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WHY STEAM IS SO IMPORTANT TO 21ST CENTURY EDUCATION

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Abstract: This article aims to contribute to this research and teaching approach by analyzing the importance of STEAM for 21st-century education and its application in the classroom, and its social and educational impact. The importance of STEAM in education is that it focuses on a discipline that engages students in specific disciplines such as science, technology, engineering while learning strategies to equip students with the skills and knowledge they need to succeed in their careers. This educational approach allows children to effectively combine theory and practical skills and facilitates admission and further study at the university.

Keywords: Steam, teaching, natural sciences, 21st Century Skills

Introduction

What is STEAM? STEAM is an educational discipline that aims to awaken interest and a lifelong love for the arts and sciences in children from an early age. Science, technology, engineering, art, and mathematics are broadly similar fields of study in the sense that they all involve creative processes, and none of them use only one method of research and learning. Teaching relevant, in-demand skills that will prepare students to be innovators in an ever-changing world is of great importance not only for the future of the students themselves, but also for the future of the country.

STEAM brings together five disciplines to create an inclusive learning environment that encourages all learners to get involved and contribute. This holistic approach encourages students to train the left and right hemispheres of the brain at the same time. STEAM empowers teachers to use project-based learning that spans each of the five disciplines and promotes an inclusive learning environment where all students can participate in and contribute to the learning process.Unlike traditional learning models, STEAM educators bridge disciplines by exploiting the synergy between the modeling process and the content of mathematics and science, for example, to blur the lines between modeling methods and scientific/mathematical thinking. With this holistic approach, students can train both hemispheres of their brain at the same time.

"There is a dynamic synergy between the natural sciences," the article says. "For example, science relies on individuals who have visual-artistic skills to create detailed illustrations depicting everything from atoms. Similarly, scientists use analytical, linear, and logical thinking to create and expand their work.

II.Methods

STEM education is radically different from the traditional education system, which allows students to improve their creative abilities, develop independence in testing

themselves in teamwork and acquire new knowledge. STEAM - The goal of education is to help students develop the skills they need to succeed in the future. No matter what the field, it is important that students have all-around skills that allow them to pursue higher education and adapt quickly to the environment.

STEAM brings together important disciplines to create alearning environment that encourages all students to participate, collaborate and solve problems. This holistic approach encourages students to practice the left and right sides of their brains at the same time as they should in a 21st century work environment.

According to an analysis by the National Education Association, success requires key communication, collaboration, creativity and innovation, critical thinking and problem-solving skills.

III. Results

As the education industry continues to explore new strategies to equip students with the skills they need to become successful professionals in the workforce of our time, more attention is being paid to STEAM and related learning methods.

Unlike traditional teaching methods, the STEAM framework blurs the boundaries between disciplines when it comes to problem solving to promote higher levels of creativity and efficiency. For example, teaching a future engineer how to visualize and sketch his ideas will make him more efficient at work in the future.

In today's world, preparing students for future success means integrating students with these disciplines to develop their critical thinking skills.

In short, people have begun to realize that it is time to start preparing our youth and our education for the future by helping students of all ages develop the 21st century skills they will need to succeed in their fields.

Fast forward several years, after STEM had become a buzzword in the world of education, and a new, very similar term emerged - STEAM. The "A" in steam refers to arts. And this addition plays a critical role in how we need to be preparing our youth for the future.

The main goal of STEAM-based learning is to help students develop the skills they need to succeed in their field of study in the future. Regardless of the specific role or industry, it is now critical that students enter university and/or apply for a work with a variety of skills that enable them to adapt to an evolving and rapidly changing environment. In an article a few years ago, the founder of the World Institute of Innovation wrote: "A standardized, traditional system is a type of education that is widespread and confusingly confronted with global problems, and today's education system allows students to solve real problems does not pay enough attention to teaching". STEAM brings together five critical disciplines to create an inclusive learning environment that encourages all students to participate, collaborate and problem solve.This holistic approach encourages students to exercise both the left and right sides of their brains simultaneously, as they would need to do in a 21st century working environment.

The world is changing, so let education not stand still. Changes over the past few

decades are exciting, but at the same time, they make us worry. With the invention of all these new things, there are also many new problems that people have never faced before. Every day there are new types of work and even entire professional areas, which is why modern teachers should think about whether the knowledge and skills they teach meet the needs of the time.

Knowledge will help you come up with your own idea, but real work will turn this idea into reality. If we say that the main goal of traditional education is to teach knowledge and use this knowledge to think and create, then the STEAM approach teaches to combine acquired knowledge with real skills. It allows students not only to have some ideas, but also to use and implement them in reality.

An example of the STEAM approach is the Massachusetts Institute of Technology. The motto of this global university is "Mind and Hand". STEAM courses and even set up STEAM training centers at some schools to give kids the opportunity to learn and get familiar with the concept of STEAM beforehand.

To summarize, I want to note that, compared to traditional teaching methods, the STEAM approach in high school encourages children to experiment, build models, create music and films on their own, turn their ideas into reality and create the final product. This educational approach allows children to effectively combine theory and practical skills and facilitates admission and further study at the university.

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