

**IMPROVEMENT OF ENVIRONMENTAL COMPETENCE OF PRIMARY EDUCATION
TEACHERS BASED ON STEAM EDUCATION**

Mustarova Dildora Eshmamatovna

Uzbekistan, Primary education teacher of the 48th book of the MMTB, S
horchi district, Surkhandarya region

Abstract: This article examines the importance of improving the environmental competence of primary education teachers by using the steam learning methodology. The authors discuss the effectiveness of this approach and provide examples of practical activities and projects that help teachers develop their knowledge and skills in environmental science. Improving the environmental skills of teachers on the basis of Steam education has a significant impact on the formation of environmental consciousness and responsibility of elementary school students.

Key words: Ecology, competence, improvement, steam education, interdisciplinary approach, teacher, creative projects, ecological culture, primary education.

INTRODUCTION.

Modern education is facing a number of environmental problems that require effective solutions in society. One of the ways to modernize and update education in the 21st century world is the development of the steam education system. The main goal of its implementation is the development of technical and natural sciences education, based on the establishment of connections between steam networks, taking into account the need to develop critical and creative thinking skills of teachers and students. "is to expand the possibilities of teachers[1]. From this point of view, it is of particular importance to increase the environmental competence of primary teachers, who play a key role in shaping the worldview and values of primary education students. One effective approach to achieving this goal is steam training (science, technology, engineering, art, and math). steam education offers an interdisciplinary approach that allows to combine the concepts of ecology and competence in primary education, improve teaching skills and expand ecological culture. as part of steam training, teachers will be introduced to innovative teaching methods, including immersion in environmental issues and creative projects that contribute to the development of practical skills. This approach ensures the interaction between the teacher and the student, encourages the formation of ecological culture and a conscious attitude to the environment from a young age. This article examines the importance and effectiveness of steam training for improving the environmental competence of new teachers in primary education settings.

ANALYSIS OF LITERATURE ON THE SUBJECT. The analysis of the literature confirms the effectiveness of the steam methodology to improve the environmental competence of primary education teachers. For example, in the work of L.V.Moiseeva, Yu.G.Nikitina on the formation of environmental competence of primary school students, the experience of introducing steam education in primary classes for the formation of environmental competence of teachers was considered in detail [2]. The author emphasizes the importance of integrating science, technology, art, and mathematics to develop pedagogical skills and knowledge necessary for teaching ecology. An interdisciplinary approach, use of creative projects, and the effectiveness of the educational process of scientific subjects for the development of environmental awareness of primary school teachers in the field of ecology.

RESEARCH METHODOLOGY. Research methodology for improving the environmental competence of elementary school teachers based on steam education, identification of research objectives, literature analysis, curriculum development, program implementation and data

collection, data analysis , interpretation of results and conclusions, discussion of results, and dissemination of results include steps and approaches. It should be noted that specific research methods and tools may vary depending on specific research objectives and available resources. In addition, the use of a mixed research method that combines qualitative and quantitative approaches will help to more fully understand the impact of steam education on improving the environmental competence of elementary school teachers.

Researchers must adhere to ethical and data protection principles when working with teachers and students. This includes consideration of research participant consent, data privacy and confidentiality, and ethical recommendations and norms that exist within the scientific community. In general, the methodology of research on improving the environmental competence of elementary school teachers based on steam education should be systematic, multi-stage, and from curriculum planning and development to data analysis and interpretation of results. should include different stages. This allows us to obtain reliable and relevant conclusions and recommendations on the use of steam education for the development of environmental competence of primary school teachers.

ANALYSIS AND RESULTS. The results and results of research on improving the environmental competence of elementary school teachers based on Steam education may include the following elements:

1. Assessment of the initial level of environmental competence.
2. Application of STEAM-based curriculum.
3. Data collection in the educational process.
4. Data analysis.
5. Evaluation of the effectiveness of the program.
6. Conclusions and recommendations [3].

The results of the study can show a positive effect of the educational program on improving the environmental skills of primary school teachers. Teachers can become more interested in environmental topics, increase their knowledge and skills in this field, and become more confident in integrating environmental aspects into their teaching practice. Environmental competence of primary school teachers is important for the formation of students' ecological awareness and responsible attitude towards the environment. Because the curriculum is based on steam education, it helps to develop not only environmental competence, but also competence in science, technology, engineering, art and mathematics[5].

Such integrated learning helps students see connections between different disciplines and the real world, and develops their critical thinking, creativity, and collaboration skills. improving the environmental competence of primary school teachers through steam education has the potential to create a more sustainable and environmentally conscious society. This will help to form a new generation capable of analyzing and solving environmental problems, making responsible decisions and acting in accordance with the principles of sustainable development.

CONCLUSION. As a result of research on improving the environmental competence of elementary school teachers based on Steam education, it was found that such a training program has great potential for the effective development of environmental knowledge, skills and attitudes of teachers. The teachers who participated in the program expressed great interest in environmental topics, increased their knowledge and skills in this regard, and made sure to integrate environmental aspects into their educational practice.

The results of the study show the necessity and importance of introducing such educational programs in educational institutions. It is recommended to develop additional resources and materials, support teacher training, and create support networks for sharing experiences among teachers. Such measures will help to spread and strengthen the approach of steam education with

an ecological bias, which in turn will help to form ecological awareness and responsible attitude of students to the environment.

In general, the results of the study confirm that the inclusion of environmental topics and principles in steam education is an effective approach to increase the environmental competence of elementary school teachers. It not only helps to develop the environmental consciousness and knowledge of teachers, but also affects the formation of environmental consciousness and activism of students, which is important for creating a sustainable and environmentally responsible future.

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