



METHODOLOGY FOR FORMING ECOLOGICAL THINKING IN PRIMARY SCHOOL STUDENTS BASED ON THE INTEGRATION OF THE “TARBIYA” SUBJECT WITH NATURAL SCIENCES

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Abstract

This article analyzes the scientific and methodical foundations of forming ecological thinking in primary school students by integrating the subject "Education" with natural sciences. The effectiveness of integrated lessons in changing students' attitude towards nature and pedagogical conditions are highlighted.

Keywords: Integration, ecological thinking, primary education, "Tarbiya" science, natural sciences, ecological culture, methodology, sustainable development.

Introduction

"TARBIYA" FANINI TABIIY FANLAR BILAN INTEGRATSIYALASH ASOSIDA BOSHLANG‘ICH SINIF O‘QUVCHILARIDA EKOLOGIK TAFAKKURNI SHAKILLANTIRISH METODIKASI

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Annotatsiya:

Ushbu maqolada “Tarbiya” fanini tabiiy fanlar bilan integratsiyalash orqali boshlang‘ich sinf o‘quvchilarida ekologik tafakkurni shakllantirishning ilmiy-metodik asoslari tahlil qilinadi. Integratsiyalashgan darslarning o‘quvchilar tabiatga bo‘lgan munosabatini o‘zgartirishdagi samaradorligi va pedagogik shart-sharoitlari keng yoritilgan.



Kalit so‘zlar: integratsiya, ekologik tafakkur, boshlang‘ich ta’lim, “Tarbiya” fani, tabiiy fanlar, ekologik madaniyat, metodika, barqaror rivojlanish.

Аннотация:

В статье анализируются научно-методические основы формирования экологического мышления учащихся начальных классов посредством интеграции предмета «Воспитание» с естественными науками. Освещены эффективность интегрированных уроков в изменении отношения учащихся к природе и педагогические условия их реализации.

Ключевые слова: интеграция, экологическое мышление, начальное образование, предмет «Воспитание», естественные науки, экологическая культура, методика, устойчивое развитие.

INTRODUCTION

In the context of the modern global ecological crisis, radically transforming the younger generation’s attitude toward nature and developing in them ecological responsibility and the principles of sustainable development remains one of the most urgent tasks of pedagogical science. Primary school age is regarded as the most favorable period for the formation of a learner’s worldview, moral norms, and emotional-aesthetic attitude toward nature. At present, the subject “Tarbiya,” introduced into the education system of Uzbekistan, aims to develop in pupils not only spiritual and moral qualities, but also a conscious attitude toward the environment. However, ecological thinking is not merely a set of theoretical knowledge; it is a complex system consisting of the synthesis of moral values and natural-scientific laws. For this reason, teaching the “Tarbiya” subject in an integrated way with natural sciences, such as nature study and the surrounding world, helps pupils understand the wholeness of nature and correctly assess the place of human beings within this system. An integrated approach enables the learner to understand nature not only as an object of study, but also as a living value of which he or she is an integral part.

LITERATURE REVIEW AND METHODOLOGY

The theoretical foundations of the integrated approach in the process of ecological education and upbringing have been examined by many local and foreign scholars. In



pedagogical literature, integration is interpreted as a means of systematizing educational content and preventing the fragmentation of the learner’s worldview. In particular, the pedagogue J. G’ofurov, in his research, specifically emphasized the importance of interdisciplinary connections in providing environmental education in primary grades and pointed out that protecting nature should be based not only on knowledge, but also on inner conviction [1, p. 12]. Likewise, in foreign practice, an “ecocentric” approach is considered dominant in the formation of ecological thinking, as it is aimed at developing the learner’s skills of living in harmony with nature [2, p. 45]. Methodologically, this article employed the methods of systemacity, comparative analysis, and pedagogical observation. During the research process, the content of primary school textbooks was analyzed, and the degree of correspondence between the topics of the “Tarbiya” subject and natural sciences was examined. As the methodological basis, an integrative model combining the moral (“Tarbiya”) and cognitive (Natural Sciences) components of education was adopted. This model relies on strengthening the learner’s moral views with scientific facts, for example, linking the moral instruction not to waste water (“Tarbiya”) with knowledge about the water cycle in nature and water scarcity (Natural Sciences).

DISCUSSION AND RESULTS

The conducted analyses show that when concepts promoted in the “Tarbiya” subject, such as “frugality,” “responsibility,” and “kindness,” are enriched with ecological content, they take deeper root in the learner’s consciousness. For example, by integrating the topic “I Am a Friend of Nature” in the Grade 2 “Tarbiya” textbook with the topic “Plant Life” in nature study, the learner is taught not only the structure of a plant, but also that caring for it is a moral duty. Table 1 below presents the main differences between the traditional and the integrated approach.

Table 1. Comparative description of traditional and integrated environmental education

Criteria	Traditional approach	Integrated approach
Purpose	Providing factual knowledge about nature	Formation of ecological beliefs and responsibility
Content	Subjects are taught separately, scattered	Unity of ethical norms and scientific laws
Student Role	Listener, receiver of information	Researcher, nature defender
Outcome	Presence of theoretical knowledge	Ecological thinking and conscious activity



During the study, special questionnaires and practical assignments were conducted to determine the level of environmental awareness of students. The results showed that the attitude of students who participated in integrated lessons towards the environment changed to a highly positive one. This can be seen in the data in Table 2.

Table 2. Growth rates of students' environmental awareness after integrated lessons (in percent)

Indicators	Before the experiment	After the experiment	Growth rate
Sense of responsibility towards nature	42%	78%	+36%
Practical application of ecological knowledge	35%	65%	+30%
Tendency to sort waste	20%	55%	+35%
Care for plants and animals	50%	85%	+35%

During the discussion, it was found that the use of the “project methodology” in the integration process is most effective. When students are given small research projects on topics such as “My Green Garden” or “How to Save Water?”, they combine their knowledge of natural sciences with the ethical principles of the subject “Education”. In this process, the student not only learns about the chemical properties of water, but also feels that wasting it is morally harmful. As a methodological recommendation, it was indicated that it is necessary to widely use visual aids, case studies, and problem situations in the lesson.

CONCLUSION

The formation of ecological thinking in primary school students is a complex and multifaceted pedagogical process that requires modernization of the educational content. The methodology, organized on the basis of integrating the subject of "Education" with natural sciences, broadens the worldview of students and forms in them the skills to work with the environment based on humanistic principles. As a result of the research conducted, the following conclusions were drawn: firstly, integrated education increases the student's interest in the lesson, since the topics being studied are presented in an inextricable link with real-life realities. Secondly, ecological thinking should be formed not only in classrooms, but also directly in nature, during excursions and practical exercises, in which the educational power of



the subject of "Education" plays a decisive role. Thirdly, in order for primary school teachers to use integrative modules in the lesson process, it is necessary to increase their methodological training, enrich the base of integrated lesson plans and didactic materials.

Also, strengthening cooperation with parents and promoting ecological values in the family environment are important factors guaranteeing the effectiveness of education. If a student reinforces the educational lesson that "planting a tree" is a meritorious act learned at school with the knowledge that trees are a source of oxygen learned in natural science lessons, this will be imprinted in his mind and heart. In the future, such students will grow up to be perfect people who do not harm nature and appreciate every plant. From this point of view, the integration of "Education" and natural sciences as a priority direction of modern pedagogy should be supported by the general public and more deeply embedded in the curriculum. Lessons prepared on the basis of this methodology will serve to form an ecological culture in students, as well as to enhance their universal human qualities.

REFERENCES

1. Gofurov J. — Environmental Education in Primary Schools — Tashkent: Teacher, 2021, 85 pp.
2. Smith J. — Integrated Environmental Education — London: Academic Press, 2020, 120 pp.
3. Nuriddinova M. — Methodology for Teaching Natural Science — Tashkent: Cholpon, 2019, 142 pp.
4. Ministry of Public Education of the Republic of Uzbekistan — Concept of the Subject "Education" — Tashkent: Yangiyul Polygraph Service, 2020, 56 pp.
5. Yuldoshev J. — Modern Pedagogical Technologies — Tashkent: Science and Technology, 2022, 210 pp.