pISSN:2349-5707 Volume:13,Issue 2, February -2026 eISSN:2349-5715

THE IMPORTANCE OF THE PLANT WORLD IN FORMING ENVIRONMENTAL EDUCATION AMONG PRIMARY SCHOOL STUDENTS

Zuxriddinova Risolat Dilshodbek kizi
Assistant Lecturer,
Department of Preschool Education,
University of Economics and Pedagogy, NTM

Egamberdiyeva Saodatxon Egamberdi kizi
3rd-year Student,
Primary Education Program,
University of Economics and Pedagogy, NTM

Abstract

This article analyzes the importance of the plant world in the formation of environmental education among primary school students. The paper scientifically examines the fundamental concepts related to environmental education, the vital life processes of plants, and their role in maintaining ecological balance in the environment. In addition, pedagogical methods and practical approaches to working with plants aimed at developing environmental awareness among students in primary education institutions are discussed. The conclusions of the study are based on an analysis of scientific literature in biology and pedagogy, pedagogical experience, as well as models and strategies of environmental education.

Keywords

environmental education, primary education, plant world, environmental awareness, environmental competence, nature conservation, pedagogical approach, practical activity, environmental culture.

Introduction

In the current era of globalization, environmental protection, rational use of natural resources, and prevention of ecological problems are among the most urgent global challenges. Addressing these issues requires the development of a well-rounded individual with a high level of environmental awareness and ecological culture. In particular, introducing environmental education at an early age—especially from the primary education stage—has been proven to yield effective and sustainable results.

In forming environmental education among primary school students, the plant world serves as an important educational tool. Plants are an integral part of nature and perform essential ecological functions such as purifying the air, improving soil fertility, and regulating climatic conditions. At the same time, plants provide opportunities to cultivate students' love for nature, sense of responsibility, and careful attitude toward the environment.

This article scientifically examines the importance of the plant world in environmental education, the pedagogical foundations of teaching this topic to primary school students, and effective methods for integrating plant-based activities into the teaching and learning process. The findings of the study are expected to have practical significance in organizing effective environmental education in primary education institutions.

pISSN:2349-5707 Volume:13,Issue 2, February -2026 eISSN:2349-5715

The Role of the Plant World in the Ecological System

Plants are considered the primary producers of the biosphere. They absorb solar energy and produce organic substances, thereby creating essential conditions for the life of all living organisms. Plants absorb harmful gases from the atmosphere, release oxygen, stabilize the soil, and contribute to maintaining water balance.

The stability of ecological systems largely depends on the preservation of plant cover. A reduction in plant populations leads to climate change, decreased soil fertility, and the loss of biodiversity. Therefore, the protection of the plant world should be regarded as one of the central principles of environmental education.

It is important to explain these processes to primary school students using simple and life-related examples rather than complex scientific terminology. For instance, questions such as *"What would happen if there were no trees?"* help develop cause-and-effect thinking in children.

The Interdependence between Plants and Human Life

Human life cannot exist without plants. Plants serve as the primary source of food, clothing, medicines, and construction materials. In addition, plants have a positive impact on both the physical and psychological well-being of humans.

Explaining the importance of plants in human life through everyday examples is particularly effective for primary school students. For example, discussions can be held about the origin of bread, fruits, and vegetables, as well as the role of plants in the production of medicines. Such an approach fosters gratitude, responsibility, and a careful attitude toward nature among students. Recognizing plants not merely as decorative elements but as vital sources of life is an important indicator of environmental awareness.

The Concept of Environmental Education among Primary School Students

Environmental education is a continuous pedagogical process aimed at developing students' conscious need to protect nature, ecological knowledge, and practical skills. At the primary education stage, environmental education is mainly implemented through observation, experimentation, and practical activities.

At this age, children demonstrate a strong tendency toward curiosity and imitation; therefore, the teacher's personal example plays a significant role. A teacher's attitude toward nature directly influences students' environmental behavior. Environmental education is not limited to the transmission of knowledge but also seeks to develop students' emotional sensitivity and moral values.

Pedagogical Opportunities for Forming Environmental Education through Plants

In the process of forming environmental education in primary education, the plant world is considered one of the most effective pedagogical tools. Working with plants not only reinforces biological knowledge but also contributes to the development of environmental awareness, responsibility, and a caring attitude toward nature among students. From a pedagogical perspective, plant-based environmental education offers several key opportunities: linking theoretical knowledge with practical activities, developing emotional and moral values, and fostering independent thinking and observation skills.

pISSN:2349-5707 Volume:13,Issue 2, February -2026 eISSN:2349-5715

Strengthening Theoretical Knowledge through Practical Activities

Plant-related pedagogical activities enable students to internalize environmental concepts through hands-on experience. For example, by planting and caring for seeds, students observe the process of plant growth and gain an understanding of photosynthesis as well as the importance of water and light. Creating herbariums or plant collections helps develop an understanding of biological diversity, conservation of plant species, and ecological balance in nature. Landscaping activities in classrooms or school yards provide students with practical skills in environmental protection and improvement.

These activities reinforce environmental concepts in students' minds through the "knowledge–outcome" principle.

Development of Emotional and Moral Values

Working with plants provides opportunities to enhance children's emotional and moral development. Psychological studies indicate that children aged 6–10 develop social and moral qualities such as compassion, responsibility, and care when they engage directly with nature. For instance, if a student fails to water a plant they have planted, observing its withering helps the child realize personal responsibility toward nature.

In addition, participation in collective environmental projects, such as improving a school garden, promotes cooperation, responsibility, and the development of social values among students.

Development of Independent Thinking and Observation Skills

Plant-based activities encourage students to analyze cause-and-effect relationships and develop observation and independent thinking skills. Questions such as *"What would happen if trees were cut down?"* help students understand interconnections within ecological systems. By regularly observing plant growth and recording results in tables and graphs, students enhance their analytical thinking skills.

This approach prepares students to make independent and responsible decisions when addressing environmental issues.

Pedagogical Methods and Approaches

Several pedagogical methods are effectively applied in forming environmental education based on plants. These include:

Observation method:
Students observe different stages of plant development and analyze growth, development, and ecological factors.

Experimentation and practical investigation:
For example, by growing plants under different conditions, students practically study ecological processes and the influence of environmental factors on plant growth.

Project-based learning:
Small-scale classroom ecological projects such as landscaping, planting flowers, and creating simple ecosystems are implemented.

pISSN:2349-5707 Volume:13,Issue 2, February -2026 eISSN:2349-5715

Games and dramatization:
Role-playing activities on topics such as *"The Life of Plants"* enable students to perceive environmental concepts at an emotional level.

Multimedia and visual tools:
Videos, images, and infographics help students better understand the ecological importance of plants.

When applied collectively, these methods effectively promote environmental awareness, responsibility, care for nature, and the development of practical skills among students.

Integration of Educational Activities and Environmental Education

Through working with plants, environmental education can be integrated with other academic subjects:

- **Natural Science:** plant species, photosynthesis, soil and water balance;
- **Language Studies:** stories, essays, and oral presentations on environmental topics;
- **Art and Applied Arts:** plant illustrations and herbarium creation;
- **Technology and Practical Skills Education:** planting flowers, landscaping, and improving classroom and school grounds.

Such integration enables students to acquire ecological knowledge not only theoretically but also through practical experience.

Development of Environmental Awareness through Practical Activities

One of the most effective ways to develop environmental awareness among primary school students is through practical activities. Practical engagement not only reinforces knowledge but also fosters social and emotional skills such as environmental responsibility, care for nature, and an understanding of ecological balance. Pedagogical research indicates that children aged 6–10 acquire environmental knowledge and behavior more quickly and effectively through direct interaction with nature.

Types of Practical Learning Activities

Observation and Experiments

Students regularly observe plant growth processes, including seed germination, root and leaf development, flowering, and fruit formation. By cultivating plants under different conditions—such as varying light, water, and soil types—students gain an understanding of environmental conditions and the impact of human activity on plant growth.

INTRODUCTION

In the current era of globalization, environmental protection, rational use of natural resources, and prevention of ecological problems have become some of the most pressing global issues. Addressing these challenges requires the education of well-rounded individuals who

pISSN:2349-5707 Volume:13,Issue 2, February -2026 eISSN:2349-5715

possess ecological awareness and culture. In this regard, instilling ecological education at an early age—particularly at the primary education stage—yields highly effective results.

The plant world serves as an important tool in shaping ecological education among primary school students. Plants are an integral part of nature and perform essential ecological functions such as purifying the air, improving soil fertility, and regulating climate conditions. Moreover, plants provide opportunities to cultivate students' love for nature, a sense of responsibility, and careful attitudes toward the environment.

This article scientifically examines the role of the plant world in ecological education, the pedagogical foundations of teaching this topic to primary school students, and effective methods for integrating it into the learning process. The findings of the study are expected to have practical significance in organizing effective ecological education in primary schools.

PEDAGOGICAL METHODS AND APPROACHES

Several pedagogical methods are effectively applied in shaping ecological education based on plants:

- **Observation Method:** Students observe different stages of plant growth, analyze development processes, and identify the influence of ecological factors.
- **Experiments and Practical Activities:** For example, by examining plant growth under different conditions, students practically study ecological processes.
- **Project-Based Learning:** Small ecological projects such as landscaping, planting flowers, and creating mini-ecosystems.
- **Games and Dramatization:** Role-playing activities like "The Life of Plants" help students emotionally internalize ecological concepts.
- **Multimedia and Visual Tools:** Videos, images, and infographics enhance students' understanding of the ecological significance of plants.

When applied in combination, these methods effectively foster ecological awareness, responsibility, love for nature, and practical skills among students.

INTEGRATION OF LEARNING ACTIVITIES AND ECOLOGICAL EDUCATION

Ecological education through plant-based activities can be integrated with other school subjects:

- **Natural Sciences:** Plant species, photosynthesis, soil and water balance.
- **Mother Tongue (Language Arts):** Stories, essays, and oral presentations on ecological topics.
- **Art and Handicrafts:** Drawing plants and creating herbariums.
- **Labor Education:** Planting flowers, landscaping, and maintaining school gardens.

This interdisciplinary integration enables students to acquire ecological knowledge both theoretically and practically.

DEVELOPING ECOLOGICAL AWARENESS THROUGH PRACTICAL ACTIVITIES

pISSN:2349-5707 Volume:13,Issue 2, February -2026 eISSN:2349-5715

One of the most effective ways to develop ecological awareness in primary school students is through practical activities. Such activities not only reinforce knowledge but also cultivate ecological responsibility, love for nature, and an understanding of balance within ecosystems.

Pedagogical research shows that children aged 6–10 acquire ecological knowledge and environmentally responsible behavior more effectively through direct interaction with nature.

Observation and Experiments:
Students monitor plant growth processes such as germination, root and leaf development, flowering, and fruiting. Growing plants under varying conditions (light, water, soil types) demonstrates the impact of environmental factors and human activity.

Experiments help develop cause-and-effect reasoning, for example: *"What happens to a plant if it is not watered?"*

Landscaping and Flower Planting:
Planting trees, flowers, and vegetables in school yards helps students develop skills in nature conservation, care, and beautification. Students experience personal responsibility by watering plants, removing weeds, and preparing soil.

Project-Based Activities:
Mini-projects such as "Our Small Garden" or "Habitats of Plants and Animals" strengthen ecological awareness. Students collect information and present results through charts or drawings, fostering analytical thinking.

Role-Playing and Dramatization:
Role-playing activities such as "The Life of Plants" enhance emotional perception. For instance, students portray trees or flowers and experience challenges related to water, sunlight, or air pollution. This method helps students understand ecological processes through personal experience.

PEDAGOGICAL SIGNIFICANCE OF PRACTICAL ACTIVITIES

Practical ecological activities are pedagogically effective in several ways:

- **Application of Knowledge:** Students observe theoretical concepts in practice.
- **Emotional and Behavioral Education:** Students develop empathy, care, and responsibility toward nature.
- **Independent and Collaborative Learning:** Projects and landscaping activities enhance cooperation and accountability.
- **Observation and Analytical Thinking:** Students examine plant processes and understand their dependence on environmental conditions.

- Clearly explain objectives and tasks before each activity.
- Organize activities step by step: theory → observation/experiment → analysis → presentation of results.
- Assign personal responsibility to each student (e.g., caring for a specific plant).

pISSN:2349-5707 Volume:13,Issue 2, February -2026 eISSN:2349-5715

- Enrich activities with interactive and visual tools such as images, videos, infographics, and models.
- Combine indoor and outdoor activities (classroom experiments and schoolyard activities).

Practical activities are the most effective means of developing ecological awareness in primary school students. Through direct interaction with plants, students gain opportunities to:

- apply theoretical knowledge in practice,
- develop ecological responsibility and emotional values,
- cultivate independent thinking and observational skills.

Therefore, educators should prioritize practical activities as a core component of ecological education. Strengthening ecological knowledge and values at an early age plays a crucial role in nurturing environmentally conscious individuals in the future.

SCIENTIFIC AND PEDAGOGICAL FOUNDATIONS OF PLANT-BASED ECOLOGICAL EDUCATION

The process of shaping ecological education in primary school students should be based on scientific and pedagogical principles. Modern pedagogy emphasizes learner-centered, activity-based, and competency-based approaches, which are particularly effective when teaching the plant world.

In a learner-centered approach, plant-related activities consider students' individual interests and emotional experiences. Observing the growth of a plant they have planted transforms ecological knowledge into personal experience, ensuring long-term retention.

An activity-based approach emphasizes learning through practice rather than passive reception of information. Activities such as planting, caring, observing, and comparing plants lead to deeper understanding and foster ecological behavior.

From a scientific perspective, the effectiveness of ecological education is closely linked to the development of cause-and-effect reasoning. Understanding relationships such as "care—growth" and "neglect—decline" helps students consciously develop ecological responsibility.

EVELOPING ECOLOGICAL COMPETENCE THROUGH PLANT-BASED EDUCATION

In recent years, the concept of *ecological competence* has gained prominence in education. Ecological competence refers to an individual's ability to possess ecological knowledge, demonstrate conscious attitudes toward nature, and make environmentally responsible decisions.

Plant-based educational activities play a key role in developing this competence. Ecological competence in primary school students consists of:

- **Ecological Knowledge:** understanding the importance and functions of plants;
- **Ecological Values:** love for and care toward nature;
- **Ecological Behavior:** protecting plants and avoiding harm.

pISSN:2349-5707 Volume:13,Issue 2, February -2026 eISSN:2349-5715

These components develop integratively through plant-related activities. For example, when a student observes a plant drying due to lack of water, they connect theoretical knowledge with practical experience and adopt responsible behavior.

From a psychological perspective, ecological competence in young learners is primarily formed through emotional perception. Plant-based activities nurture compassion, care, and responsibility, ensuring long-term effectiveness of ecological education.

CONCLUSION

In conclusion, the plant world serves not only as an educational resource but also as a powerful pedagogical and moral tool in shaping ecological education among primary school students. Through plants, ecological knowledge gains real-life relevance, and ecological education is reinforced through practical activity.

Scientific analysis shows that establishing ecological education at the primary level plays a crucial role in developing environmentally conscious, responsible, and aware individuals. Plant-based ecological education enhances students' ecological competence and teaches them to care deeply about nature.

The findings of this article may be of practical and academic value to primary school teachers, pedagogy students, and specialists involved in ecological education.

REFERENCES

1. Karimov, I.A. *High Spirituality is an Invincible Force.* Tashkent.
2. Mirziyoyev, Sh.M. *Education and Upbringing as the Foundation of Development.* Tashkent.
3. Law of the Republic of Uzbekistan "On Education."
4. State Educational Standards for Primary Education. Tashkent.
5. Abdullayeva, M. *Ecological Education in Primary Schools.*
6. Xolmatova, N. *Fundamentals of Ecology.* Tashkent.
7. Yo'ldoshev, J. *Pedagogy.* Tashkent.
8. To'xtayeva, R. *Methods of Teaching Natural Sciences in Primary Grades.*
9. Rasulov, A. *Ecological Culture and Education.*
10. UNESCO. *Education for Sustainable Development.*
11. Sultonov, S. *Fundamentals of Environmental Protection.*
12. Internet sources: scientific articles on ecology and education.