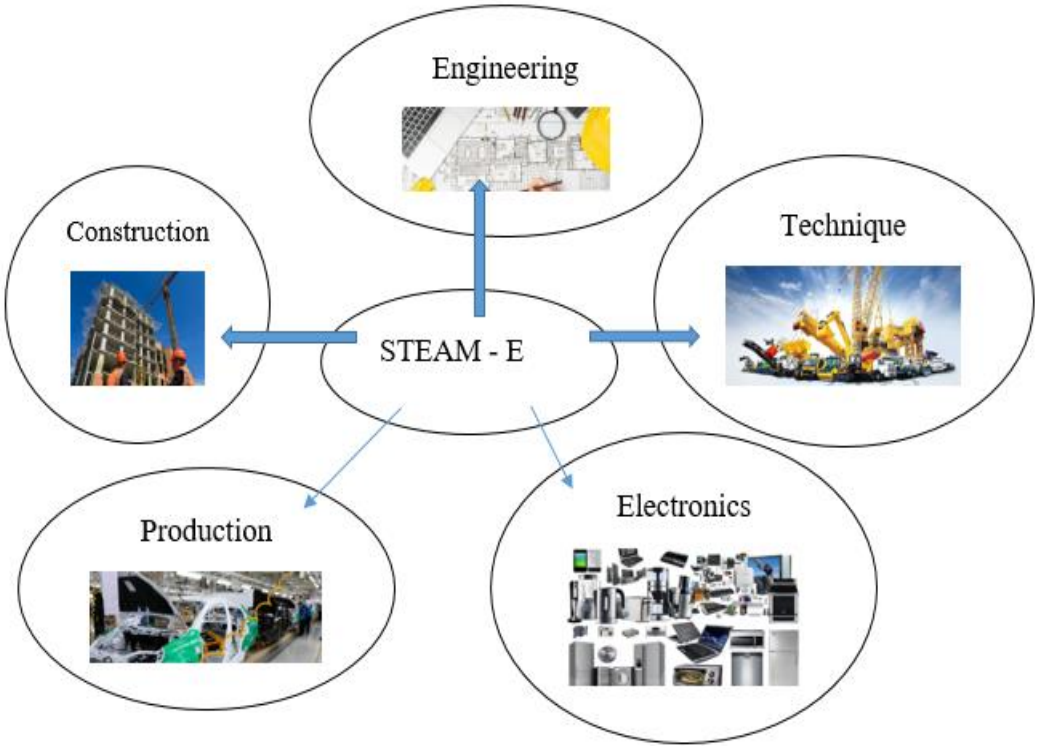
- STEAM – M field of mathematics;
- STEAM – R field of robotics.



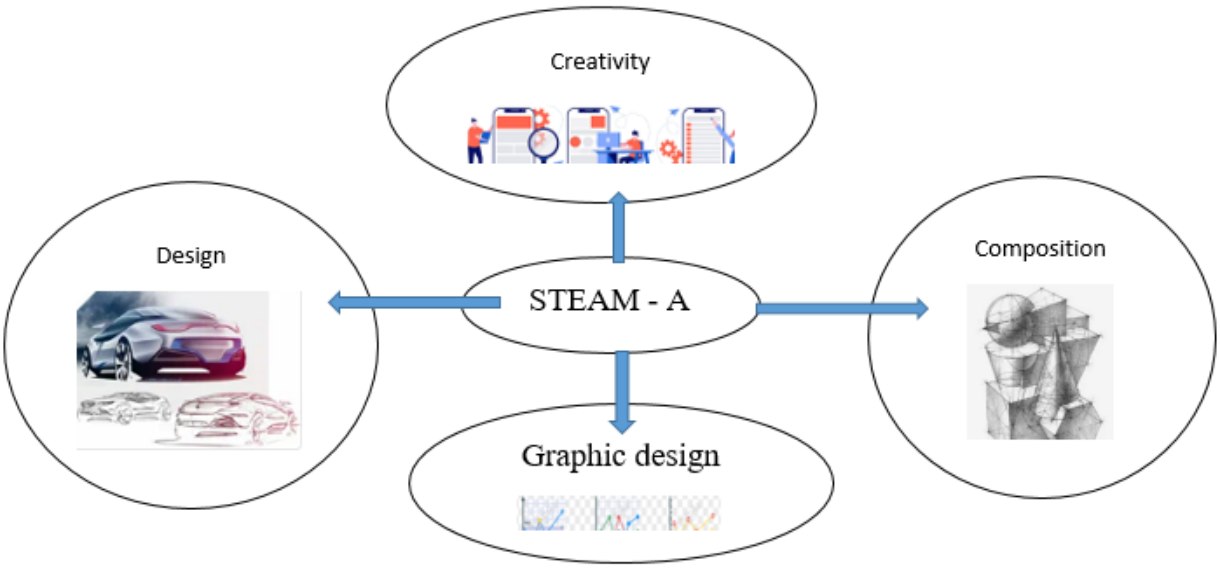
STEAM-S is a program that includes the use of STEAM education in the teaching of physics, chemistry, biology, astronomy, which is a field of natural sciences, and the explanation of the combined laws of phenomena or sciences based on the integration of STEAM disciplines. STEAM - T is a program that develops a package of programs aimed at the development of technologies, various pedagogical technologies, educational didactic methods, computer techniques and programs that allow the creation of various videos, gifs and animations through 3D models and 4D programs[1].



STEAM-E is the latest state-of-the-art education in engineering, construction, technology, manufacturing, electronics, and other related fields that combines fundamental knowledge and engineering knowledge.



STEAM - A. Since almost every field is related to design, from the basic concepts of creating graphic design and graphic design in the field of art or creativity, to the development of the design industry in the modern world, some professional secrets of design, computer animation of the movements of letters in v|arious forms, as well as the laws of typography, compositions and a promising program that includes a theoretical explanation of color-image manifestations, as well as the formation of creative-experimental skills, the development of a worldview in relation to nature, familiarization with design and its programs[4].



STEAM - M is a program aimed at the development of the field of mathematics, it is a program that implements the practical application and fundamentals of mathematics in other fields through mathematical modeling.

Proper planning of students' independent education is one of the important tasks of the teacher. We invite students to make presentations on the topics designated for independent study in the program, to work independently on specified examples and problems using electronic materials. One of the factors characterizing the effectiveness of the modern educational process is the application of information technologies in education. The use of e-learning manuals and textbooks in the educational process is an important tool of education by its functional nature, it provides an individualized and differentiated approach, not only encouraging active and independent learning of students[5].

We can give an example of the fact that countries with a developed educational system, such as China, Japan, Russia, Korea, and Singapore, are using it in the educational process. In particular, STEM is officially used in education in China and Singapore, and this concept is used in a broad sense to include all fields. According to him, this includes the development of education, healthcare, engineering information technology, digitization, electronics and robotics, and others.

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