

The Process of Developing the Ability of Future Primary Class Students to Use Steam Technologies

Nishonova Kamola Shokirjonovna

Teacher of Fergana State University

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ABSTRACT

The process of developing the ability to use STEAM technologies of future elementary school students and its importance are discussed.

Today, innovative educational technology is becoming more and more important in the field of education, as it is in every process. This research students of the 21st century difficulties and opportunities of preparation contributes to the ongoing discourse on effective methodologies. STEAM technologies range from digital platforms and apps to hands-on kits and equipment wide in the circle tools own into takes They are coding, robotics, 3D pressing release, includes virtual reality and more. By integrating these technologies into the education system, critical thinking, problem solving, creativity, and collaboration skills can be developed—highly valued in today's society. A well-developed competency methodology is needed to effectively integrate STEAM technologies into the primary school curriculum. This methodology provides a systematic approach for teachers to systematically guide students in acquiring the necessary skills and knowledge. It helps students build a solid foundation in STEAM subjects while fostering creativity and innovation. In this, mainly, the development of the curriculum and lesson planning, competence methodology STEAM technologies combined sure and Created study program to show need Teachers qualification increase, teachers competence methodology efficient in application plays a decisive role. Training and development programs should be provided to equip them with the skills and knowledge needed to effectively use and teach STEAM technologies. Cooperative learning approach encourages cooperation among students in the development of competence very is important. In the team work, communication and problems solution to do skills

developmental group projects and activities should be included in the curriculum.

Integrating STEAM technologies into primary school education poses certain challenges possible resources and to the infrastructure enter limited, teachers qualification lack and to changes resistance competence methodology efficient done to increase hindrance to do possible Overcoming these challenges requires collaboration between educational institutions, policymakers, and industry leaders to ensure equitable access to resources and support. Practical learning: STEAM competence in development applied from the main methodologies one this practical is learning. Students engage in hands-on, real-world activities that include designing, building, and experimenting. Whether building simple machines or coding basic programs, hands-on experiences provide tangible and memorable understanding of STEAM concepts. Interdisciplinary projects break down traditional silos of majors, interdisciplinary projects combine multiple STEAM disciplines into one learning experience input for intended. An example for, ecological concepts learning for science and a project that integrates the arts not only strengthens academic knowledge, but also encourages creativity and artistic expression. Collaboration is the foundation of STEAM education. Group projects and activities encourage students to work together, leveraging each other's strengths to solve problems. It is a collaboration of many professional fields nature reflection makes and students collective the work important has been future the work places prepares Embracing the essence of STEAM, technology integration is key. Educational programs, programming languages and interactive from the simulations used without students practical to training have will be STEAM methodologies app reach with depends to problems of resources limited, teacher training and education paradigms change necessity enters. This problems solution to do education strategic investment in resources, continuous teacher training programs, and STEAM education at the policy level importance promote to do own into takes teachers, politicians and industry interested Cooperation between the parties is essential to overcome these barriers and create an environment conducive to the development of STEAM competences.

Developing STEAM competency methodologies for elementary school students is critical to preparing them for an increasingly technology-driven future. By incorporating hands-on, interactive and collaborative learning experiences, students are innovative problems solution doer and lifelong learners to be for necessary skills can develop. With the right competency methodology in place, elementary schools can empower students to harness the power of STEAM technologies and make a positive difference in the world.

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