



Abstract

This article focuses on the organization of long-term observation and care of plants in preschool educational settings as an effective means of developing children's cognitive interest, ecological awareness, and basic labor skills. Special attention is given to systematic observation of plant growth and development, including recording changes in stems, leaves, buds, and flowers using markers and observation calendars. The article highlights the methodological importance of conducting observations no more than once a week and using plants with distinct leaf colors and visible growth characteristics.

In addition, the study describes essential practices for caring for indoor plants in the nature corner, such as watering, spraying, washing, loosening the soil, transplanting, fertilizing, and protecting plants from pests. Proper watering techniques, including the use of room-temperature water and chlorine removal, as well as the role of spraying and washing in maintaining healthy plant growth, are discussed. The article emphasizes that involving preschool children in plant care activities contributes to the formation of responsibility, environmental culture, and elementary labor education skills.

Keywords: plant observation, preschool children, nature corner, plant care, environmental education, labor education, cognitive development, ecological awareness.

Nowadays, one of the primary tasks of the preschool education system is to develop children's labor skills and attitudes toward work. The abilities to value labor, understand responsibility, and care for the environment are primarily formed during the preschool period, that is, between the ages of 3 and 7. Therefore, creating an effective pedagogical environment in preschool educational institutions is of great importance for teaching children work skills and fostering diligence.

Special nature centers, such as the "Fan va Tabiat" (Science and Nature) Center, serve as effective tools for introducing children to nature, teaching responsibility through small practical activities, and developing labor skills. In such centers, hands-on activities, observations, games, and excursions help cultivate children's interest in labor activities, ecological awareness, and social competencies.

This article is dedicated to the pedagogical foundations of organizing nature center activities for preschool children, the content and methods of the activities, and their effectiveness in children's overall development from a scientific and theoretical perspective.

Plant Observation. Long-term observation of plant growth and development arouses special interest in children. This type of observation is complex, so it is important to use special markers and record data such as the number, size, and condition of stems, leaves, buds, and flowers. The frequency of such observations should not exceed once a week. Observations can be recorded in an observation calendar, with specific dates clearly indicated. For these

observations, it is preferable to use plants with varied leaf colors and flowers with visible markings, as young leaves differ from older ones.

Plant Care in the Nature Corner

Caring for indoor plants in the nature corner includes watering, spraying, washing, loosening the soil, repotting, transplanting, fertilizing, pruning, propagation, and pest control.

Watering. Plants are watered with room-temperature water. To remove chlorine from tap water, it is left in an open container before use. During periods of growth and flowering, water slightly warmer than room temperature (by 2°C) is used. If water accumulates at the bottom of the pot and does not drain through the hole within two hours, it should be poured out.

Spraying. Spraying is an important part of plant care, as it helps maintain adequate moisture. Even in winter, spraying keeps the plants vibrant and healthy. Spraying with warm water promotes faster growth of stems and leaves and encourages bud formation.

Washing. Plants must be regularly washed with warm water to remove dust. They can be washed in a sink or basin, taking care to cover the soil with plastic to prevent it from washing away. Spiny cacti should have dust removed gently with a soft brush before washing. Plants with drooping leaves should not be washed with water but cleaned with a soft brush. Pots are washed 3–4 times a year with soap and hot water using a stiff brush.

Loosening the Soil. Loosening involves aerating the soil without adding water. It is done the day after watering. To avoid damaging the roots, the soil around the edge of the pot is loosened to a depth of 1–1.5 cm.

Transplanting and Repotting. Transplanting is performed when a pot becomes too small for a plant, transferring it to a larger pot along with the soil attached to its roots. Fresh soil is added to the bottom of the new pot, and seedlings are planted in the center. Any remaining soil fills the gaps. During repotting, the soil around the roots is slightly cleaned, and old soil partially removed. The new pot should be 3–4 cm larger than the previous one. Spring, before the start of active growth, is the ideal time for repotting.

Fertilizing. To ensure proper nutrition, plants should be fertilized regularly. Mineral fertilizers are recommended for preschool settings. Fertilization is performed after seedlings have established growth or roots. Plants should be watered thoroughly a few hours before fertilization.

Pruning. To maintain the plant's aesthetic appearance and fullness, growth must be regularly managed. To form a bushy shape, the tip of the main branch is cut to promote side shoots. When side shoots reach 10–15 cm, their tips are also trimmed. A sharp knife is used for pruning, cutting just above the bud, and crushed charcoal is applied to the cut. Plants such as roses, fuchsias, and pelargoniums are pruned in this way.

Propagation. Indoor plants can be propagated using stem and leaf cuttings, offsets, bulbs, division, and other methods.

Propagation by Cuttings. Cuttings can be taken from stems or leaves. Many plants (e.g., radeskatsiya, begonia, ficus, aucuba, henna, pelargonium) propagate well from stem cuttings. A 2–3 node section of a growing stem is cut, with the lower cut below a node. The cutting is either placed in water or planted in a pot, with the lower cut buried in sand. The cutting is covered with glass and sprayed with water twice daily. Begonia rex, sansevieria, and ivy can be

propagated from leaf cuttings. For *Begonia rex*, the leaf is cut along the veins and placed in moist sand, with the cut pressed gently into the sand.

Propagation from Bulbs. Plants such as amaryllis, crinum, gémantus, and zafiranthus propagate from bulbs. Buds emerge on the bulb, from which new bulbs grow. When planting, they are carefully separated from the old bulb and planted in pots, cared for as for the parent bulb.

Propagation by Offsets. Young plants formed as offsets above ground, such as chlorophytum, propagate very easily. Offsets are cut from the parent plant and transplanted into small pots.

Propagation from Root Sections. This method is used for transplanting plants as seedlings. Soil is shaken from the root section, and each piece is cut with a sharp knife, leaving at least 1–2 buds or shoots with roots. Plants such as aspidistra, sansevieria, and cyperus propagate well from root sections.

Main Methods Used in Educational Activities on Natural Science and Ecology

Visual Method. In introducing children of different age groups to nature, educators widely use the visual method—primarily observation. Observation is the perception of natural objects and phenomena in their natural environment in a goal-oriented manner, without interfering with the occurrence of these phenomena. It is a complex cognitive activity that involves perception, thinking, and speech, and requires sustained attention.

Regular observation of nature plays a crucial role in developing children's logical thinking and speech skills. As K.D. Ushinsky notes: "True human speech and correct logical thinking arise not from anything else, but from genuine and precise observations."

Introducing children to objects and phenomena in nature in a systematic manner enhances attention, curiosity about nature, and the desire to understand natural events. Observation is a critical skill that also develops writing and oral communication abilities in children.

Educators should teach children to purposefully understand objects and phenomena, identifying the most important aspects. While conducting observation activities, children should be guided to recognize the relationships and causes between phenomena. In this way, the thinking of preschool-aged children develops through the accumulation of accurate knowledge about nature. Observation should be conducted in a way that attracts attention purposefully, thereby also fostering voluntary attention in children.

Correcting misconceptions and forming new concepts is more difficult than preventing them. Therefore, it is essential for preschool-aged children to acquire accurate concepts about nature based on experiential learning.

Fostering interest in nature is also necessary because children may express curiosity in unhealthy ways, such as harming insects, birds, or animals out of curiosity. Educators should explain the interconnectedness of nature—the "golden chain"—which provides ecological education. I.P. Pavlov emphasized: "Close interaction with nature, combined with observation, teaches the desire to acquire knowledge. This forms the foundation for hypothetical and investigative reflexes, which are highly developed human traits." Preschool children's endless questions—"What is this?", "Why?", "How?"—illustrate this, and educators should engage children in finding answers.

Educators use various forms of observation depending on children's age groups. Observations can vary in duration and character, being short-term or long-term.

Short-term Observation – This includes observing falling leaves, wind, snow, rain, blooming flowers, or growing fruits. During short-term observations, children study shapes, colors, sizes, structures, spatial arrangements, and surfaces of objects, as well as movements and sounds of animals. Examples include observing snowfall, rainfall, or rainbow formation.

Long-term Observation – This involves monitoring a planted plant from its growth to full maturity. It can also be applied to animals, observing their growth and living conditions. Long-term observation allows children to accumulate knowledge about seasonal changes, plant and animal growth, and development. Children compare the current state of an object with previous observations.

Comparative Observation – Conducted to distinguish between short-term and long-term observations. Due to its complexity, comparative and long-term observations are used in preschool groups of various ages, including middle, senior, and preparatory groups. During these observations, children improve skills in analyzing, comparing, and drawing conclusions.

Observation also helps children determine the state of objects based on specific features, for example, watering a plant based on leaf condition, changing aquarium water based on its state, identifying a bird species from tracks in the snow, or judging fruit ripeness by color. This type of observation develops skills in analyzing natural phenomena, comparing data, and drawing simple conclusions.

Depending on the content and goals set by the educator, observations involve plants, animals, weather phenomena, as well as human work in nature, conducted during excursions, walks, and activities in the nature corner.

In all cases, observation should develop children's higher cognitive activity, encourage thinking and problem-solving, stimulate curiosity, and foster a careful and respectful attitude toward nature.

Preparation of the Educator for Observation

When organizing observation, the selection of the object is of great importance. The chosen object should be in good condition; for example, a plant should not be wilted or have tangled shoots, and animals should be trained to handle, healthy, and not afraid of children. If the observation takes place in a nature corner, the object should be well-lit, with light falling from the side to facilitate close examination. Children can feed, stroke, and play with the animals while observing them, allowing the animals to move freely and behave naturally. It is advisable for children to be comfortably seated in the nature corner.

Managing Observation

If the educator conducts the observation for the first time, it is recommended to allow children 1–2 minutes to watch the object in order to satisfy their initial curiosity and form a first impression of the observed phenomenon.

During observation, the educator uses a variety of methods appropriate to children's age, such as asking questions, giving tasks, allowing them to touch the object, make comparisons, and engage in playful activities.

While organizing observation, the educator should provide necessary information and highlight the key features of the object. To stimulate children's interest in observation and

enhance aesthetic perception of the object, the educator may use poems and riddles, and in older groups, literary excerpts.

When observing animals, the educator directs children's attention systematically by asking questions such as: "What is it doing?", "How is it moving?", "What is it eating?", "How does it eat?", "What covers its body?", "Are its legs long or short?", "What do its eyes look like (shape, color)?"

Observation of plants begins with identifying and highlighting the most noticeable features, such as flowers, brightly colored leaves, or sometimes the stem (e.g., in cacti). Then, the main external characteristics of the plant—size, shape, stem (or body), leaves, flowers, etc.—are examined in sequence. Such consistency is necessary because the attention span of preschool-aged children is not yet fully developed and often involuntary.

At the end of the activity, it is important to summarize the results of the observation. The educator uses various questioning techniques, such as "Describe it, how did you notice it, how is it different?" to help children develop speech through observation.

In all cases, the educator should ensure continuity: moving from one task to another, from facts to relationships, from collecting impressions to comparing them, and finally to drawing conclusions. This approach fosters logical thinking in children. Each observation should focus on solving a small, specific task, and each subsequent observation should build on the previous one.

When organizing long-term observations, the educator divides the process into a series of episodic observations. These observations are conducted at times when changes in the plant's development are clearly visible. The educator encourages children to watch the plant carefully and record its characteristics (e.g., the first emergence of leaves or the seed coat splitting). In the final observation, children should reconstruct a complete picture of the plant's development. This can be documented in observation journals, through various drawings, herbariums, or for older groups, through graphical tables.

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