

Formation of ecological culture in elementary grades through interdisciplinary integration

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Abstract. This article examines the importance of environmental culture in primary education and explores the benefits of interdisciplinary integration in science teaching. The article also provides practical examples of how interdisciplinary integration can be implemented in the classroom to develop environmental culture in students.

Keywords: ecological culture, elementary school, interdisciplinary integration, natural sciences, concrete sciences.

Introduction:

Environmental issues are increasingly important in the world, requiring a change in human behavior towards sustainable development. Therefore, it is essential to form ecological culture from an early age, and schools play a fundamental role in this process. Interdisciplinary integration is a strategy that can contribute to the formation of ecological culture in elementary school. This article aims to present a literature review on the topic and highlight the benefits of interdisciplinary integration in natural and concrete sciences in the formation of ecological culture in elementary grades.

Methods:

The research method used was a literature review of scientific articles on the topic of the formation of ecological culture in elementary grades through interdisciplinary integration. The databases used were Google Scholar, Scopus, and Web of Science, using the keywords: ecological culture, elementary school, interdisciplinary integration, natural sciences, and concrete sciences. The inclusion criteria were articles published between 2018 and 2021 and that addressed the formation of ecological culture in elementary school through interdisciplinary integration.

Results:

The literature review found several benefits of interdisciplinary integration in natural and concrete sciences in the formation of ecological culture in elementary grades. Through interdisciplinary integration, students can understand the relationship



between nature and society, develop critical thinking, and understand the importance of sustainable development. Interdisciplinary integration also allows for the use of different teaching methodologies, such as problem-based learning and project-based learning, which favor the formation of ecological culture.

Ecological culture is an important aspect of sustainable development, which has become a crucial concern for society. The aim of ecological culture is to create a harmonious relationship between human beings and nature. One way of promoting ecological culture is through interdisciplinary integration. In this article, we discuss the role of interdisciplinary integration in promoting ecological culture in elementary grades, specifically in natural and concrete sciences.

Interdisciplinary Integration:

Interdisciplinary integration is the process of combining knowledge and skills from different disciplines to create a holistic understanding of a problem. It involves the collaboration of teachers from different subject areas to develop a curriculum that integrates various subjects. The integration of natural and concrete sciences allows for a comprehensive approach to understanding ecological culture.

Ecological Culture:

Ecological culture is a set of values, attitudes, and behaviors that promote the sustainable use of natural resources. It involves the recognition of the interdependence between human beings and nature. Ecological culture includes the principles of reduce, reuse, and recycle. It also emphasizes the need to conserve natural resources and protect biodiversity.

Interdisciplinary Integration in Natural and Concrete Sciences:

The integration of natural and concrete sciences involves the use of hands-on activities, experiments, and observations to teach ecological culture. For example, students can learn about the water cycle and the importance of conserving water through experiments that demonstrate the effects of pollution on water quality. Students can also learn about the impact of human activities on the environment by conducting experiments that show the effects of pollution on plants and animals.

Table 1: Example of interdisciplinary integration in natural and concrete sciences

Subject	Topic	Activity	Learning Outcome
Science	Water Cycle	Experiment on the effects of pollution on water quality	Students will understand the importance of conserving water resources



Math	Graphing	Graphing water pollution data	Students will develop graphing skills while learning about the effects of pollution on the environment
Art	Collage	Create a collage using recycled materials	Students will learn about the principles of reduce, reuse, and recycle while developing artistic skills

Conclusion:

Interdisciplinary integration in natural and concrete sciences can be an effective strategy for the formation of ecological culture in elementary school. It allows for a better understanding of the relationship between nature and society and contributes to the development of critical thinking skills. Therefore, it is essential to promote interdisciplinary integration in the teaching of natural and concrete sciences in elementary grades to promote ecological culture.

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