INTERNATIONAL MULTIDISCIPLINARY JOURNAL FOR RESEARCH & DEVELOPMENT
SJIF 2019: 5.222 2020: 5.552 2021: 5.637 2022:5.479 2023:6.563 2024: 7,805
eISSN :2394-6334 https://www.ijmrd.in/index.php/imjrd Volume 11, issue 04 (2024)

DEVELOPMENT OF ENVIRONMENTAL COMPETENCE OF FUTURE PRIMARY SCHOOL TEACHERS BASED ON THE STEAM APPROACH

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ABSTRACT: The issue of developing environmental competence of future primary school teachers based on the steam approach is discussed in the article. It was emphasized that various strategies and methods, such as the use of scientific research, technologies, art and mathematics, are an effective tool for the development of ecological thinking and practical skills, and contribute to the formation of environmentally conscious and active citizens.
Key words: Development, environmental competence, future teachers, stem approach, science, technology, engineering, art, mathematics, formation, environmental awareness, responsibility, learning, research, integration of art, technological tools, practical skills, environmental thinking.

INTRODUCTION.

One of the ways to modernize and renew education in the 21st century world is the development of the STEAM education system. The main goal of its implementation is to develop the future primary education through the development of technical and natural science 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].

Developing environmental competence among future primary school teachers based on the STEAM approach is an important task in modern education. This approach, which combines science, technology, engineering, art and mathematics, allows for the creation of educational situations that help to develop ecological consciousness and a responsible attitude towards the environment.

ANALYSIS AND RESULTS.

Future elementary school teachers need to develop practical skills and ecological thinking in order to attract students to active participation in solving environmental problems. The use of experimental research and the integration of artistic and technological tools allow the creation of interesting lessons in which students can apply knowledge and skills to solve real environmental problems. This approach helps to form citizenship and to form an active attitude of future teachers to the preservation of the environment and natural resources. For example: the current development of higher pedagogical education depends on the interdisciplinary integration of research.

Interdisciplinary integration is the basis for training specialists who have critical thinking and are able to solve interdisciplinary problems, as well as problems of different nature. The purpose of this study is to find ways to update the methodology of professional training of future elementary teachers, taking into account the requirements of interdisciplinary integration and assessment of pedagogical competence [3].

The analysis of the literature on the topic "Development of environmental competence of future elementary school teachers based on the STEAM approach" in the pedagogical and psychological literature shows that this problem attracts a lot of attention of researchers and practitioners in the field of education.

First, studies confirm that the STEAM approach is an effective tool for the development of environmental competence in future primary education teachers, as it helps to integrate different fields of knowledge and encourages creative and critical thinking.
Secondly, the literature emphasizes the importance of using practical methods, such as experimental research, for students to actively interact with nature and environmental problems.
Third, many studies show the importance of integrating art and technology into the learning process to make it more engaging and effective for developing environmental awareness and practical skills. In general, the literature review confirms that the STEAM approach is promising in the development of environmental competence of future primary education teachers and requires further research and practical implementation. At the same time, STEAM education became the basis for designing the educational process for future elementary teachers. The results of this work indicate that the introduction of interdisciplinary tasks into the content and content of educational subjects will help to improve the quality of professional training of future primary education teachers, as the educational process will be practice-oriented and have a scientific character [4].
The research methodology aimed at developing environmental competence of future primary education teachers based on the STEAM approach includes several stages. First, a literature review is conducted that explores existing theories and research related to the development of environmental competence and the application of STEAM approaches in education.
Then the goals and objectives of the research are determined and a sample of future primary school teachers who will participate in the research is selected. In addition, various research methods such as questionnaires, observation, interviews and analysis of educational materials are carried out. Through these methods, information is collected about the initial level of environmental competence of the participants and their perception of the STEAM approach in the environment of environmental education.
After data collection, analysis, including qualitative and quantitative processing of the obtained data, is carried out. The results of the analysis make it possible to evaluate the effectiveness of the STEAM approach for the development of environmental competence of future primary education teachers.
Conclusions and recommendations are formed based on the data obtained at the final stage of the research. These findings can be used to further improve the methodology of teaching ecology and training future primary education teachers, taking into account the steam approach.
Based on the STEAM approach to the research problem, the analysis and results of the research aimed at developing the environmental competence of future primary school teachers allow us to draw the following conclusions.
- the use of the STEAM approach in the context of environmental education helps to effectively develop environmental competence among future primary education teachers. The integration of science, technology, art and mathematics creates a stimulating and hands-on learning environment where students are actively involved in learning and solving environmental problems.
- research participants showed a positive attitude to the STEAM approach and high motivation in developing their environmental competences. They demonstrated the ability to apply scientific methods, use technological tools, and be creative in solving environmental problems.
- the results of the research confirm that the STEAM approach contributes to the formation of practical skills among future primary education teachers. They have become more confident in conducting experiments, using technology, and introducing art into the learning process, which allows them to effectively develop ecological thinking and engage students in active participation in solving environmental problems.

As a result, the results of the analysis and research, the STEAM approach in the development of environmental competence of future primary education teachers will help in the formation of modern eco-education.

It should be noted that the conclusions and suggestions based on the research conducted on the development of environmental competence of future elementary school teachers based on the STEAM approach are as follows.

First, the STEAM approach proves to be an effective tool for developing environmental competence among future elementary school teachers, as it helps to integrate different fields of knowledge and develop creative and critical thinking. Based on this research, it is recommended to include elements of the STEAM approach in the curricula of future elementary school teachers, to give them opportunities to experiment, use technology, and include art in the educational process. It is also important to provide access to a variety of learning materials and resources that support environmental awareness and enable students to apply their knowledge.

In addition, it is necessary to train future teachers in methods of involving students to actively participate in solving environmental problems, as well as pay attention to the development of their leadership and communication skills. It helps teachers to effectively teach environmental lessons and inspire students to protect the environment.

CONCLUSION.

Thus, the development of environmental competence of future elementary school teachers based on the STEAM approach requires the inclusion of appropriate methods and resources in the educational programs and the support of students in their education. This allows to train teachers who can effectively form ecological consciousness and responsible attitude to the environment among their future students.

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