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FORMING AN ECOLOGICAL WORLDVIEW IN PRESCHOOL-AGED CHILDREN BASED ON THE NATURAL AND GEOGRAPHICAL FEATURES OF THE FERGANA VALLEY

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Abstract: This article explores the pedagogical potential of using the natural and geographical features of the Fergana Valley as a means of forming an ecological worldview in preschool-aged children. It analyses ways of introducing children, in accordance with their age-related characteristics, to the valley's mountains and foothills, rivers and streams, soil cover, flora, and fauna. The article also develops methodological recommendations aimed at fostering ecological knowledge, a positive attitude towards nature, and environmental responsibility through direct observation of nature, ecological experiments, geography-based games, local natural materials, and the STEAM approach.

Keywords: Fergana Valley, preschool education, geographical knowledge, ecological worldview, environmental education, learning about nature.

Introduction. A person's attitude towards nature begins to develop in childhood. By observing the trees, flowers, birds, water, soil, and weather phenomena around them, children form their first ideas about the natural world. These early impressions lay the foundation for their subsequent attitudes towards nature, environmental behaviour, and sense of responsibility for the environment.

Today, the growing severity of environmental problems, the rational use of water resources, the preservation of green spaces, the protection of soil fertility, and the conservation of biodiversity make it necessary to introduce environmental education from the earliest stages of learning. Preschool educational organisations play a particularly important role in this process.

To organise environmental education effectively, it is not enough merely to provide children with general information about nature. It is important to familiarise them with the natural characteristics of the area where they live, encourage them to observe natural phenomena directly, and teach them to behave in environmentally responsible ways in everyday life.

From this perspective, the Fergana Valley offers considerable educational opportunities for developing an ecological worldview in preschool-aged children. The valley's mountains and foothills, rivers and streams, irrigated lands, orchards, and diverse plant and animal life can enrich children's knowledge of nature through examples drawn from their immediate surroundings.

Methods. The study employed analysis of scientific and pedagogical literature, comparative analysis, generalisation, pedagogical examination of natural and geographical information, and methodological modelling.

The article is theoretical and analytical in nature. The proposed methodological approaches are recommended for practical use; the article does not claim to present experimental results demonstrating their effectiveness.

The Natural and Geographical Features of the Fergana Valley as an Important Resource for Environmental Education

The Fergana Valley is one of the distinctive natural and geographical regions of Central Asia. Most of it lies within Uzbekistan, while some parts extend into Kyrgyzstan and Tajikistan. The mountain ranges surrounding the valley, foothills, plains, river valleys, and irrigated lands determine the diversity of its natural environment. The region has a continental climate, with precipitation and temperature varying according to location and relief.

These geographical characteristics provide favourable opportunities for introducing preschool-aged children to the diversity of nature.

First, mountains and foothills help children develop initial ideas about landforms. Through pictures, models, and safe observations, children can learn about the height of mountains, the appearance of foothills, and the differences between lowlands and elevated areas. The priority is not to make children memorise complex geographical terms, but to develop their abilities to observe, compare, and ask questions.

Second, rivers and streams provide an opportunity to explain the importance of water in nature and human life. The Fergana Valley contains the Naryn, Kara-Darya, Sokh, and other rivers and streams. Using these examples, educators can explain why water is essential for plants, animals, and people, as well as the importance of conserving water and keeping water bodies free from pollution.

Third, soil and plant life help children understand relationships within nature. Simple observations can demonstrate that plants grow in soil, need water and sunlight, and that trees provide shade and help protect the air.

Fourth, local orchards and green spaces can serve as direct, practical settings for environmental education. Through everyday activities, children can learn to care for trees and flowers, avoid trampling plants, observe birds, and dispose of waste in designated places.

Thus, the natural and geographical features of the Fergana Valley do more than provide geographical information: they also help children develop initial practical skills related to valuing and protecting nature.

Pedagogical Foundations for Developing an Ecological Worldview

An ecological worldview is a system of views reflected in a person's knowledge, values, attitudes, and behaviour concerning nature, natural phenomena, living organisms, and the relationships between these elements and human activity.

The development of an ecological worldview in preschool-aged children can usefully be organised around three interconnected areas.

1. Developing ecological knowledge. Children acquire basic knowledge about water, air, soil, plants, animals, and the seasons. For example, through practical observation, they learn that plants need water, light, and soil to grow.

2. Developing a positive emotional attitude towards nature. It is important to foster children's curiosity, affection, and care for flowers, trees, birds, and other living things. Nature walks, observations, literary works, and creative activities can be used for this purpose.

3. Developing environmentally responsible behaviour. Children should demonstrate their acquired knowledge through practical actions. Examples include not wasting water, not picking flowers, not breaking tree branches, not littering, and caring for plants carefully.

A systematic review covering 66 studies on environmental education in early childhood noted the importance of nature-rich environments and approaches based on play, movement, and direct experience for children's cognitive and socio-emotional development and environmental literacy. This finding supports the need to organise environmental activities for preschool-aged children around observation and practical engagement rather than relying solely on verbal explanations.

Innovative Approaches to Environmental Education Using the Fergana Valley as an Example

To make effective use of the local natural environment, educators should combine different methods while taking into account children's age-related characteristics, interests, and prior experiences.

1. The "Young Naturalists" Observation Method

With this method, children make observations in the preschool organisation's courtyard, flower garden, orchard, or another safe natural area.

For example, children can observe the same tree in different seasons and identify changes in its leaves, flowers, fruit, and overall appearance. The educator asks questions such as: "What has changed?", "What does the tree need?", and "How can we help it?"

During observation, children develop their abilities to compare, draw conclusions, express their thoughts, and pay attention to changes in nature.

2. The "Journey of a Drop of Water" Environmental Experiment

This activity explains the importance of water and the need to conserve it. The educator selects two similar plants for observation. One is watered appropriately, while the soil of the other is allowed to remain dry for a limited period. Children observe changes in the condition of the plants.

There is no need to leave plants without water for an extended period or deliberately harm them. The aim is to help children understand the importance of water to plant life in a simple and safe way.

At the end of the experiment, children discuss practical rules for saving water, not leaving taps running, and preventing water pollution.

3. The "Nature Map of the Fergana Valley" Learning Activity

For older and school-preparation groups, educators can use a simplified map or model of the local natural environment. Mountains, foothills, rivers, plains, orchards, and settlements can be represented using colours and symbols.

Children place pictures in the corresponding areas: fish in a water body, trees in an orchard, and pictures of mountain animals in mountain or foothill environments.

This activity develops geographical awareness and helps children understand the relationship between living things and their habitats, as well as the connections among different components of nature. The educator should explain that the map is a simplified educational model.

4. The "Let's Help Nature" Environmental Project

The project involves children, educators, and parents in small environmental initiatives. Examples include:

- organising a rota for caring for plants in the group room;
- keeping the green areas in the preschool grounds clean;
- sorting paper and other household waste into appropriate containers;
- creating an illustrated album about local plants;
- organising an exhibition of children's drawings devoted to protecting nature.

This project helps children understand the connection between environmental activities and everyday life. Tasks should be selected to match children's ages and be safe and achievable for them to perform independently.

5. Learning About Nature Through the STEAM Approach

The STEAM approach makes it possible to integrate nature observation, simple experiments, construction, art, and mathematical concepts.

For example, under the theme "How Does Water Move in the Valley?", children can create a simplified relief model using sand, soil, small stones, and water. They observe how water flows from higher to lower areas, compare the water-permeability of different materials, and represent their observations through drawings.

Such activities are not intended to make children memorise complex geographical principles. Instead, they aim to develop their ability to ask questions, make predictions, observe, and express conclusions in simple forms.

The Proposed Methodological Model. The process of developing an ecological worldview through the natural and geographical features of the Fergana Valley can be organised in the following sequence:

Getting to know local nature → direct observation → identifying questions and problems → practical experiment or game → environmental conclusion → applying an environmentally responsible habit in everyday life

The key feature of this model is the connection between knowledge and practical action. For example, after children learn about water conservation, they should have opportunities to use water rationally during learning activities and in their everyday routines.

The following criteria can be used to assess the effectiveness of the methodological model:

- Knowledge criterion: the child can explain in simple terms the importance of water, soil, plants, and animals for life.
- Emotional-attitude criterion: the child shows interest in natural objects and treats them with care.
- Practical-activity criterion: the child demonstrates habits such as saving water, caring for plants, and keeping the environment clean.

These criteria can be examined through pedagogical observation, conversations, practical tasks, and analysis of children's everyday activities. When evaluating results, it is necessary to take into account each child's age-related characteristics, individual pace of development, and initial level of knowledge.

Discussion. The main advantage of using the natural and geographical features of the Fergana Valley in environmental education is that the phenomena children study are closely connected with their everyday lives. They can directly see water, trees, orchards, soil, and seasonal changes. This helps them understand abstract concepts through real-life examples.

However, certain conditions must be observed when using the educational potential of the local natural environment. First, the content of activities must be appropriate for children's ages. Second, observations of natural objects must take place in safe locations and under the educator's supervision. Third, environmental education should not be limited to celebrations or special events; it should be integrated into everyday educational activities.

Another important consideration is to avoid frightening children or exaggerating negative consequences in environmental education. Instead, educators should demonstrate positive and achievable ways to protect nature. UNESCO's recommendations on climate education also emphasise the importance of contact with nature, a sense of responsibility, practical activities, and approaches focused on positive solutions in early childhood [3].

Family involvement is also important. Regularly caring for trees and flowers, observing nature during walks, and disposing of waste correctly in cooperation with parents can help reinforce environmentally responsible habits.

Conclusion. The natural and geographical features of the Fergana Valley offer rich educational opportunities for developing an ecological worldview in preschool-aged children. Studying mountains and foothills, rivers and streams, soil, plants, and animals not only

expands children's basic knowledge of nature but also helps develop a positive emotional attitude towards it.

The analysis leads to the following conclusions:

1. Using local natural and geographical materials makes environmental education more relevant to children's lives and easier for them to understand.

2. Combining direct observation, simple experiments, geography-based games, and STEAM activities makes it possible to connect ecological knowledge with practical actions.

3. The development of an ecological worldview should integrate knowledge, emotional attitudes, and environmentally responsible behaviour.

4. Cooperation among educators, families, and the local community helps reinforce positive nature-protection habits in everyday life.

5. Practical testing of the proposed methodological model in preschool educational organisations, followed by a comparative study of children's initial and final developmental indicators, is a promising direction for future research.

Thus, the purposeful use of the Fergana Valley's natural resources as educational resources is an important pedagogical condition for raising a generation that is environmentally aware, cares for nature, and is prepared to protect the environment.

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