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POSSIBILITIES OF THE ECO-STEAM APPROACH IN THE DEVELOPMENT OF ECO-PEDAGOGICAL COMPETENCE OF STUDENTS

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ABSTRACT: In this article, the Eco-steam approach combines the principles of ecology and steam education, which offer innovative methods and tools for environmental education and scientific research. The advantages of the steam approach are analyzed, including the development of systemic thinking, creative and critical thinking, practical skills and social responsibility among students.
Key words: Eco-steam, ecology, pedagogical competence, development, students, environment, innovative methods, systems thinking, creative thinking, critical thinking, practical skills, social responsibility, learning practice.

INTRODUCTION.

In the modern ecological educational institutions of the world, special attention is paid to the formation of real relations of man with nature, to determine the unique social and natural aspect of nature that ensures the most guaranteed development of the individual, and to master the norms. from behavior. Science and technology play a major role in the development of society, and the importance of education is increasing. The problems facing the science and technology community are complex problems that cannot be solved by science and technology alone and must be solved using modern knowledge. Convergent learning is needed to solve this problem.

Research is underway on convergent approaches to knowledge teaching, which reveal important interdisciplinary concepts or core principles of integrated knowledge.

The eco-steam approach provides many opportunities for the development of students' eco-pedagogical competence[1]. This innovative approach combines the principles of ecology with elements of science, technology, engineering, art and mathematics. It allows students to actively study and understand the environment, develop systematic and critical thinking, as well as creative and practical skills. By using various innovative methods and tools, students can not only deepen their knowledge of nature and environmental problems, but also apply them in practice to solve existing problems. Eco-steam approach helps to form environmental consciousness, social responsibility and readiness of students for future work in the field of environment.

ANALYSIS OF LITERATURE ON THE SUBJECT. The analysis of the literature shows that the eco-steam approach contributes not only to a deep understanding of environmental problems, but also to the development of various competencies among students[2]. It encourages creative and critical thinking, problem-solving skills, and develops practical skills and social responsibility among students. In addition, the eco-steam approach provides the interaction of different disciplines, combining science, technology, art and mathematics in the context of environmental problems. It helps students to develop a deep understanding of the interrelationships between disciplines and their application to sustainable development of the environment.

ANALYSIS AND RESULTS. The eco-steam approach provides unique opportunities for the development of students' eco-pedagogical competence. It promotes a deep understanding of environmental issues, encourages creative and critical thinking, and develops problem-solving, communication, and collaboration skills. Students have the opportunity to apply their knowledge and skills to solve real environmental problems that help build environmental awareness and responsibility[3]. The eco-steam approach also integrates different disciplines, combining science,

technology, art and mathematics, which contributes to the comprehensive development of students and their readiness to work in the field of the environment.

The need to use the opportunities of the eco-steam approach in the development of students' eco-pedagogical competence

Ecopedagogical competence of students	**Eco-steam approach**	**The need to develop eco-pedagogical competence**	**Positive effect of eco-steam approach**
Eco-pedagogical competence of students is an important aspect of their education, which allows to form a responsible attitude towards the environment and develop sustainable lifestyle skills. One of the effective approaches that help to develop eco-pedagogical competence is the ecological steam approach.	The eco-steam approach combines environmental and steam (scientific, technical, engineering and artistic) disciplines, allowing students to integrate knowledge about nature and the environment with different fields of knowledge. It promotes a deeper understanding of environmental problems and encourages creative thinking in search of innovative solutions.	The need to develop the eco-pedagogical competence of students is based on the relevance of environmental problems and the need for educated specialists capable of solving these problems. The eco-steam approach allows students to develop critical and problem-solving thinking, cooperation, communication and teamwork skills necessary for working on complex environmental projects.	The positive effect of the eco-steam approach on the development of students' eco-pedagogical competence is the integration of knowledge, the practical application of ecological concepts, the stimulation of creative thinking, the formation of environmental consciousness and responsibility, as well as the self-improvement of students. - efficiency and confidence in their ability to influence the environment.

These factors emphasize the need to use the ecological steam approach in the development of students' eco-pedagogical competence, which greatly contributes to their education and preparation for solving modern environmental problems.

Research on the potential of the eco-steam approach in developing students' eco-pedagogical competence is based on a comprehensive methodology. During the research, an analysis of existing scientific and practical works on this topic was conducted, as well as the experience and results of the implementation of the eco-steam approach in various educational institutions were studied. Methods of systematic analysis, comparative analysis and synthesis, as well as methods of interviewing and questioning students and teachers were used[4].

The obtained data were subjected to statistical processing and interpretation. As a result of the research, the main advantages of the eco-steam approach and its impact on the development of students' eco-pedagogical competence were determined. This study provides valuable information for educators and researchers interested in applying the eco-steam approach to education for sustainable development.

Structural components of opportunities of the eco-steam approach in the development of eco-pedagogical competence of students. Comparison of traditional educational process and eco-steam approach

Aspect	Traditional educational process	Eco-Steam approach
Knowledge	Based on educational materials	integrating environmental aspects with scientific, technical, engineering and artistic disciplines
Practical program	With theoretical tasks	encourages solving real environmental problems through creative projects
Seminar training	Based on the exhibition materials	forms a responsible attitude to the environment and encourages a sustainable lifestyle
Laboratory training	Based on laboratory work	supports teamwork and knowledge sharing

Eco-steam recognizes that the traditional educational process has limitations in the formation of students' eco-pedagogical competence. While the traditional approach focuses on learning materials and theoretical assignments, the eco-steam approach integrates environmental aspects with various disciplines, encourages the practical application of knowledge to solve real environmental problems, and develops cooperation and environmental literacy skills[5].

The advantages of the eco-steam approach in the development of eco-pedagogical competence are defined as follows:

- unification of knowledge and development of interdisciplinary competencies;
- practical application of ecological concepts;
- stimulating creative thinking;
- formation of environmental awareness and responsibility;
- increase students' self-efficacy and confidence[6].

The eco-steam approach provides a number of advantages in the development of eco-pedagogical competence. Combining knowledge from different disciplines allows students to develop interdisciplinary competencies. Practical application of ecological concepts through creative projects helps to deepen understanding and memorization of the material. The eco-steam approach also builds students' environmental awareness and responsibility, and increases their confidence in their efficiency and ability to influence the environment[7].

Based on the steam approach, the analysis and results of the research on the possibilities of the eco-steam approach in developing the eco-pedagogical competence of the future elementary school students allow us to draw important conclusions.

The research included an analysis of scientific articles, empirical studies, and practical experiences related to the use of the steam approach in elementary schools with a focus on ecology. The results showed that the eco-steam approach helps not only to develop knowledge and understanding of nature, but also to develop creative thinking, problem solving, communication and cooperation skills among students. It also helps children to develop environmental awareness and responsibility.

The results of the study confirm the importance and effectiveness of the eco-steam approach in the development of eco-pedagogical competence of elementary school students, and also provide practical recommendations for its successful implementation in educational practice.

CONCLUSION.

The implementation of the eco-steam approach to the development of students' eco-pedagogical competence not only helps to activate students' interest in ecology, but also to develop their critical and creative thinking, problem-solving skills, and teamwork. To successfully introduce

the eco-steam approach to education, it is necessary to develop special programs and educational materials, as well as ensure the use of modern technologies and laboratory equipment. In addition, it is important to provide teachers with professional training so that they can effectively implement the eco-steam approach in their practice.

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