CHAPTER 9

Early Childhood Environmental Education and Current Trends

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Introduction

Environmental education is also important in terms of creating value for the environment by developing an attitude towards the environment and teaches respect for the environment. Environmental education has a very important place in early childhood because it is known that the child develops a positive attitude towards the environment in this period. Value judgments and attitudes formed in early childhood and at a young age have a very important place in the development of empathy and love for nature in relations with nature at an early age. Considering the period, we live in, children are born into an environment where environmental disasters are experienced and strengthened by human hands, and vital diversity decreases. For this reason, it is expected that children, who are our future, will be more conscious and sensitive individuals about the environment. The first thing to be done for the purpose of creating environmental awareness in children is to give children the opportunity to communicate with their environment. In this regard, activities that will make children move, interact with the environment and explore the environment should be included in the child's life rather than activities that will keep children at home and immobilize them.

Although environmental education differs according to age groups, it has some common points: *Consciousness, knowledge, attitude, skills* and *participation* express these common aspects. In environmental education, which is shaped by common points, it is aimed that individual become conscious about the environment and its problems, have basic knowledge about the environment and its problems, develop an attitude based on protecting, improving and beautifying the environment, gaining skills to identify problems and develop solution proposals, and actively participate in environmental situations. In addition, enabling children to understand the environment in early childhood also enriches human-environment relations.

Environmental education addresses all cognitive, affective and psycho-motor learning areas of children. These developmental stages will be the learning in the affective field that should be taken into account and will later help the development of environmentally beneficial conscious behaviors in individuals. Within the scope of environmental education, children should be played games that make them love nature and they

should gain experiences in nature. With these games and experiences, children acquire positive emotions and learn to be environmentally friendly. Children, who learn that nature is a value, become aware of its beauty with all their sense organs and make an effort to protect it. There are many approaches used in parallel with this dimension in early childhood education and some of these approaches attract global attention such as Montessori, Reggio Emilia, High Scope, Forest Schools and Waldorf. It can be said that 'environment' is the most striking of some of the points where these approaches are combined.

In addition to these early childhood programs, which have been carried out for many years, the need, place and importance of technology use in environmental education is increasing day by day. Especially in the technologies used in pre-school education, there are criteria such as supporting the development of the child, using it for multiple purposes and independently. When computer technologies are used in accordance with the development of children, they are an important tool that facilitates learning and allows me to explore. Technology must be physically present in the classroom and open to children's active use. While the activities are being implemented during the day, it should be ensured that children benefit from technology and how they will benefit from it should be determined.

Technological tools used in early childhood education are generally; music players, televisions, computers, overhead projectors, data projectors, electronic storybooks and other electronic devices. These tools, which are used, affect the motivation of children because they attract the attention of children and attract their attention. Technological tools should be used consciously to support children's cognitive, social, emotional, physical and language development opportunities and to enable them to learn, and should be appropriate for early childhood development. There are many examples where these tools also support environmental education in children.

The Child's Environmental Perception and Sensitivity

The perception of the environment in which people live is an important prerequisite for the development of environmental awareness. In the development of this sensitivity in humans, the perception that will be created through environmental education, especially in childhood, and the sensitivity that will be revealed by the perception will make people feel responsible for the environment they live in in the future (Rejeski, 1982). Awakening this sense of responsibility is more needed in the age of technology and unplanned urbanization. While technology immobilizes us more and more and limits our communication with the environment, unplanned structures narrow the environment we can communicate with. In this sense, environmental perception and sensitivity should be instilled in individuals from childhood in order to raise individuals who are aware of the

environment and its elements, sensitive to and responsible for their environment (Yoleri, 2012).

Environmental Perception in Children

Children are curious and can be curious about almost anything. It is known that this curiosity arises when they open their eyes to the world and they try to understand what is going on around them. One of the subjects that this curiosity has turned to over time is the environment (Çabuk, 2019). When children encounter the environment, they realize that there is a life outside of them, and this triggers their sense of curiosity at a very high level since in the preschool period, the child has an egocentric mindset. Therefore, the environment they perceive is limited to the things they communicate with, and every new living-inanimate being they come into contact with creates an element of curiosity for them (Durmaz, 2019).

Figure 1. Environment and World

The concept of 'environment' begins to form in childhood; Children communicate with their environment through their 5 basic senses (Düzenli et al., 2018). The concept of environment has found meaning in children in different ways according to the environment, age, gender and social dynamics in which they are brought up. For example, a child growing up in the city may see the environment as consisting of houses, apartments and similar elements. On the other hand, the child growing up in the countryside uses the environment as trees, flowers, insects, etc. can perceive with its concepts (Taşkın & Şahin, 2008). These examples can be reproduced according to the following statistical data in terms of other variables (Haktanır & Çabuk, 2000):

- It has been observed that children who have siblings have less environmental perception than those who do not.

- The perception of the environment in the children of families with higher socioeconomic level in the upper stratum of the society is less than that of the lower socioeconomic level children in the lower strata of the society.

- It is observed that children with higher level of parental education can perceive the environment significantly more.

As a result, the concept of environment for the child has a wide definition in terms of meaning. When it comes to environmental perception in children, although the natural environment often comes to mind due to the period in which children live, it would be useful to consider other elements of the environment if it is desired to reach healthy inferences about children's environmental perception.

Environmental Sensitivity in Children

Considering the period, we live in, children are born into an environment where environmental disasters are experienced and strengthened by human hands, and vital diversity decreases. For this reason, it is expected that children, who are our future, will be more conscious and sensitive individuals about the environment (Ahi & Alisinanoğlu, 2016). Environmental education is also important in terms of creating value for the environment by developing an attitude towards the environment and teaches respect for the environment (Gärling & Golledge, 1989).

A large number of studies document that children differ in the degree they are shaped by their developmental context with some being more sensitive to environmental influences than others (Plues et al., 2018). Multiple theories suggest that Environmental Sensitivity is a common trait predicting the response to negative as well as positive exposures. The term 'environmental sensitivity' appears to have emerged in the 1970s and, in particular, following the 1977 Conference on Environmental Education in Tbilisi which resulted in the International Tbilisi UNESCO declaration (Canosa et al., 2020). This was the first international declaration linking education with the environment, whereby educators were passionate to instill a sense of awareness and 'sensitivity' to the environment in the early years (Chawla, 1998). According to Chawla (1998), there is evidence that 'the roots of environmental concern may lie in young children's initial fusion of their own feelings with their sensations of the world, thus forming the basis for a sense of the world as a living being to which they are attached'.

The first thing that needs to be done for the purpose of creating environmental awareness in children is to give children the opportunity to communicate with their environment (Çukur, 2011). In this regard, activities that will make children move, interact with the environment and explore the environment should be included in the child's life rather than activities that will keep children at home and immobilize them (Ärlemalm-Hagsér, 2013). The child's awareness of the things growing, happening and going on around her will enable him to ask questions about the environment, and these questions and the answers the child receives will form the basis of environmental sensitivity and awareness in the child.

Another issue that is as important as interacting with the environment in raising children who are sensitive to their environment is environmental education. Environmental

education is the one that will complete the sensitivity of children with their curious nature by transforming them into a building (Gülay, 2011). Since it is known that perception is interpretation of sensation; Interacting with the environment creates sensation, and making sense of the environment being interacted with creates perception. Since the child begins to receive environmental education, he/she will make his/her perception first an attitude and then a value and will complete his/her awareness of the environment and become environmentally sensitive (Nazlıoğlu, 1988).
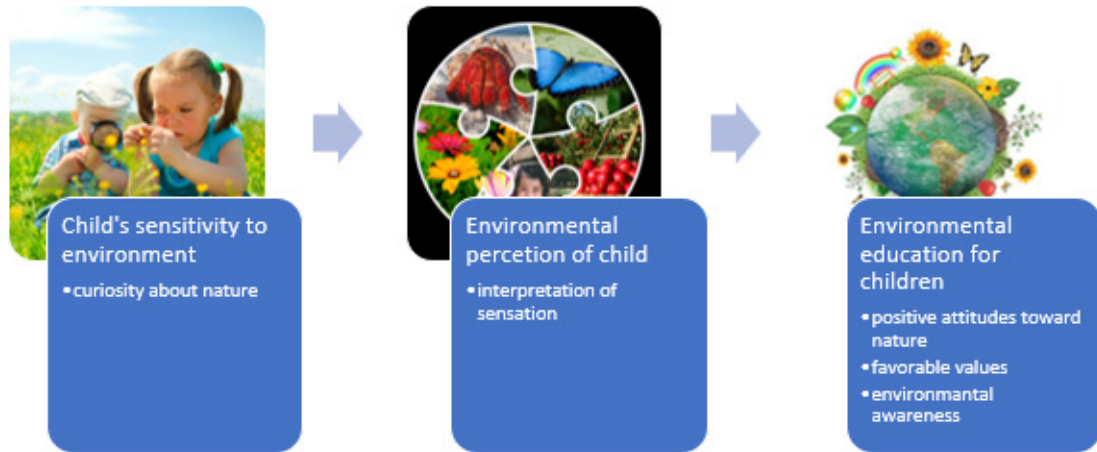

Figure 2. The Relationship Between Sensitivity-Perception and Environmental Awareness in Children

Another dimension of environmental awareness is family involvement. The general acceptance in the society is that the basic education of the child begins with the pre-school period. However, even before that, the foundation of child education begins to be laid in the family, albeit informally. In this sense, the duty of the family is to take their children outside, to take them for a walk, to interact with the natural environment and other environments. Since the child is constantly curious due to the period he is in, he will start this process by himself.

Figure 3. Family Involvement for Environmental Awareness

Although the children of the technology age we live in spend more time at home, this situation poses a danger for the healthy development of children. It is not possible for a child who does not interact with the environment to develop environmental perception

and environmental sensitivity. For this reason, parents should introduce and interact with their children, taking into account the situations that their children may encounter in their future lives (Scrimin et al., 2018).

The benefits of raising an environmentally conscious child can be cited as:

✓ A child who is raised sensitive to his environment and educated in this way will first learn to respect the existence of a world outside himself (Torquati, 2013).

✓ The child, who realizes that he is a part of the environment when he communicates with the environment, will develop awareness to protect it through environmental education. For example, he will know that he should not throw garbage on the ground and that he will damage his own living space when he throws it.

✓ Children who are sensitive to their environment will have knowledge and awareness about environmental disasters.

✓ Since respect for the right to life, which is the most fundamental right of all life forms, goes beyond being sensitive to the environment, individuals who are sensitive to the environment also become sensitive to the right to life.

✓ It will be easier for children who grow up sensitive to their environment to understand the limits of their own freedom and the freedoms of other individuals and to act accordingly (Ärlemalm-Hagsér, 2013).

✓ A child who is sensitive to his environment will react to the harm that children who have not yet gained environmental awareness are trying to cause to the environment.

✓ A child who has reached environmental awareness before due to individual differences will be able to gain environmental awareness through peer teaching to children who have not yet reached it (Gärling & Golledge, 1989).

✓ The child who becomes sensitive to the environment will know that he has to contribute to the environment. For example, behavioral patterns that can be acquired in early childhood, such as planting saplings, saving water, and sorting waste, which are taught to children through environmental education, are important for the protection of the future environment.

✓ The child who grows up with environmental awareness will turn this sensitivity into an attitude and value in his future life and transfer it to the next generations. This will ensure continuity in environmental protection (Scrimming et al., 2018).

✓ The child, who is sensitive to the environment, will realize that his country is an

environmental factor in the learning he will do at the next level. He will understand that he has a civic duty to protect the environmental elements in his country.

Considering all these issues, the child who has environmental awareness at an early age will know that the planet earth he lives in has a place in the cosmic environment in his later years, and he will realize that he needs to take individual precautions to protect the planet by not limiting environmental awareness to the environment he lives in.

As in every education type and level, some approaches, methods and techniques are used in order to carry out educational activities in environmental education and pre-school level. In order to create environmental awareness in children, methods such as games, creative drama, field trips, and simulation are frequently preferred especially in preschool education (Akbayrak & Turaşlı, 2017; Aysu, 2019). The reason why these methods are preferred is that they can be applied according to the developmental stages and age ranges of children in all areas. Looking at the approach part, the Forest Schools Approach, which provides direct contact with nature, the Waldorf approach that prioritizes interaction with natural materials, and the Project Approach with its structure suitable for field trips stand out. However, it is clear that the environment is not just about the natural environment; For this reason, it should not be forgotten and ignored that all the approaches, methods and techniques in early childhood education can be beneficial if they are arranged in accordance with the level of children and in a way that takes them to the center.

The Impact of The Environment and Nature on The Development of The Child

Environment is defined as 'area or place to live'. The concept of nature is broader than the concept of environment. Nature is a broad concept that includes natural and artificial environments as well as physical and social environment. Being a multidimensional concept, the environment has been the subject of research for many child development professionals (Baum, 2005; Chawla & Cushing, 2007; Dillon, 2003; Rickinson, 2006; Schnack, 2008). These studies revealed that the environment has two dimensions in the development of the child; social environment and physical environment.

Social environment is defined as the environment in which people interact in all kinds of social, economic, political, physical environment is the environments in which people live, exist and develop. The physical environment is divided into titles and plays an important role in the development of the child, both natural and artificial (Faber Taylor et al., 1998). Artificial environment, as the name suggests, is a ready-made, structured artificial space created entirely by humans. The natural environment, on the other hand, is the environment that occurs spontaneously, without human influence. These; all inanimate beings such as humans, animals, plants, soil, water and air. Both the social and physical environment are components that need to be addressed for environmental

education in early childhood.

As a holistic approach to child development, a development support model that focuses on simultaneously developing all developmental areas (see Figure 4) of the child (language-cognitive, emotional, fine-gross motor, vestibular, proprioceptive, self-care, social) should be implemented. Solomon and Heide (2005) emphasize that interacting with the environment positively affects the holistic development of individuals and can help them cope with stress.
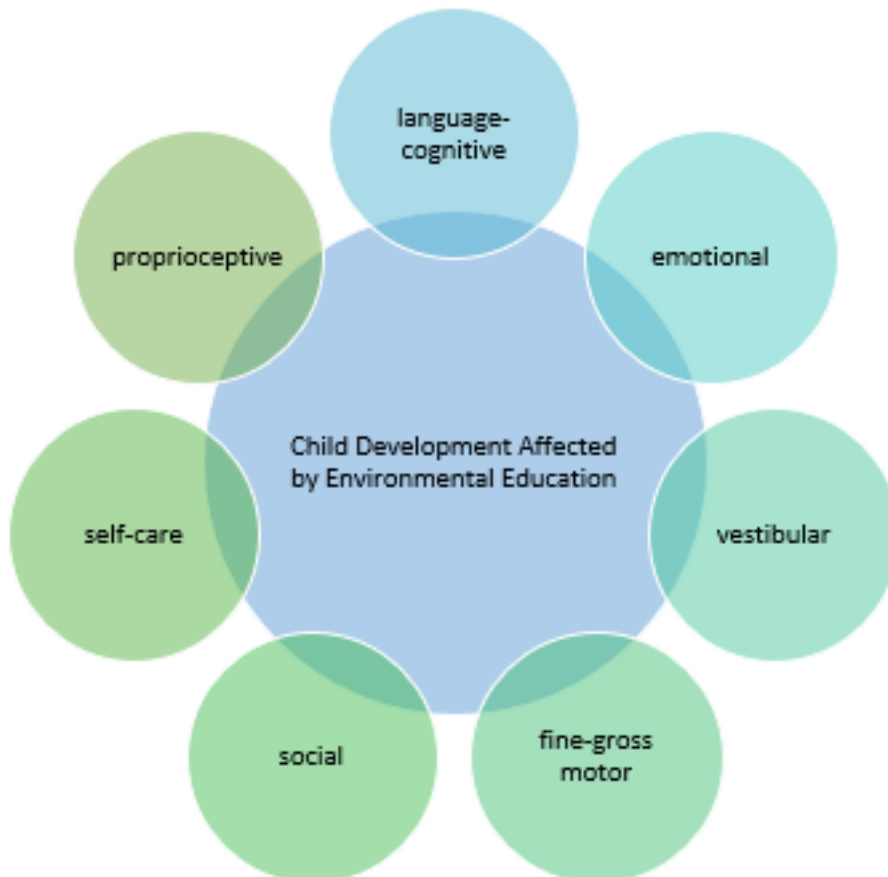

Figure 4. Elements of Child Development that Can be Affected by Environmental Education

Beyond the five senses traditionally taught, those of visual, auditory, gustatory, olfactory, and tactile, there are at least two more senses early childhood educators should be aware of: proprioceptive sense and vestibular sense. "Proprioception is the ability to sense what different parts of your body are doing without even looking at them. The vestibular sense is your awareness of where your body is in space; it determines your ability to effectively navigate your environment with ease and control" (Hanscom, 2016, p. 44). Within the scope of this development elements of child, all kinds of activities and practices for the environment will greatly contribute to the development of these senses.

Environmental education has a very important place in early childhood since it is known that the child develops a positive attitude towards the environment during this period.

A growing body of research also argued that nature has deep effects on well-being, above all for children because of their greater neuronal plasticity (Wells & Evans, 2003). Value judgments and attitudes formed in early childhood and young ages have a very important place in the development of empathy and love for nature in relations with nature at an early age (Erten, 2004). At this age, children are brought to life by playing nature-oriented games. Again, children during this period are curious and inquisitive. They are good observers of the environment and natural events they live in. Due to the developmental characteristics of preschool children, teaching by doing and playing is more effective in this period, so games and activities should be given more place in preschool education. While doing these, it is very effective to introduce concepts such as environmental education, sustainability and environmental protection through games and fun activities in this period (McClain & Vandermaas-Peeler, 2015).

Within the environmental education that the child receives at a young age, he or she goes on the way to become a conscious individual in the following years, and children who grow up with this awareness behave environmentally sensitive and love nature. The environment has positive and negative effects on the development of the child. For example, in underdeveloped and developing countries, a child may consume unhealthy drinking water, die due to environmental pollution, common diseases, or be born with a disability in the womb (UN, 2013). The environment after birth is the closed environment where the child lives with his mother. Sanitation, insufficient ventilation, overcrowding, low environment and socioeconomic level negatively affect this environment. In this case, factors such as the increase in the education level of the mother, the use of essential drugs, and immunization prevent adverse environmental conditions.

In the family environment, if there are parents who smoke, the probability of pneumonia and bronchitis in these babies is doubled. The external environment of the child, namely the mesosystem, causes adverse conditions due to many factors such as water pollution, air pollution, chemical pollution, destruction of forests and so on. However, environmental awareness and controlling pollution at an early age, increasing educational opportunities and expanding forest areas are the most important interventions in this regard. The child's macro environment, as well as the distant environment, is affected by the gradual warming of the climate, the thinning of the ozone layer, the melting of glaciers, the rise of the seas and water scarcity, etc. In short, the world in which the child lives is affected.

Children are more sensitive to environmental conditions than other individuals. Children are in holistic development during this period. Environmental awareness in children starts at a very young age, and by gaining experience in natural environments freely at these ages, the child should be able to absorb his environment. However, the exploration of the environment is important for children at an early age. Children also need to integrate their senses, and the outdoors is a wonderful place for this. Exploring natural

materials and the natural environment allows us to engage in all of our senses effortlessly as natural materials often come with their own scents, visual stimuli, sounds, tastes, and textures in a way that is far different from a classroom filled with manufactured products with its windows shut to the birds and other natural noises outdoors (Rothmeyer, 2019).

In this period, children's perceptions are not limited to what they see in their environment or gain experience. On the contrary, the education-teaching process of the child and the home environment should be enriched. Today, adverse environmental conditions have imprisoned children in artificial environments, but children rarely meet with nature. These, on the other hand, are usually artificial environments, which inhibit the child's assimilation of his environment. However, the child's interaction with nature, touching, smelling, examining and researching ensures the child's full development, as the child discovers, his sense of curiosity increases and he wants to be more intertwined with nature (Barber et al., 2013; Pyle, 2002; Wells, 2000).

In educational environments, when it is not possible to bring children together with nature, albeit unintentionally, activities are enriched and children need an environment in the classroom that will activate their all senses. This is the responsibility of the teacher. The teacher has an important place in the interaction of the child with the environment and in the formation of environmental awareness. In some cases, depriving the child of nature may cause affective development disorders (Basile, 2000). In order to avoid such problems, the child should be brought together with nature at regular intervals. Most of the models applied in the educational environment are criticized because they empower children in a limited and specific development area, but cannot support them holistically.

Considering the other effects of the environment and nature on the development of the child, it can be said that living close to nature and having daily contact with nature have positive effects on intelligence and focus. This is evidenced by the fact that schools that use nature as part of their school curriculum do better in mathematics, social sciences, science and arts than others. In addition, the incidence of attention deficit and hyperactivity decreases in children of countries with long recess periods in schools. It is known that the benefits of being in contact with nature in child development are not limited to the cognitive domain (Kaplan & Kaplan, 1994). It has been determined that these children are more physically active and more respectful to each other in their peer relations in social areas. Also, nature and environmental activities have highly curative effects to children immune system.

> Healthy bodies and immune systems are vital in education and both are supported by time outdoors. According to microbiologist Mary Ruebush, "What a child is doing when he puts things in his mouth is allowing his immune response to explore his environment. Not only does this allow for

'practice' of immune responses, which will be necessary for protection, but it also plays a critical role in teaching the immature immune response what is best ignored" (As cited in Rothmeyer, 2019).

If the environment in which children live is intertwined with nature, the risk of experiencing anxiety and depression in children is less than other children (Taylor et al., 2001). However, nature is also good for the sleep problems that exist in the child, and the child spends all his energy in nature, observes and researches his surroundings, and sometimes grows his own products in his garden. Thus, the child can overcome all his negative feelings with nature. Value judgments and attitudes formed especially in childhood and young ages are very important in the development of empathy and love for nature in relations with nature at early ages. Environmental education addresses children's cognitive, affective and psycho-motor learning areas. The formation of these values means showing environmentally friendly behaviors for the protection of the environment (Erten, 2004). These developmental stages will be the learning in the affective field that should be taken into account and will later help the development of environmentally beneficial conscious behaviors in individuals.

Within the scope of environmental education, children should be played games that make them love nature and they should gain experiences in nature. With these games and experiences, children acquire positive emotions and learn to be environmentally friendly. Children, who learn that nature is a value, become aware of its beauty with all their sense organs and make an effort to protect it. In the following sections, the effects of environment and nature on different developmental areas of children will be discussed.

Effect of Environment on Cognitive Development of Children

Children are born with a natural curiosity and desire to explore. Horwitz (1996) states that interest in the environment and association with nature begin at an early age. From the moment he was born, he conducts research through his senses to explore his environment and nature. As children grow older, they become interested in the natural environment they live in, the characteristics of living and non-living things in this environment, ask questions and begin to conduct experiments and observe the results of experiments (Güler, 2004; Akman, 2003). For example, he understands the seasonal changes by observing nature and monitors the changes in the surrounding trees and can draw conclusions.

Children who spend time in nature having meaningful hands-on experiences understand the world around them more fully. As they take in all the information in the environment, they are building their skill in sensory processing (discussed more in the next section), connecting deeply to the environment around themselves, and building cognitive skills such as attention, concentration, memory, reasoning, and understanding (Hanscom,

2016, p. 58; Louv, 2008, p. 105). Children with unstructured outdoor time become better problem solvers through developed skills in analysis, synthesis, and evaluation as well showing more mental flexibility (or creativity), engagement, and social skills (Hanscom, 2016, p. 93 and 168; Louv, 2008, p. 124).

Piaget (cited in Ültanir, 2012) proposed that children's thinking progresses through a series of four discrete stages. By "stages," he meant periods during which children reasoned similarly about many superficially different problems, with the stages occurring in a fixed order and the thinking within different stages differing in fundamental ways. The four stages that Piaget hypothesized were the sensorimotor stage (birth to 2 years), the preoperational reasoning stage (2 to 6 or 7 years), the concrete operational reasoning stage (6 or 7 to 11 or 12 years), and the formal operational reasoning stage (11 or 12 years and throughout the rest of life).
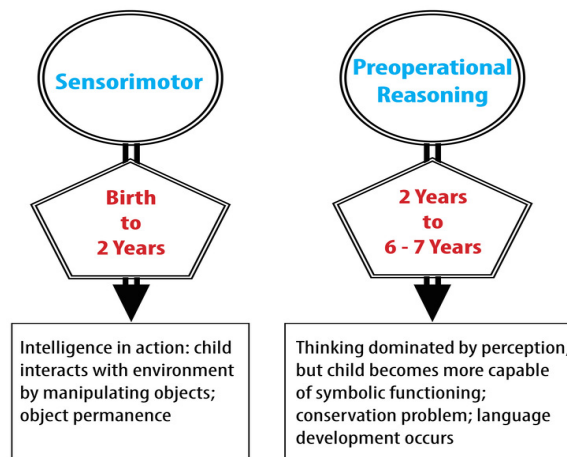

Figure 5. Piaget's Sensorimotor and Pre-Operational Reasoning Stages

Starting from the earliest ages, in sensorimotor and preoperational stage, children can learn much faster and more actively in an environment where they can see, touch, hear, use their senses, wonder, observe and test (Erentay & Erdoğan, 2009). Environments outside the classroom offer great opportunities for learning in this sense. According to Froebel, a relationship should be established between the child and nature from the first ages, because this is necessary for the child's body, mind and moral development (Akyüz, 1979).

Cognitive development is also an area of development that includes understanding and learning about the environment and what is happening around us. The child develops his/her abilities such as establishing cause-effect relationships, paying attention to details, estimating and problem solving. As a result of children's interaction with nature and their environment, scientific thinking skills such as observation, examination, research, inference and evaluation develop. Many researchers suggest that children have a tendency to observe and think about nature and this tendency should be developed by

offering effective science learning opportunities in the preschool period (French, 2004; Ginsburg & Golbeck, 2004; Kallery & Psillos, 2001; Patrick et al., 2009; Watters et al., 2000).

There is strong evidence that the ever-changing and evolving nature of nature increases intelligence. Nature inspires creativity, can increase intelligence, stimulates children with its ever-changing and developing structure and contributes to their cognitive development (Tai, 2006). Kaplan and Kaplan (1994) studies have shown that being in nature greatly improves performance on attention, memory and cognitive tests compared to being in the city or at home. Surprisingly, these benefits can also be observed through artificial things like looking at houseplants or even nature photos (Brainfit, 2017).

As a result, nature can be defined as an open classroom that supports the cognitive and physical development of children. For example, seasonal differences can give children the opportunity to examine how the living things around them change. It can be found in leaves, trees, soil, water, etc. differences can be observed and discussed in the classroom environment. By organizing field trips, children can be introduced to different living spaces.

The Effect of Environment on Language Development in Children

The child's experiences through observations; It supports cognitive, physical, social and language development. Activities done in nature in childhood, such as playing, hiking, camping, climbing; environmental attitudes of families, teachers and other role models affect children's environmental behaviors (Chawla & Flanders Cushing, 2007). When nature, which offers unlimited learning opportunities to human beings, is used as a learning environment, children will have the opportunity to learn many words by experiencing and discovering (Kınık et al., 2016).

Children, who are quite curious due to their developmental characteristics, try to explore the environment by asking questions about the world around them and by doing research. These characteristics of children form the basis for them to acquire sufficient knowledge about the environment and develop positive attitudes and behaviors (Yaşar et al., 2012). While spending time in nature and outdoor games support the development of children's physical and motor skills, they can also contribute to their cognitive and language development by providing many learning opportunities.

The most effective cognitive development in the 3-6 age period is in the language area. The child quickly learns concepts and tries to understand his environment. Observation, experiment, etc. made within the framework of science and nature activities. In addition to improving the ability of self-expression, expressing, and comparison in the child, it also awakens the child's feelings of curiosity. As a result, the child learns about objects, events and living things why?, how?, why? begins to ask questions containing the words

(Uysal, 2007).

The Effect of the Environment on the Social Emotional Development of Children

Spending time outdoors and building a connection with the environment has positive effects on psychosocial wellbeing. In simple terms, social and emotional learning (SEL) is the capacity to recognize and manage emotions, solve problems effectively, and establish positive relationships with others, competencies that clearly are essential for all students. Thus, SEL targets a combination of behaviors, cognitions, and emotions. The Collaborative for Academic, Social, and Emotional Learning offers a summary construct with five interrelated groups of competencies that together encompass the areas typically considered to be part of social and emotional competence (see Figure 6).

Self-awareness: The ability to accurately recognize one's emotions and thoughts and their influence on behavior. This includes accurately assessing one's strengths and limitations and possessing a well-grounded sense of confidence and optimism.

Self-management: The ability to regulate one's emotions, thoughts, and behaviors effectively in different situations. This includes managing stress, controlling impulses, motivating oneself, and setting and working toward achieving personal and academic goals.

Social awareness: The ability to take the perspective of and empathize with others from diverse backgrounds and cultures, to understand social and ethical norms for behavior, and to recognize family, school, and community resources and supports.

Relationship skills: The ability to establish and maintain healthy and rewarding relationships with diverse individuals and groups. This includes communicating clearly, listening actively, cooperating, resisting inappropriate social pressure, negotiating conflict constructively, and seeking and offering help when needed.

Responsible decision-making: The ability to make constructive and respectful choices about personal behavior and social interactions based on consideration of ethical standards, safety concerns, social norms, the realistic evaluation of consequences of various actions, and the well-being of self and others.

Figure 6. Elements of Social and Emotional Competence for Children.

Environment and nature have an impact on all these dimensions of social emotional development. There are two main reasons that make environmental education necessary for children: First, environmental education is the most effective solution to increasing environmental problems. Secondly, it is the speed of development and learning in the preschool period. Environmental education to be given to young children will enable them to know and love their environment and develop a conscious perspective towards protecting the environment (Gülay, 2011). The inactivity of the children growing up within the four walls of the city life in a restricted area not only restricts the physical development of the children, but also negatively affects the emotional and social development of the child. (Sweet Kids, 2019). On the other hand, children who have good social relationships have greater self-esteem than those who do not and are less likely to experience mental health problems including depression and anxiety.

Children's interest in plants and animals teaches them to know them and to love and protect them. With the development of environmental awareness in children, their fear of animals decreases and their love and interest increase instead. In order for a child to feel responsible for the environment, first of all, he must love nature, and in order to love it, he must smell and touch plants, play with the soil, watch animals and clean the environment, in other words, he must experience and learn many things in nature. Especially in the pre-school period, children will certainly carry the attitudes and behaviors they have acquired to the future. This period has an important place in the child's life as the first socialization period, the learning period of permanent behaviors and the period in which he progresses in many ways. It is important to give children information about the environment in nature. A school garden can be designed for this purpose, or if the school does not have a suitable garden, regular trips can be organized outside the school (Plant Magazine, 2020).

People protect their loved ones, so making children love animals and plants should be one of the most basic aims of environmental education. From this point of view, it can be said that the love of animals gives the child empathy. The love of animals, which plays an important role in the moral development of the child and prevents him from being an absolute egocentrist, also instills responsibility in children. Nurturing the animal, loving it, not harming it, thinking about its well-being not only nurtures the child's positive feelings towards animals, but also reminds him that the existence of others is as valuable as his own. As he gives love and attention, he realizes the virtue of love and realizes that love is a reciprocal relationship, as he sees how animals, especially creatures with a sense of loyalty, such as dogs, respond to him. The bond established with animals also contributes to the development of children's sense of friendship. Thanks to this relationship, the child can develop a more tolerant, more giving, more sharing, more

understanding, more open personality (Echoschools, 2021). In addition to this, allowing children to experience risky situations in nature helps them build understanding of how to navigate unpredictability and challenges, building persistence, entrepreneurship, self-knowledge, and problem solving (Rothmeyer, 2019).

As a result; the environment and nature contribute greatly to the social and emotional development of children. During the time spent in the environment and nature, children develop a love and awareness of the environment and nature. Children learn to observe and discover new things with their friends when they actively spend time in nature with their peers. Children create a rich learning environment in groups with their peers, activities and discoveries in the environment and nature. Children learn to share with their friends in nature, cooperate, take responsibility, respect their friends, compete with them, etc. finds the opportunity to learn many experiences thanks to the environment and nature interaction with her/his friends. Thus, the child's having different experiences with his friends contributes to his social and emotional development. The self-confidence of children who play in nature with their friends also increases. Children's shyness in the group decreases. The communication of children who spend time in nature with their friends increases. Thus, their social adaptation becomes easier.

Effect of Environment on Children's Motor Development

In terms of environmental education, critical periods in the first years of life are evaluated and children get to know their environment and gain sensitivity towards the environment. Practices during environmental education support children's cognitive, physical, social and emotional development. A motor skill is a learned ability to cause a predetermined movement outcome with maximum certainty. Motor learning is the relatively permanent change in the ability to perform a skill as a result of practice or experience. Performance is an act of executing a motor skill. During environmental training, running, jumping, walking, etc. large muscle skills are supported with movements, small muscle skills are supported with skills such as holding, throwing and carrying.

Motor learning is a relatively permanent skill as the capability to respond appropriately is acquired and retained (Adams, 1971). It includes movements such as small and large muscle development, holding small objects, jumping with both feet and one foot, crouching, and running on tiptoe in children aged 3-6 years (Yapıcı & Yapıcı, 2006). Games such as climbing, hiding leaves and collecting flowers that children can play with plants will help them complete their motor development (Lee & Schmidt, 1999). Gross and fine motor skills vary and develop during ages of infancy and young children (see Figure 7).

Changes in Gross- and Fine-Motor Skills During Early Childhood

Age	Gross-Motor Skills	Fine-Motor Skills
2–3 years	• Jumps, hops, throws, and catches with rigid upper body • Pushes riding toy with feet; little steering	• Puts on and removes simple items of clothing • Uses large zippers • Uses spoon effectively
3–4 years	• Jumps and hops, flexing upper body • Throws and catches with slight upper-body involvement • Pedals and steers tricycle	• Fastens and unfastens large buttons • Serves self food without help • Uses scissors • Draws first picture of person
4–5 years	• Runs more smoothly • Gallops and skips • Throws with increased body rotation	• Uses fork effectively • Cuts with scissors following line • Copies shapes and some letters
5–6 years	• Increases running speed • Mature throwing, catching • Rides bicycle with training wheels	• Uses knife • Ties shoes • Draws more detailed person • Copies numbers and simple words

Figure 7. Changes in Gross and Fine Motor Skills During Early Childhood

When we look at the effects of environmental and nature activities on physical and psycho-motor development; the basic element that helps the child to examine the differences in the external world is perception. The basic sense organs that provide perception are the eyes, ears, tongue, nose and skin. Environmental and nature activities improve the coordination between these organs and the brain of the child, give them the ability to use their sense organs more effectively and help the development of the sense organs (Demiriz et al., 2011). It enables the child to use large and small muscles and to move in a balanced way. It develops hand skills, gives the ability to provide hand-eye coordination. The ability to use tools and equipment in daily life (magnifying glass, stethoscope, etc.) develops. It enables the child to provide physical coordination, to use his body more effectively, and helps him to establish control over his body. With these activities, the child's need for movement is met (Demiral, 1986; Dirim, 2004; Şahin, 2000).

Children gain concrete experiences with their senses in the natural environment and have the opportunity to get to know life. Games played in playgrounds support children's creativity and independence. These areas allow various activities such as running, jumping, jumping, throwing, swinging, climbing, digging, riding, sliding, and catching, and concepts and skills arising from movement are acquired Ünal (2009). Natural play tools that can be used in ecologically based playgrounds have developmental importance in children. Plants are a game tool where children can develop many physical skills such as climbing, hiding and jumping that will support their muscle development.

In addition to these environments, water containers of different shapes and volumes can be used for different age groups in early childhood. While water games help children relax, they also help develop their emotional and motor skills. For example, a child who builds a pool with soil and water or tries to create a dam by piling sand in front of the water will see the effect of water pressure. Children who build towers with complex blocks made of water and sand or mud will be able to learn balance and carrying capacity. Helicopter beetles, ants, butterflies, worms, fireflies, birds, rabbits, lambs and many more are just

a few of the creatures that arouse children's interest when they encounter them in the natural environment. The most important part of growing is having the opportunity to experience the world, to change it, to see the results of these changes and to learn from all this experience. Children need to be able to change their environment. For this reason, materials and space should be provided for the child to establish new structures with materials such as sand and gravel in playgrounds. Sand is essential for children's ability to change and shape their environment.

They can be used as a toy, sometimes as a slide, sometimes as a climbing wall, sometimes as a small waterfall with the fall of the water, with small interventions without spoiling the natural slopes. According to Öztan (2002) children enjoy the feeling of acceleration and the change of motor coordination. From the tools that provide this, for example, on slides, the slope affects the degree of difficulty. On slopes of 30 degrees or less, the child can control their speed. Research on behavioral patterns shows that sitting and talking in playgrounds are major functions. Seating areas account for a quarter of children's outdoor activities. Suitable places for ecological children's playgrounds should be chosen and the points of interest of children should be highlighted without interfering with nature too much. With the necessary small interventions, places should be created for climbing, running, playing with water and making observations (Turgut & Yılmaz, 2010).

Objectives of Environmental Education in Early Childhood Period

The main purpose of environmental education is to enable the individual to perceive the natural environment, to improve the awareness of protecting and using the natural environment by positively affecting the values and behaviors related to the environment (Tahiroğlu et al., 2010). For this purpose, environmental education studies at all education and training levels will make a great contribution to the training of individuals who have sufficient environmental awareness, are sensitive, protect and protect the environment they live in. According to Başal (2005); The general objectives of environmental education are given below.

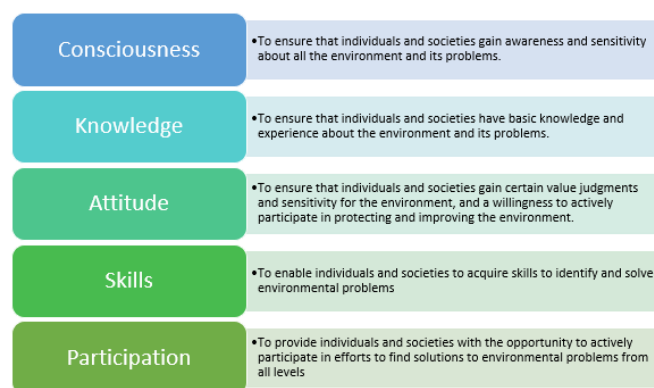| Consciousness | • To ensure that individuals and societies gain awareness and sensitivity about all the environment and its problems. |
Knowledge	• To ensure that individuals and societies have basic knowledge and experience about the environment and its problems.
Attitude	• To ensure that individuals and societies gain certain value judgments and sensitivity for the environment, and a willingness to actively participate in protecting and improving the environment.
Skills	• To enable individuals and societies to acquire skills to identify and solve environmental problems
Participation	• To provide individuals and societies with the opportunity to actively participate in efforts to find solutions to environmental problems from all levels

Figure 8. Objectives of Environmental Education

It would not be wrong to say that the education process for the environment, which

should last a lifetime, should start from the early stages when the personality of the individual begins to take shape. In this sense, "early childhood education" is a period in which the basis of the attitudes and behaviors of the adult person is laid. The attitudes and behaviors acquired by the child in the early childhood period form the permanent personality structure of the future adult. Researchers state that environmental knowledge and attitudes towards the environment begin to take shape in the pre-school period, and environmental awareness gained in the pre-school period has an important place in developing a positive attitude towards the environment in the following years (Smith, 2001). For this, it can be said that the implementation of well-prepared environmental education programs from an early age is of great importance. The importance of environmental education in preschool education programs can be summarized as follows (Başal, 2005; Büyüktaşkapu et al., 2011):

- ✓ Developing an interest and curiosity about various objects and experiences around them through contact with nature and being able to recognize similarities in the environment that surrounds them,

- ✓ Interacting with their immediate environment and enjoying making new discoveries and thinking,

- ✓ Help children understand the nature of objects, concepts of quantity and number, written words, etc. enrich their perceptions by observing, thinking about, and dealing with objects and experiences around them.

- ✓ Leading a life in close contact with nature; to be aware of the miracle, beauty and grandeur of nature,

- ✓ To come into contact with various objects in their lives and develop an interest and curiosity in the nature and organization of these objects,

- ✓ Noticing the changes in nature and people's lives with the seasons,

- ✓ Developing an interest in objects around them, such as nature,

- ✓ Recognizing the importance of living, appreciating and respecting life through the experiences of recognizing the animals and plants around it,

- ✓ To behave carefully and attentively to the objects around,

- ✓ Developing an interest in surrounding objects and play tools by thinking about them and seeking ways to make the most of them,

- ✓ Developing an interest in diagrams, numbers and quantities in daily life,

✓ Developing curiosity towards simple signs and written words in daily life,

✓ Developing curiosity about environmental knowledge and skill through play, which has an important role in their lives.

According to Handler and Epstein (2010), maintaining the environmental awareness gained at an early age in the following years of life can be achieved by gaining experience freely and in natural environments at these ages. It is known that environmental education programs implemented in informal education environments contribute to children's environmental awareness (Erdoğan & Uşak, 2009), environmental awareness and being responsible for the environment, and these situations are effective in developing positive attitudes and behaviors towards the environment. It is an approach that has attracted attention in recent years that environmental education can be carried out with field trips to informal educational environments such as parks, museums, zoos, aquariums, forest / woodland or nature centers, apart from formal education environments (Aktaş-Arnas, 2019). Bento and Dias (2017) describe how the outdoor environment allows for open-ended use of materials such as sticks, rocks, flowers, soil, and water, in order to utilize children's imagination, divergent thinking, creativity, and problem-solving skills. This same process also builds children's connection to nature while drawing their attention to its richness and diversity.

Environmental education programs implemented outside of school are more attractive to children than practices related to environmental education in the classroom; because children have the opportunity to explore the environment intensively and gain different experiences in out-of-school environments. These experiences often support the emotional development of the child. The fact that teachers, as those who ensure the implementation of environmental education, think that children's learning about the environment and taking action to solve environmental problems is not easy and meaningful in formal school environments also reveals the effectiveness of environmental education practices in the aforementioned out-of-school learning environments (Stevenson et al., 2013).

To summarize, although environmental education differs according to age groups, it has some common points: Consciousness, knowledge, attitude, skills and participation express these common aspects. In environmental education, which is shaped by common points, it is aimed that individual become conscious about the environment and its problems, have basic knowledge about the environment and its problems, develop an attitude based on protecting, improving and beautifying the environment, gaining skills to identify problems and develop solution proposals, and actively participate in environmental situations. In addition, enabling children to understand the environment in early childhood also enriches human-environment relations. Spending time in the outside environment can reduce anxiety and stress in children as in adults. The basic

points of environmental education in the pre-school period are to introduce and endear the environment (Kabaş, 2004). Family involvement studies are another element that shapes the environmental education to be given to young children. Parents should also be educated about the environment and their awareness should be increased. Environmental education programs should be evaluated in a multi-faceted way, parents should be reinforced, as well as teaching all subjects and concepts, promoting the environment and creating environmental awareness. For this reason, early childhood educators should both inform their parents with family participation studies and make them the providers of the continuity of the education process.

Popular Early Childhood Approaches and Environmental Education

In the world, environmental problems have reached serious dimensions in recent years and have led people to seek solutions in this regard. In order to protect the environment, it is necessary to raise individuals with environmental awareness and environmental sensitivity. Developing environmental awareness in the society and bringing environmental awareness and responsibility to individuals can only be possible with an effective environmental education. The development of environmental awareness and environmental awareness begins in early childhood years. Today, the increase in environmental pollution and the threat of the future have caused the adequacy of the current environmental education to be questioned.

The basis of environmental problems lies in human behavior and the level of consciousness that naturally causes people to engage in these behaviors. In this context, as long as people's intellectual and moral consciousness does not change, their sensitivity to the environment will not change and existing problems will continue in a vicious circle (Atasoy, 2005; Dikicigil & Gülersoy, 2020; Gülersoy, 2019b; Gümüş et al., 2017; Pruneau et al., 2009). For this reason, especially in recent years, there has been a search for new and contemporary environmental education approaches that can meet the needs of society by producing solutions to existing environmental problems, and scientists are constantly suggesting new approaches to environmental education.

There are many approaches used in parallel with this dimension in early childhood education and some of these approaches attract global attention such as Montessori, Reggio Emilia, High Scope, Forest Schools and Waldorf. It can be said that 'environment' is the most striking of some of the points that these approaches have in common. The Reggio Emilia approach states that the environment is the third teacher, and states that the most important element that prepares the child for life after the parent and the teacher is the environment. In the Montessori approach, attention is drawn to the concept of the structured environment; this structured environment is a miniature of real life and prepares the child for life. Waldorf, on the other hand, is an educational approach based

entirely on the natural environment. Respect for nature and harmony are very important and Waldorf is known to support eco-friendly toys. It is almost impossible for children who receive education in such programs to remain insensitive to the environment. In particular, the Waldorf program teaches young children to respect nature, to be in touch with nature, and to get along well with nature. The following parts describe how these some common approaches in early childhood involve environmental aspects.

Waldorf Approach and Environmental Elements

The Waldorf education approach was developed by Rudolf Steiner in 1919. This approach aims to transform education into an art. It also takes into account the holistic and balanced development of children. According to Steiner, the child has a potential and this potential emerges in the appropriate conditions and environment, so it should be waited patiently and should not be rushed. Steiner likens this to the gardener waiting for a flower to bloom. If the seeds of learning are planted in fertile soil, a rich harvest will come as no surprise. The teacher has an important place in the Waldorf approach; the teacher is not only an educator but also a thinker, scientist, poet, artist, musician and environmentalist. In addition, the most important job of the Waldorf teacher is to ensure that the child adapts to his existence, worldly existence and spiritual reality. The colors of the walls and furniture are very important in Waldorf classrooms. Plain and light colors that do not tire the eyes are preferred. Furniture made of natural and solid materials is used. In the classroom, natural materials are included (gourd, cones, branches, pebbles, wooden toys, etc.) in order to recognize and unite with nature. As can be understood from these features, the Waldorf approach is based on respect and integration with nature.

Figure 9. Waldorf Schools and Environment)

The basic motto of the Waldorf approach is 'Education of body, mind and spirit'. Music is very important in the Waldorf approach. Children listen to music with five voices, called pentatonic music. The reason for the use of this music is that it causes a kind of trance by increasing the frequency of alpha and theta waves in the human brain. This situation, which is observed through scientific research, is explained as the functioning of nerve cells that cannot be used normally, thus increasing the perception capacity of human beings.

In Waldorf education, it is aimed to train the child's brain, heart and hands. Concrete examples are important in teaching and what to learn should be demonstrated concretely when necessary. The importance of the environment in the Waldorf approach begins here. There is an understanding that education should be in harmony and intertwined with nature and the student should be given the opportunity to progress at his own pace. According to the theory developed by Steiner, the child is accepted as a part of nature and children are offered activities that will allow them to discover themselves in nature. For this reason, activities parallel to classroom activities are carried out in open spaces in Waldorf schools (Toran, 2015).

Dahlin (2021) explains the ideational ground and practical-concrete elements of Waldorf curriculum as;

> The views of Herder and Novalis, the participatory view of learning, and the experience of Earth as a living being are all "romantic" elements that can be found in Steiner's anthroposophy. They are also in agreement with the principles of ecospirituality (Smith, 2009). The postponement of cognitive judgment to higher grades goes together with awakening interest in the world in the same grades. These latter points are important contributions of Waldorf education to a fruitful ecospiritual approach to environmental education. Without them, what is possibly achieved in lower grades may be undone in higher grades through "early closure".

The classroom environments of Waldorf schools differ from classrooms of other approaches. Waldorf schools are established in places where one can be intertwined with nature and benefit from the opportunities offered by nature. While arranging the classroom environment, great attention is paid to creating an aesthetic and natural environment. The beauty in nature and in the classroom will enable the child to develop a love of nature and to perceive natural harmony; It is thought to create happiness because it is a part of nature.

Figure 10. Waldorf Classroom Environment

The classroom is organized in the closest way to the natural environment, and the child

is tried to perceive and live the cycle and rhythm of nature. In Waldorf education, since the person is seen as a being of nature, it is thought that the integrity of the person can only be achieved through integration with nature. Again, it is thought that the natural cycle, the rhythm of the seasons, affects the rhythm of the human being and that humans exist within this rhythm. For all these reasons, the classroom environment is full of natural assets. There is a nature table in the classroom in kindergarten and primary school. Thanks to this table, the child is informed about the beauty and rhythm of nature. Seasonal objects are placed on the nature table. Children can contribute to this table (Kotaman, 2009). Considering the environmentalist role assigned to the teacher, the importance of the role of the teacher in environmental education of the Waldorf approach was emphasized. According to Waldorf, imitation means more than the child learning by observing a model. In other words, the environmentalist teacher has the responsibility of being a good role model for children (Koca & Ünal, 2018).

Forest Schools

The forest schools, which emerged in Scandinavia in the 1950s with the aim of teaching children about the natural world, are very important institutions in which educators and parents play an active role in the process in terms of improving environmental awareness in children and ensuring its sustainability. Forest schools are a system built on basic dynamics all over the world. By adopting the play pedagogy as a principle, the forest school has brought a unique dimension to contemporary outdoor education by focusing on young children. The concept of play, which puts children at the center and considers the active participation of the child, is seen as a new and potential principle and it not only brings a new breath to educators, but also opposes the current understanding of education (Leather, 2016).

Figure 11. Forest Schools

In forest schools, it is ensured that children are in close contact with the soil (Knight, 2017). In addition, children in this school have equal opportunities in all nature studies. Forest schools aim to provide environmental education to children permanently and in touch with nature, and by removing the studies carried out in traditional kindergartens,

they enable educators and parents to play an active role in children's environmental awareness through out-of-class education. Planning, adaptation, observation and examination are integral elements of the forest school. It also provides children with respect for nature and sustainable lifestyle education. Six basic principles of forest schools stand out;

Forest School is not a one-time process. Time is spent frequently and regularly in natural environments.

1. Forest Schools are established in environments intertwined with nature.

2. Forest Schools aim at the holistic development of the individual.

3. Forest Schools offer children the opportunity to take risks and responsibility.

4. Forest School practitioners have sufficient qualifications and training.

5. Forest Schools put the student at the center

Forest schools have been an environment that not only supports children's development with a multidimensional and holistic perspective, but also offers them the opportunity to become self-confident and aware of their competencies (Tantekin & Yalçın, 2017). The determining factor behind forest schools is that children learn more outside the classroom than in unconventional environments. The target audience of these schools is especially aimed at kindergartens and primary school children (MacEachren, 2013). Moreover, forest schools help to establish long-term environmentally viable behaviors and child-nature relationship through children's experiences. It is seen that this nature-based education approach is adopted and examples are seen in different countries around the world.

Forest school is defined as an inspiring practice in which the active participation of individuals is ensured in the forest or wooded area, and they are supported in self-confidence and decision-making (Dilek, 2019). Rousseau, Pestalozzi, Froebel, J. Dewey, M. Montessori, J. Piaget, L. Vygotsky, and Csikszentmihalyi are the pioneers of the forest schools, which include the concept of learning outside, education outside the classroom, in other words, education without walls. The forest schools, which emerged in Scandinavia in the 1950s with the aim of teaching children about the natural world, are very important institutions in which educators and parents play an active role in the process in terms of improving environmental awareness in children and ensuring its sustainability (Koyuncu, 2019). Forest schools aim to support holistic development areas such as self-confidence, independent and creative thinking, and flexibility. Forest schools do not mean only training in the forest. Any environment where children learn by using nature in an open environment can be a forest school. Forest schools are a system

based on certain principles all over the world. We can summarize them as follows: Forest schools are a long-term process involving long and regular sessions rather than a one-time visit to the woodland or natural environment. Planning, adaptation, observation and examination are integral elements of the forest school. The forest school should regularly visit the natural environment with the students in the same group, at least once a week for a long time (Koyuncu, 2019). The reason why forest areas are especially chosen is that it is the most ideal environment that can meet the needs of the program and the student and provides the most suitable environment for them to explore and get to know.

Outdoors reinforces the sense of independence and confidence once again, as children learn about themselves and the world around them in a way that is often not tolerated in a classroom setting, because the forest school environment provides children with spaces to move freely. Basic forest school activities such as cave diving, navigating with a compass and using a knife in woodworking are just a few of the activities that instill a sense of confidence and independence in children (Koyuncu, 2019).

To sum up, this approach which was born especially in Scandinavian countries is in demand in many countries of the world today. Forest Schools is a progressive and developmental learning path that nurtures students from childhood through adolescence and beyond. Forest Schools are taught by qualified leaders who are both compassionate and caring while nurturing a child's determination that adds tools for life to support resilience, responsibility, resourcefulness and self-confidence. It is defined as nature is a permanent gift to childhood (Blackwell, 2015).

The Child and Its Environment in Reggio Emilia Approach

The foundations of the Reggio Emilia approach began to be laid in Italy after the Second World War (Thurton & Brunton, 2009). Loris Malaguzzi (1920-1994) graduated from educational sciences and started her career as a primary school teacher. He was later qualified as an educational psychologist and founded "Reggio Emilia's Municipal Psycho-Pedagogical Medical Center". He is also known as the founder and pioneer of the Reggio Emilia approach. In Emilia schools, the appearance of the classroom is given importance because the environment is considered the third teacher. The concept of project is very important in these schools. Children produce projects that are suitable for their interests, needs and development. Children learn to express themselves through art and creative ways. The most crucial point of this approach is the concept of 'The child's 100 languages', this concept states that there are many ways in which the child expresses himself not only verbally and in writing. Children can express their learning with light, sound, dance, music, drawing and many more languages. The important thing is to be able to see and make sense of children's expressions. In this case, teachers and families play a big role.

The works of children during field trips, the plants they collect and their collections are exhibited in a place where both children and adults can see them. There is a common area for all children at the school, called the 'atelier'. It is the 'common space and workshop' areas, which are unique to the Reggio Emilia approach, are particularly important here. Children from different classes and groups gather here to set up play or study groups. Reggio Emilia schools have an entrance, common areas, gardens, workshops, music rooms, dining halls and archive rooms.

Figure 12. An Atelier in Reggio Emilia

Reggio Emilia approach is an education approach that emerged as an important freedom movement in Italy and pioneered innovations in the field of education all over the world. This approach was born in the city of Reggio Emilia, where it is named, and Louris Malaguzzi was the biggest supporter of this approach. It has become increasingly widespread with the participation of families and has become one of the most used alternative approaches in early childhood.

Being one of the most important elements in the Reggio Emilia approach, the environment should be prepared to be the teacher himself. For this reason, the preparation of the environment is very important for the successful realization of children's learning activities. A good environment is one where the child has many alternatives to choose from and can motivate him/her to engage in a relationship. It is stated that not only the physical environment but also the social environment is important in Reggio Emilia (Basic, 2018). In this respect, giving due importance to the social environment as well as the physical environment can be easier and more effective for the child to interact with the environment.

An interesting environment has been prepared with different stimulating materials to encourage children to think, use their emotions, be a good observer and develop their creativity. Another remarkable feature of Reggio schools is the arrangement of the environment in accordance with the project subjects (Basic, 2018). For instance, in order

for the child to see himself from different angles, triangular mirrors can be given. Seeing himself from different angles with mirrors will contribute to the development of the child's observation and thinking skills. It will also contribute to the child's potential to make inferences. However, the child will be able to recognize his own body thanks to the mirrors, and this will be an important and first step in terms of creating an identity in the future. In addition, the environment should be arranged in a way that will attract the attention of children and reinforce their sense of curiosity.

Matte, calming colors, natural and natural materials, illuminated tables, mirrors, essential incense, candles are the remarkable elements in the schools. The windows extending from floor to ceiling, the presence of windows between the rooms provide brightness and flow, importance is given to light (Bennett, 2001). In the kindergarten environment, there are products of children's work that are usually hung on ceilings and on the wall. (Basic, 2018). In this way, children will be able to see each other's work, gain different perspectives and come to the conclusion that everyone's world of thought and emotion can be different

Figure 13 . Classroom environment in Reggio Emilia

Most of the materials used are natural and recyclable. There are wooden blocks in each center, and behind these wooden blocks is an overhead system that reflects pictures and colors on the wall. In some centers, there are hand puppets and puppet scenes made by families (Pekdogan, 2016). Preferring recyclable materials is important in terms of creating environmental awareness in children. It will be possible for children who begin to be conscious of the environment they live in, to develop environmental awareness and to continue this in their future lives. In addition, puppets created from waste materials or fabrics will also support their ability to design new materials that will serve their purposes. The external environment of the Reggio Emilia schools has been enriched with a wide variety of materials, from areas for water play to climbing hills, mazes of child-sized trees planted by families, picnic tables, camellias with canvases, paints and various material boxes (Bennett, 2001).

In the education program of Reggio Emilia schools, activities such as project work and working with waste materials are also included, including for the environment. These

activities are held at random times from waste materials at hand that children are familiar with in their daily life. It is seen that the environmental arrangement of this approach, which puts the child in the center, contributes to the child in every aspect. Mirrors, the preferred colors and shapes, the materials used and the raw materials of the materials, the children's own works, provide the formation of a certain level of aesthetic environmental awareness as well as the learning of many concepts in children.

Environmental Understanding in Montessori Approach

Montessori founded Casa dei Bambini (Children's House) in 1907, where she could work with more than 50 normal children aged 3-7, with some of the educational materials she developed, toys and child-sized furniture. Montessori has saved the knowledge from rote, concretized it at a level that children of all ages can understand, and has developed a series of methods and materials to convey it in integrity. In the Montessori approach, the environment should give freedom to the child. Older and younger children are together, because it is to provide learning by modelling.

Montessori points out the deep and absolute respect for the individual and the environment as an important element. The love for nature and the world around us are also some of the main elements in the methodology of Maria Montessori (Stanislava, 2020). In *The Discovery of the Child*, she wrote, regarding how actual experience leads to building a child's empathy toward animals, "A feeling for nature grows with exercise. We certainly do not communicate it by a pedantic description or exhortation made to a listless and bored child shut up within the walls of a room" (cited in Rothmeyer, 2019; Montessori, 1909/1972, p. 70)
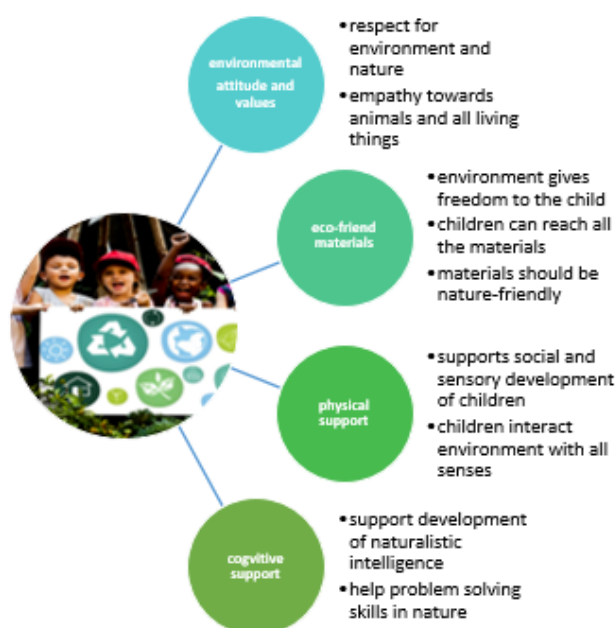

Figure 14. Basics of Montessori Philosophy and Environmental Education

In Montessori classrooms, all materials are within the reach of children. There is one of each material in Montessori classrooms, so if a child wants to use a material, he should wait for his friend to finish. This gives the child characteristics such as patience, respect and harmony with the social order. There is error checking in Montessori materials so that the child can evaluate his own learning. Montessori materials are nature-friendly materials created from natural materials such as wood. Montessori education supports the social and sensory development of children and contributes to their future lives as individuals who respect others, their environment, themselves, are responsible, and lead their lives in harmony with the society. The first concept that comes to mind when Montessori is mentioned is the 'Absorbent Mind', the absorbent mind absorbs the information around the child without effort. Therefore, if a suitable environmental environment is presented to the child, a sensitive natural life will contribute to environmental education.

There are features that must be found in Montessori classrooms. It is suggested that each classroom should have a small garden that will allow children to work in the garden, observe nature, and work in the open air whenever they wish, and a door that opens to the outside that will allow them to enter and exit the garden freely (Seldin, 2002). Children interact with the environment using all their senses. Therefore, sensory education, which is of great importance in all areas of life, is designed to help children focus more carefully on the physical world and to perceive the diversity of objects in detail with their senses (Seldin & Epstein, 2003).

 The Montessori environment assumes the role of a "teacher" for the child. In Montessori school, the child will learn by himself with specially developed Montessori materials. These are attractive, often simple, small, self-correcting materials. If the child makes a mistake, he or she can correct the mistake by looking at the material itself. Thus, an adult does not hurt the child by telling him to correct his mistake. In other words, specially designed materials including error control are used in Montessori education. In Montessori school, the child learns by himself and with his friends. He learns to follow the classroom rules and even warns his friends to follow them. The child is more likely to succeed, as he/she chooses and adjusts the work to be done according to his/her own system. The Montessori classroom is a non-competitive environment. Here, the child also recognizes plants and animals, learns to care for and help them (Mallory, 1989). Since the physical environment of the classroom is designed in accordance with the child, it provides autonomy.

Reality and naturalness are of great importance in the Montessori environment. Tools in the classroom are tools that are used in real life to make it easier for the child to face the facts. Real glass cups are used to drink something, a real heatable iron is used for ironing, and a sharp knife is used to cut vegetables (Temel, 2018). This classroom is an attractive environment where the child can explore his/her own world, develop his/her

mind and body, away from adult management and pressure (Mallory, 1989). In addition to this, in Montessori program, outdoor times provide to develop social skills as well. Children at different ages come together in outdoor environmental activities and they communicate, help and give each other materials.

The characteristics of the eighth intelligence of Gardner known as naturalist intelligence seems to match very well with Montessori early childhood classrooms with their emphasis on supporting children: in training the senses; in spending time with concrete, natural phenomena; in searching for and discriminating between patterns; in caring for plants and animals; by respecting the sensitive period for the sense of order; creation of books, booklets, and nature journals; by seeding the prepared environment with real plants and animals, realistic models of plants and animals, and realistic books about the same; and by providing many opportunities to categorize and distinguish between plants and animals from the natural world (Rothmeyer, 2019).

Environment in High Scope Program

Daily order in the High Scope approach are cleaning, plan-do-evaluate, small-large group activities and outdoor games. In terms of being relevant here, the content of outdoor games is as follows: It is the time period when children go out to the garden and play various games, and are physically active by running, climbing, swinging, crawling, researching. Children continue the games they play indoors, in a larger environment, by getting to know their natural environment and the region they live in, by experiencing the changing weather conditions and seasons. Adults also actively participate in children, talk to them about what they are doing, get more information about their interests and skills, and talk to parents who come to collect their children (Bilaloğlu, 2004). Thus, children gain knowledge about the environment by exploring and learning, and for students who did not receive education until the early childhood period, first information is formed and they gain their first impressions. The more effectively they use their environment, the more permanent learning can become, and they find the opportunity to learn by doing and living in the environment.

The physical environment has a strong influence on children's behavior. Therefore, in the High Scope approach, children are provided with constant opportunities to make decisions and make choices. Children are encouraged to make choices about activities and materials throughout the day. Children explore, ask and answer questions, solve problems, and interact with classmates and adults as they pursue their choices and plans. In such an environment, children naturally acquire basic experiences by engaging in activities that develop developmental skills and abilities (Bilaloğlu, 2004: 46). Again, since the physical environment significantly affects the behavior of children and adults and the experiences of children as a result of their one-to-one relationships with their

physical environment have an important place in their learning, how to organize the physical environment in the High Scope system has an educational importance. It is one of the basic elements of the High Scope system to provide educational materials rich in quality and quantity for the child to recognize, interact and explore, and to organize the school in a way that will encourage independence and provide different options for the child to explore (Schweinhart, 2002). The more information children have about their environment, the more sensitive they can become. This means that if we consider how fast learning is in the preschool period, they can have the opportunity to have in-depth knowledge for preschool children.

One of the most important tasks of the teacher in the High Scope approach is to organize the environment in a way that will allow the child's education and support the child's development in the best way possible. It is the teacher's responsibility to create an environment that will enable the formation of experiences appropriate to the child's maturity level. Since the child will feel safe in a familiar environment and can act and take initiatives more freely on the basis of this trust, radical changes should not be made in the environment and classroom arrangement. In order to prevent the child's mind from becoming lazy by constantly being exposed to the same stimuli, the teacher can add different materials to the environment when appropriate. All this landscaping is also carried out by considering the maturation stages of the child in line with the framework provided by the key experiences. The child realizes how much importance is given to him through the environment that is formed as a result of the environmental arrangement and that surrounds the child. In addition, he understands what skills he should have in order to better understand the environment (Kotaman, 2009). As a result, pre-school children's awareness of the environment has an important task in the High Scope approach, as it is an educational topic. These trainings are given both in the classroom environment and in the form of the application of outdoor games. Thus, it is ensured that the gains to be gained are given in the best way.

The Use of Technology and Modern Methods in Early Childhood Environmental Education

It is inevitable that children are exposed to these technologies, as computer technologies are increasingly becoming a part of many tools we use in our daily life. In fact, with the widespread use of embedded systems, children are faced with digital technology-based products other than computers before the preschool age. Toys that contain various forms of interaction such as a singing violin, a book that plays a different music on each page, a broom with human characteristics, and a car steering wheel that approximates the experience of driving on the street are often offered to children. In addition, dealing with computer technologies today requires developing new literacy skills. Children encounter visual, auditory and textual communication environments and forms as a part

of daily life. At the same time, tools and methods are intertwined, making it difficult for traditional literacy skills to be sufficient to "read" computer technologies. Skills such as knowing the structure and use of electronic texts, determining where to find the necessary information and accessing this information, and understanding images become necessary at an earlier age (Stephen & Plowman, 2003).

Educational technologies, the use of which has become widespread in recent years, has begun to bring a new perspective to education. Computers, one of the most frequently used educational technologies, offer educators the opportunity to prepare and use materials at different levels that can be used in education. Computer animations prepared in the computer environment create multimedia environments that increase students' understanding of the problems in environmental education, provide a better understanding of the connection points in the ecosystems, and can easily see how the problem at any stage will reflect on the future. Accordingly, computer animations can be used to increase student success. (Arıcı and Dalkılıç, 2006; Hede, 2002; Kara, 2007; Karaçöp et al., 2009; Kraidy, 2002).

Today, technology, which is an indispensable part of a child's life, takes place in children's lives with many technological tools such as television, smart phone, digital camera, tablet, computer, and children learn to use them easily (McManis & Gunnewig, 2012: 14). Children start school having witnessed many technologies. It can be exemplified that children live together with technology, such as traveling by car or plane, withdrawing money from the bank with a family member, turning the TV on and off, operating the washing machine or observing all these (Dodge & Colker, 1995; cited in Akkoyunlu & Tuğrul, 2002: 12) . It is necessary to ensure that children use these tools in a way that supports their development and learning, rather than preventing the technology in their lives from early childhood.

In education, which is one of the fields in which technology is used that has an importance to direct the future of society in many parts of our lives, the selection of methods-techniques and tools-equipment suitable for the purpose of the subject to be transferred affects the clarity of the transferred subject and the permanence of the information (Collier et al., 1971; Fisher, 2000; cited in Altınsoy, 2018: 27). The use of technology in appropriate conditions has a positive effect on the physical, emotional, linguistic and cognitive development of early children. When students experience the information first hand and use appropriate technologies that support abstract concepts visually, difficult to understand topics can be easily understood (İlhan Agan, 2004: 25). One of the fields where technology is used in education is environmental education. Matthews and Riley (1995) emphasized the importance of using interactive methods in an effective environmental education and stated that methods such as small group discussions, case studies, films or slides in which an ethical scenario is indicated, interactive videos, role

playing, digital story and project can be used. It is noteworthy that applications such as slides, interactive videos and digital stories among the methods mentioned by the researchers are technology supported.

Environmental education materials created with interactive multimedia technologies enrich the previously used materials and deepen learning and understanding. Simulations in computer aided education have a great contribution to environmental education. The multimedia that will be created with computer-aided education will enable students to better understand the problems and support a better understanding of the connection points in the environment and ecosystems. How the problem experienced at any stage will reflect on the future will be easily seen by the students. Computer-assisted instruction to be used in environmental education will increase students' desire to learn, as well as provide a better understanding of complex ecological relationships and the opportunity to observe what harm can be done by humans to nature. Through computers and the internet, children will be able to visit virtual zoos and museums. While they can watch documentary programs and learn about animals, the digital camera will provide the opportunity for children to re-learn from these experiences by recording and re-watching their experiments, observations, study trips. When children have limited access to the natural environment, technology can provide a realistic, interactive supplement or the opportunity to directly experience the natural world through simulation. It can also enable children to reach people, animals and places that they do not have the opportunity to encounter in their normal lives and encourage them to go out and experience the environment (Willis et al., 2014).

In traditional teaching methods, the teacher teaches the lesson and the student is a passive listener. Since this method is teacher-centered, lessons are more boring. For this reason, environmental education is not realized at the desired level in the traditional teaching method. Students should be at the center of environment or nature education (Özbuğutu et al., 2014: 405). Thanks to technology-supported education, students will be involved in the process interactively and as a result, they will learn both by having fun and by doing. In this context, Ruchter et al. (2009: 1062) in their research comparing the effects of mobile devices and traditional approaches on environmental education, revealed that mobile guide devices are as effective as traditional methods. They also concluded that computers, as mobile guides, can increase environmental knowledge and increase students' motivation to engage in environmental education activities. Although the use of technology seems like a distant option in environmental education, integrating technology into environmental education from early childhood will increase the efficiency of the education given, since it has an important place in the lives of students in today's conditions.

Modern Methods in Child and Environmental Education by Using Technology

Early childhood period 0-6 is the age of curiosity of children and children want to know what is going on around them. Therefore, the concept of technology at this age satisfies their curiosity to the extreme. With the rapid development of technology in today's world, children are somehow exposed to technology and media and learn to use them, even if they do not meet in educational environments.

Technically speaking, children should not be introduced to any technological device before the age of 3. For instance; while the computer harms children before the age of 3, it contributes to some developmental areas of the child with an appropriate use in the preschool period. Children encounter and easily use many technological tools such as television, smart phone, tablet, computer in their environment. These tools deeply affect children's daily lives, shape their communication with their environment, their understanding of entertainment and learning. For this reason, it is necessary to ensure that children use technological tools as a support for their development and learning, rather than preventing them from using them. Technology gives children the opportunity for immediate feedback. It supports children's independent learning. According to Lim and Tay (2003), the use of technology and media in education helps children acquire knowledge in many different formats, gain fun learning experiences, organize information, and communicate more easily and effectively with their teachers or peers in expanding their learning.

There are also studies that examine the effects of technology on children and determine that it is not developmentally appropriate. These studies indicate that children should meet their learning needs with concrete materials, especially at a young age, and that excessive exposure to the screen causes attention, concentration, social skills, language development and physical development problems in young children (Cordes & Miller, 2000; Duch et al., 2013; Schmidt et al., 2009; Tomopoulos et al., 2010). At the same time, technology provides environments for children to solve problems and share ideas. The question that comes to mind here is how technology is used in educational programs. Since when technology is integrated into educational processes in a developmentally appropriate manner, it increases children's early literacy skills and positive approaches to learning, and supports children's social skills (Blackwell, 2013; Blackwell et al., 2014; Plowman et al., 2012).

There are also some other studies examining the relationship between the use of technology in education and learning. In these studies, it was found that the use of technology supports and increases their phonological awareness, develops a positive attitude towards learning, increases their problem solving and analysis skills, and supports their learning in tasks and activities that are meaningful to them (Edwards et

al., 2000). Especially in the technologies used in pre-school education, there are criteria such as supporting the development of the child, using it for multiple purposes and independently.

Information and communication technologies also play an important role in early childhood environmental teaching and learning (Ikoh & Nwankwo, 2013). Possible ICT tools to be used in early childhood education; computers, digital cameras, digital video cameras, communication software and tools, internet, telephones, fax machines, mobile phones, voice recorders, digital stories, computer games, programmable robot toys and control technologies, video conferencing technologies and closed-circuit televisions, projectors are expressed as electronic smart boards (Bolstad, 2004). Information and communication technologies have started to be used effectively in education and training environments and have reached much different dimensions with the widespread use of the internet.

When the pre-school education programs of OECD countries are examined, it is seen that most of them add ICT skills to meet the changing needs, lifestyles and preferences of today's society (OECD, 2015). Educators' widespread use of information technologies and their interest in this have increased the quality of the education they offer in the school environment and has become more remarkable for students.

Computer and audio-visual education tools based on technological developments should be used easily, effectively and efficiently in the classroom environment for educational purposes. The correct use of technology for children in the pre-school period can be achieved with the knowledge and competencies of educators. For this reason, the educator's ability to prepare, organize and use pre-school education programs is considered important.

If there is an unconscious excess between technology and the child, this may have negative consequences for the child. Just in this period, if these curiosities of children are turned into interaction with the environment, environmental awareness can be provided to children. If we consider this awareness under the title of pre-school environmental education, Akçay (2006) defines environmental education; the acquisition of values, attitudes and concepts related to the biological, social and physical environment of individuals. There are two basic information on which environmental education is based in the preschool period; "The first of these; to ensure the interaction of the child with the outside world, and the other is to support the healthy development of the child. It is necessary to direct children's sense of curiosity and discovery in the best way possible. Apart from the existing life, there are many environmental factors that will attract the attention and interest of children.

It can give children both technology and environmental education by running it in a mixed

way. For example; In a simple environment day event, children can be prevented from using technology for any other purpose by using any technological tool. Because when technology is used properly and appropriately, it will provide cognitive and psychomotor benefits to children. With such an activity, both the teacher creates a suitable classroom environment and the children develop themselves in more than one area by carrying out environment + technology processes together, make their learned knowledge permanent and gain sensitivity towards the environment. In short, curiosity in children can be supported by a mix of environmental and technology activities.

Figure 15. Technology for Children Education

Use of technology in environmental education; within environmental activities, technology offers children research opportunities on many subjects. Especially the use of the internet provides opportunities to find direct answers to children's questions about the environment and nature concepts. In the researches to be carried out under the guidance of teachers, children satisfy their curiosity about the environment and nature and learn by exploring. Through the internet, children can watch documentary programs about the beauty of nature or the damage to the environment, how to keep the environment clean, and provide information about the environment. On the other hand, the digital camera allows children to re-learn from these experiences by recording and re-watching their experiments, observations, study trips. Apart from this, children cannot create their environmental awareness and enrich their perspectives due to the unplanned and excessive exposure of children to technology in environmental education.

Artificial Intelligence in Early Childhood Environmental Education

Intelligence is the structure that helps us make cognitive features such as comprehension, learning, problem solving, planning. Although artificial intelligence logically overlaps with the concept of intelligence, it is programming the data to be used using the most accurate mechanism, since it is an intelligence managed by the computer (Baştanlar, 2018). Artificial intelligence also affects the environment. Artificial intelligence is an application that responds to environmental problems.

Learning in nature; it is through direct experiences that an effective development is achieved, mental and social learning takes place, and that covers the principles of thinking,

feeling and acting. Attention can be drawn to environmental education by making use of artificial intelligence in museums, botanical gardens and science centers. As an example, we can take the system used in traffic usage. With this system, transportation time from one place to another, traffic jam estimation, etc. can be calculated. situations are taken under control thanks to artificial intelligence (Tektaş et al., 2002). Thanks to this system, a problem that may occur in traffic has been prevented. It can be used to create awareness and implement the necessary strategies and policies for the use of artificial intelligence in daily life, especially for the prevention of environmental problems.

In early childhood environmental education, environmental awareness can be created by making children watch animations, cartoons and documentaries about the use of artificial intelligence or computer environmental problems. Or, how many problems affect the environment can be shown to children by using modern methods such as artificial intelligence and computers. Environmentally friendly robots can be shown to children and attract their attention. Robots that are respectful and beneficial to the environment, collecting plastic and foreign materials, and energy-related robots that are suitable for these features and can be beneficial to the ecosystem can be shown to children. Since we are dealing with the early childhood period, we can only show and make children understand. Robots or other methods using artificial intelligence enable children to think creatively and affect children in this regard, artificial intelligence or modern methods used on the environment raise awareness of children and enable them to think creatively.

Eco-friend Activity for Early Childhood Children

Activity Name:	Subject Area	Age:
Our Species Are In Danger Of Extinction!	Science-Environmental Education	5-6 years
Purpose of the Activity: • Recognize endangered animals. • To raise awareness of the impact of environmental problems on animal life. • To ensure that children gain environmental awareness at a young age. • To ensure respect for the life of other living things • To warn children when they see someone polluting nature in their daily life. • Helping to protect animals in their daily life.	**Learning Objectives:** • Cognitive Development • Pays attention to the object/situation/event. • Makes a prediction about the object/situation/event. • Groups objects or entities according to their properties. • Generates solutions to problem situations • Linguistic Development • Understands the meaning of what they listen/watch. • Motor Development	**Materials:** • Large cardboard figures of endangered animals, clipboard, animal cards, felt, scissors, glue, plastic bottle, floating eyes, cotton, endangered animal pictures, colorful background cards, double sided tape. **Concepts:** Caretta Caretta, Lynx, Javanese Rhinoceros, Sumatran Orangutan, Penguin, Polar Bear, Panda, Figure

• It warns those who violate the living rights of living things.	• Performs movements that require the use of small muscles	Mexican Dolphin, Mediterranean Seal, Cheetah, Black Vulture, Striped Hyena, Animal, Endangered Animals, Habitat, Water, Desert, Polar.

| Learning Process: |
|---|
| **DAY 1** |
| The teacher enters the classroom with large cardboard figures of endangered animals (Caretta Caretta, Lynx, Javanese Rhinoceros, Sumatran Orangutan, Penguin, Polar Bear, Panda, etc.) Among these figures, some extinct animals take place. Ask the children, 'Why do you think I brought these animal pictures? Do you know these animals? Have you seen these animals before in your life? What and how do these animals feed? Where do they live? It creates an atmosphere of discussion in the classroom by asking questions such as: In this way, children make predictions about the subject using their previous knowledge. After predictions, the teacher explains the names of these animals one by one, where they live and what the concept of extinction means. |
| Afterwards, (s)he explains to children that these animals are endangered, even that some of them are extinct, what should be done to protect these animals, what environmental problems caused this problem, in a way that children can understand, so that children have an idea about this issue. Then, what do you think we can do to protect these animals? he asks again, taking the guesses of the children. After the predictions, the teacher checks whether a documentary about endangered animals is available on the internet so that the children can understand it better and shows the children to watch the video found. After the documentary, do you think we can make a model of one of the animals we watched in the documentary with the materials in our class? Which animal would you like to figure out? (s)he asks. |
| In order for the children to learn about endangered animals fully, the teacher takes the cards with the pictures of endangered animals and extinct animals on them, which he has prepared beforehand. The teacher puts these cards in a place where the children can see them and asks them to examine these cards carefully. Then he divides the class into two groups and asks the children to group these pictures as endangered or extinct animals and to create a table by sticking these cards on the boards they brought (One group will create a painting from endangered animal cards, while the other group will create a painting from extinct animal cards). |
| In addition, the teacher asks each child to say the name of the animal on the card he/she holds and what environmental problem caused the death of this animal (such as polar bears dying due to the melting of glaciers, caretta carettas dying due to garbage thrown into the sea). The game is repeated several times until the children separate these animals completely, and at the end of the game these two boards are hung in a corner of the classroom. In this way, children will constantly be able to see pictures of endangered and extinct animals. Thanks to this issue, they will have gained awareness of the danger of extinction of species, which is one of our current environmental problems, and the environmental problems that cause it. |

DAY 2

The teacher asks the children how they are feeling today, what they did before they got to school, and what animals they saw on the way. After the teacher listens to the children, he shows the children the various animal puppets he has in hand and asks questions about whether they know these animals and starts the activity by drawing the attention of the children. After watching a short-animated film about endangered animals and giving information, the children are divided into three randomly formed groups after asking questions about where these animals live, their colors, the sounds they make, and why they are going extinct. Each group sits at a table. Each group is given white, yellow and blue background cardboard and scissors on which a large rectangle was drawn beforehand. The names of the colors and the names of the living things in these colors are asked. Each group cuts out the rectangles from their cardboard. The teacher collects the cut rectangles. Children sit on the floor in a semicircle.

The children introduce the endangered animal pictures they found with their families the day before to their friends. It is talked about the characteristics of animals (size, color, diet, sounds they make, where they live, etc.) and the necessity of purifying our environment from wastes and chemicals regarding the protection of these endangered animals. It is talked about that the deterioration in the natural balance can harm people and environmental awareness is created. Each child is given a picture of an animal. (Polar Bear, Panda, Penguin, Caretta Caretta, Mexican Dolphin, Mediterranean Seal, Cheetah, Black Vulture, Striped Hyena) Children hold the pictures in their hands. Rectangles of three colors are separated according to their colors and placed in three different corners in the classroom.

The teacher tells the children that they will dance freely around the classroom when the music starts. When the music stops, the children place their picture on the background cardboard (yellow-desert, blue-water, white-polar) showing where the creature they are holding lives (desert, water, pole). When a child goes to the wrong habitat, he is taken to the right habitat by his friends in the habitat he went to. Children who get to the correct rectangle are applauded. Ask the children what other creatures can live in these habitats. Then the teacher collects the pictures in the children's hands. This time he takes out the endangered animal pictures he brought himself. Tell the children the names of the animals in these pictures in turn. When children hear the names, they go to the corner where the living space of that creature is. Children who go to the wrong corners can go to the right corner by saying the name of a creature found in the living areas in the rectangles they go to. The event ends after all living things are placed in their habitats

Assessment and Evaluation:	Family Involvement:
At first, the teacher starts a conversation in line with the children's ideas about the subject by asking questions about the activity. At the end of the conversation, he ends the activity by asking the children to draw a picture of one of their favorite animals that they saw in the documentary.	Families participated in the beginning of the activity by finding pictures of endangered animals with their children the day before. After the activity is completed, the children take pictures of other living things to their homes, apart from the ones they brought their pictures from. The parents talk and chat about the creature and the features of the living thing in the picture that the child brings.

• Which creatures were present in the documentary we just watched?	
• How did you feel just watching the documentary? How did the extinction of these animals make you feel?	
• Do you have an animal in your house that you keep?	
• Which animals do you see on your way to and from school? Do you think these animals are also endangered?	
• What can we do to protect the life of living things?	
• Which animals do you think harm the garbage we throw into the sea or ashore?	
• How does the garbage we throw in nature harm animals?	
• How can we protect glaciers for the survival of polar bears and penguins?	
Penguin model made with students in the classroom and animal drawings becoming extinction:	
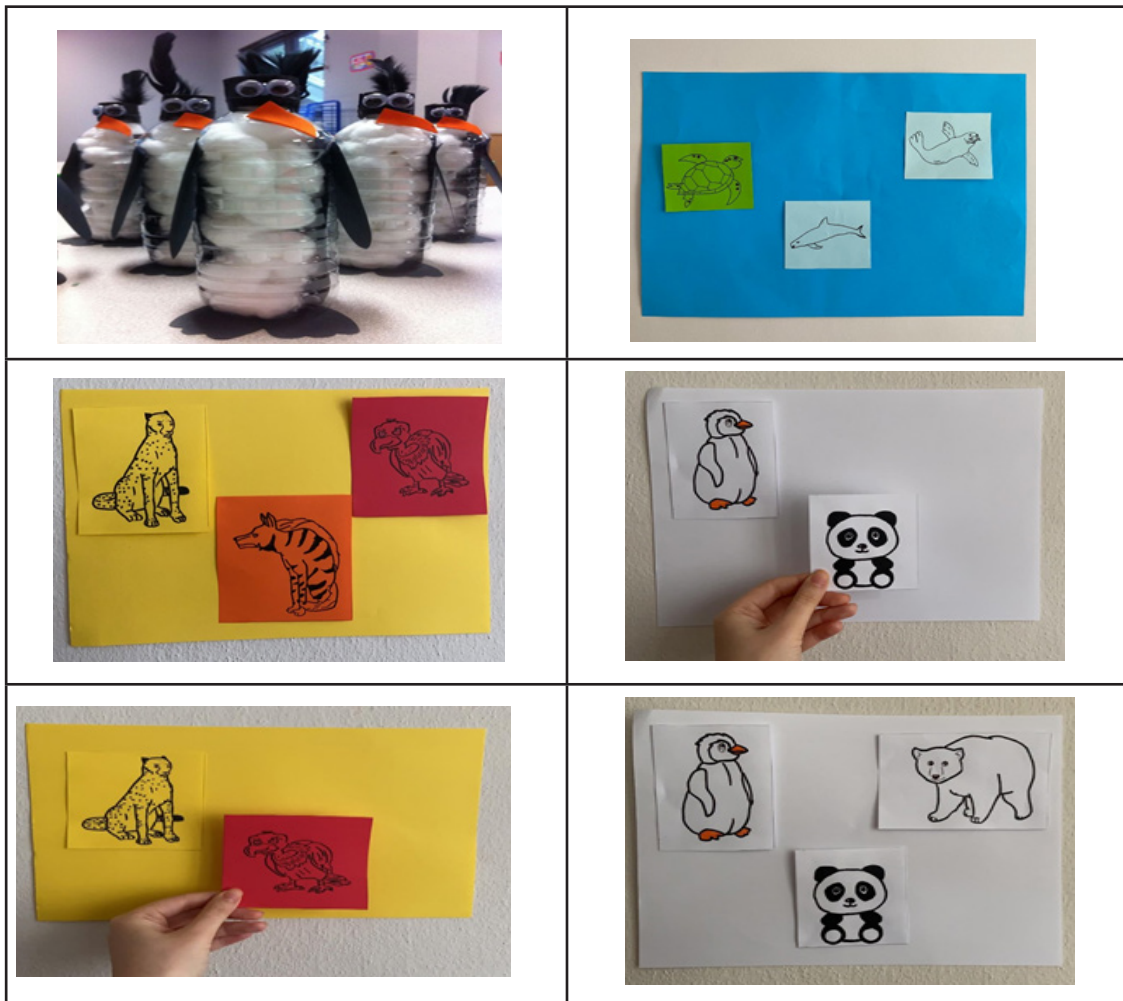
References

Adams, J.A. (1971). A closed-loop theory of motor learning. *Journal of Motor Behaviour*, *3* (2), 111–49. https://doi.org/10.1080/00222895.1971.10734898

Ahi, B., & Alisinanoğlu, F. (2016). Okul öncesi eğitim programına kaynaştırılan çevre eğitimi programının çocukların "çevre" kavramı hakkındaki zihinsel model gelişimine etkisi. *Kafkas Üniversitesi, Sosyal Bilimler Enstitüsü Dergisi* (18), 305-329.

Akbayrak, N., & Turaşlı, N. K. (2017). Oyun temelli çevre etkinliklerinin okul öncesi çocukların çevresel farkındalıklarına etkisinin incelenmesi. *Erken Çocukluk Çalışmaları Dergisi*, *1*(2), 239-258.

Akçay, İ. (2006). *Farklı ülkelerde okul öncesi öğrencilerine yönelik çevre eğitimi* [Yayınlanmamış yüksek lisans tezi]. Uludağ Üniversitesi, Sosyal Bilimler Enstitüsü.

Akkoyunlu, B., & Tuğrul, B. (2002). Okulöncesi çocukların ev yaşantısındaki teknolojik etkileşimlerinin bilgisayar okuryazarlığı becerileri üzerindeki etkisi. *Hacettepe* Üniversitesi *Eğitim Fakültesi Dergisi, 23*(23).

Akman, B., Üstün, E. Y., & Güler Yıldız, T., (2003). 6 yaş çocuklarının bilim süreçlerini kullanma yetenekleri. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 24,* 11-14.

Aktaş-Arnas, Y. (2019). (Ed.). Çocuk merkezli öğrenme ortamları: Okul öncesi çocuklar için bir okul tasarla. Pegem Akademi.

Altınsoy, F. (2018). *Okul* öncesi *dönem* çocuklarında çevre *kirliliği farkındalığı oluşturmada geleneksel* öğretim *ve teknoloji destekli yöntemlerin karşılaştırılması* [Yayınlanmamış yüksek lisans tezi]. Necmettin Erbakan Üniversitesi, Eğitim Bilimleri Enstitüsü.

Arıcı, N. & Dalkılıç, E. (2006). Animasyonların bilgisayar destekli öğretime katkısı: bir uygulama örneği. *Kastamonu Eğitim Dergisi, 14*(2), 421-430.

Ärlemalm-Hagsér, E. (2013). Respect for nature-a prescription for developing environmental awareness in preschool. *Center for Educational Policy Studies Journal*, *3*(1), 25-44.

Atasoy, E. (2005). Çevre *içi eğitim: ilköğretim* öğrencilerinin çevresel *tutum ve* çevre *bilgisi* üzerine *bir* çalışma [Yayınlanmamış Doktora Tezi]. Uludağ Üniversitesi, Sosyal Bilimler Enstitüsü.

Aysu, B. (2019). *Drama temelli çevre eğitiminin çocukların çevre farkındalık düzeylerine etkisinin incelenmesi* (Yüksek lisans tezi, Ankara Üniversitesi).

Barber, S. E., Jackson, C., Akhtar, S., Bingham, D. D., Ainsworth, H., Hewitt, C., & Wright, J. (2013). Pre-schoolers in the playground: An outdoor physical activity intervention for children aged 18 months to 4 years old. Study protocol for a pilot cluster randomised controlled trial. Trials, 14, 326. doi: 10.1186/1745-6215-14-326

Basile, C. G. (2000). Environmental education as a catalyst for transfer of learning in young children. *Journal of Child and Adolescent Psychiatric Nursing, 10*(1), 17–24.

Basile, C. G. (2000). Environmental education as a catalyst for transfer of learning in young children. *The Journal of Environmental Education, 32*(1), 21–27.

Başal, H. A. (2005). *Okul öncesi eğitiminde uygulamalı çevre eğitimi, erken çocuklukta gelişim ve eğitimde yeni yaklaşımlar 2.* Morpa Kültür Yayınları.

Baştanlar, Y. (2018). *Yapay zekâ ve yapay öğrenme*. Bilim Genç.

Baum, W.M. (2005). *Understanding behaviorism: Behavior, culture, and evolution* (2nd ed.). Malden, MA: Blackwell.

Bennett, T. (2001). Reactions to visiting the infant-toddler and preschool centers in reggio emilia, ttaly. *Early Childhood Research and Practice*, *3*(1), 2-9.

Bento, G., & Dias, G. (2017). The importance of outdoor play for young children's healthy development. *Porto Biomedical Journal, 2*(5), 157-160 doi: 10.1016/j.pbj.2017.03.003

Bilaloğlu, G. (2004). Okul öncesi dönemde high scope yaklaşımı. Çukurova Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 13(2), 41-56.

Blackwell, C. (2013). Teacher practices with mobile technology ıntegrating tablet computers into the early childhood classroom. *Journal of Education Research, 7,* 231-255.

Blackwell, C., Lauricella, A. R., & Wartella, E. (2014). Factors influencing digital technology use in early childhood education. *Computers and Education, 77,* 82-90. http://dx.doi.org/10.1016/j.compedu.2014.04.013

Blackwell, S. (2015b). The archimedes forest schools model. *Archimedes Earth Press.*

Bolstad, R. (2004). *The role and potential of* ıct *in early childhood education: A review*

of new zealand and ınternational *literature.* New Zealand Council for Educational Research.

Brainfit. (2017). Doğanın bilişsel faydaları. (27.06.2021). https://brainfit.com.tr/ doganin-bilissel-faydalari/

Büyüktaşkapu, S., Koçyiğit, S., Öztürk Samur, A., & Özenoğlu Kiremit, H. (2011). Çocuk ve çevre. Vize Yayıncılık.

Canosa, A., Graham, A., & Wilson, E. (2020). Growing up in a tourist destination: developing an environmental sensitivity. *Envıronmental Educatıon Research, 26* (7), 1027-1042. https://doi.org/10.1080/13504622.2020.1768224

Chawla, L. & Flanders Cushing, D. (2007). Education for strategic environmental behaviour. *Environmental Education Researc*h, *13*(4), 437-452.

Chawla, L. (1998). Significant life experiences revisited: a review of research on sources of environmental sensitivity. *The Journal of Environmental Education, 29*(3), 11–21.

Cordes, C., & Miller, E. (2000). *Fool's gold: A critical look at computers in childhood.* Maryland, MD: Alliance for Childhood.

Çabuk, B. (2019). Çevre farkındalığı, erken çocukluk döneminde çevre eğitimi ve sürdürülebilirlik. (1. Baskı).

Çukur, D. (2011). Erken çocukluk döneminde görsel algı gelişimine uygun 25 mekan tasarımı. *Sosyal Politika Çalışmaları Dergisi*, *24*(24), 25-36.

Demiriz, S., Karadağ, A., & Ulutaş, İ. (2011). *Okul* öncesi *eğitim kurumlarında eğitim ortamı ve donanım.* Anı Yayıncılık.

Dikicigil, Ö., & Gülersoy, A.E. (2020). Social studies pre-service teachers' awareness of environmental ethics. *Elementary Education Online, 19*(3), 1579-1591. http:// dx.doi.org/ 10.17051/ilkonline.2020.734482

Dilek, Ö. (2019). Orman okulu uygulamalarının çocukların gelişimine yönelik katkısının değerlendirilmesi. *Kastamonu Üniversitesi Sosyal Bilimler Enstitüsü Dergisi.*

Dillon, J. (2003). On learners and learning in environmental education: Missing theories and ignored communities. *Environmental Education Research, 9*(2), 215–26.

Duch, H., Fisher, E.M., & Ensari, I. et al. (2013). Screen time use in children under 3 years old: A systematic review of correlates. *Int J Behav Nutr Phys Act 10, 102*. https://doi.org/10.1186/1479-5868-10-102

Duhlin, B. (2021). The Bildung of Humanity and Earth; The ecospiritual potential of Waldorf education. *Research on Steiner Education, 12* (special issue), 15-26.

Düzenli, T., Işık, B. & Yılmaz, S. (2018). *Çocukların Hayallerindeki Çevre Algısı.*

Edwards, V., Monaghan, F., & Knight, J. (2000). Books, pictures and conversations: Using bilingual multimedia storybooks to develop language awareness. *Language awareness 9*(3), 135-146.

Ekookullar. (2021). *Okul öncesinde çevre eğitimi.* http://www.ekookullar.org.tr/ckfinder/ userfiles/files/Antalya_Halide%20Edip%20Ad%C4%B1var%20Anaokulu_ Okul%20%C3%96ncesinde%20%C3%87evre%20E%C4%9Fitimi%20ve%20 Eko-Okul%20Uygulamalar%C4%B1.pdf

Erdoğan, M., & Uşak, M. (2009). Curricular and extra-curricular activities for developing environmental awareness of young students:A case from Turkey. *Odgojne ZnanostiEducational Sciences, 11*(1), 73-85.

Erentay, N. & Erdoğan, M. (2009). *22 Adımda Doğa Eğitimi*. ODTU Yayıncılık.

Erten, S. (2004). Çevre eğitimi ve çevre bilinci nedir, çevre eğitimi nasıl olmalıdır. Çevre ve İnsan Dergisi, (6566).

Faber Taylor, A., Kuo F.E., & Sullivan, W. C. (1998). Growing up in the inner city: Green spaces as places to grow. *Environment and Behaviour*, *30*, 3-27.

French, L. (2004). Science as the center of a coherent, integrated early childhood curriculum. *Early Childhood Research Quarterly, 19*(1), 138-149.

Gärling, T., & Golledge, R. G. (1989). Environmental perception and cognition. *In Advance In Environment, Behavior and Design,* (203-236).

Ginsburg, H. P., & Golbeck, S. L. (2004). Thoughts on the future of research on mathematics and science learning and education. *Early Childhood Research Quarterly*, *19*(1), 190– 200.

Gülay, H. (2011). Ağaç yaş iken eğilir: yaşamın ilk yıllarında çevre eğitiminin önemi. *TÜBAV Bilim Dergisi*, *4*(3). 240-245.

Güler, T. (2009). Ekoloji temelli bir çevre eğitiminin öğretmenlerin çevre eğitimine karşı görüşlerine etkileri. *Eğitim ve Bilim, 34*(151).

Gülersoy, A.E. (2019b). Mekân-insan etkileşiminin ıslahına bâtıni bir yorum: Rıza şehri (kâmil toplum). Gönençgil, B. (Ed.). *1. İstanbul Uluslararası Coğrafya Kongresi Bildiri Kitabı*. İstanbul Üniversitesi. https://doi.org/10.26650/PB/ PS12.2019.002.009

Gümüş, N., Gülersoy, A. E. & Avcı, G. (2017). Arazi kullanım bilincinin üniversite öğrencileri açısından değerlendirilmesi. *The Journal of Academic Social Science Studies, 56*, 351- 368. http://dx.doi.org/10.9761/JASSS7006

Haktanır, G., & Çabuk, B. (2000). *Okul öncesi dönemdeki çocukların çevre algıları.* Kongre bildirisi, 4. Fen Bilimleri Eğitim Kongresi.

Handler, D., & Epstein, A. (2010). Nature education in preschool. *Extensions Curriculum Newsletter from Highscope, 25*(2), 1-7.

Hanscom, A. J. (2016*). Balanced and barefoot*. Oakland, CA: New Harbinger Publications, Inc.

Hede, A. (2002). An integrated model of multimedia effects on learning. J. Ed. *Multimedia Hypermedia, 11*, 177–191.

Horwitz, W. A. (1996). Developmental origins of environmental ethics: The life experiences of activists. *Ethics and Behavior, 6*(1), 29-54.

Ikoh, N.F., & Nwankwo, F.M. (2013). Teacher resourcefulness: A key to improving ICT learning in primary schools. *Journal of OMEP. 10*(1). 115-121.

İlhan Agan, Ş. (2004). Öğretim *teknolojileri ve materyal destekli yabancı dil (*İngilizce*)* öğretimin*, ilköğretim okul* öncesi *eğitimi anasınıfı* öğrencilerinin öğrenme *ve hatırlama düzeyleri* üzerindeki *etkisi* (Yüksek lisans tezi, Muğla Üniversitesi).

Kallery, M., & Psillos, D. (2001). Pre-school teachers content knowledge in science: Their understanding of elementary science concepts and of issues raised by children's questions*. International Journal of Early Years Education, 9*(3), 165-179.

Kaplan, R., & Kaplan, S. (1994). The experience of nature: A psychological perspective. *Cambridge University Pres.*

Kara, Y. (2007). Mitoz ve mayoz bölünme konularında öğrenci başarıları, kavram yanılgıları ve biyolojiye karşı tutumlara öğretim amaçlı bilgisayar yazılımlarının etkisi. *Buca Eğitim Fakültesi Dergisi, 21,* 49-57.

Karaçöp, A., Doymuş, K., Doğan, A., & Koç, Y. (2009). Öğrencilerin akademik başarılarına bilgisayar animasyonları ve jigsaw tekniğinin etkisi. *Gazi Eğitim Fakültesi Dergisi, 29*(1), 211-235.

Kınacı, B., Albuz Pehlivan, N., & Seyhan, G. (2011). *Turizm ve çevre (Çevre koruma)*. Pegem Akademi.

Kınık, B., Okyay, Ö., & Aydoğan, Y. (2016). 24-36 aylık çocuklarda aile katılımlı çevre eğitiminin dil gelişimine etkisinin incelenmesi. *Kastamonu Eğitim Dergisi*, *24*(5), 2143-2456.

Knight, S. (2017). *Forest School for the early years in England*. T. Waller, E. Arlemaalm-Hagser, E. B. H. Sandseter, L. Lee-Hammond, & K. L. S. Wyver (Eds.) In The Sage handbook of out- door play

Koca, C., & Ünal, F. (2018). Türkiye'deki bir waldorf anaokulunun misyon, vizyon ve diğer anaokullarından farklı yönlerine ilişkin görüşlerin incelenmesi. *Eğitimde Nitel Araştırmalar Dergisi , 6*(3) , 185-206.

Kotaman, H. (2009). Okul öncesi dönemde high scope modeli. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi* (26), 31-41.

Kotaman, H. (2009). Rudolf Steiner ve Waldorf Okulu. Yüzüncü Yıl Üniversitesi, Eğitim

Koyuncu, M. (2019). Orman okullarında öğretmen, veli ve yönetici görüşlerinin incelenmesi. *Ankara Yıldırım Beyazıt Üniversitesi Sağlık Bilimleri Enstitüsü Dergisi.*

Kraidy, U. (2002). Digital media and education: Cognitive impact of ınformation visualization. *Journal of Educational Media, 27*(3), 95–106.

Leather, M. (2016). A critique of forest school: Something lost in translation. *Journal of Outdoor and Environmental Education, 4.*

Lee, T.D. & Schmidt, R.P. (1999). Motor control and learning: a behavioral emphasis. *IL: Human Kinetics.* ISBN 0-88011-484-3.

Lim, C.P., & Tay, L.Y. (2003). Information and communication technologies (ICT) in an elementary school: Engagement in higher order thinking. *Journal of Educational Multimedia and Hypermedia, 12*(4), 425-451.

Louv, R. (2008). *Last child in the woods: Saving our children from nature-deficit disorder* (updated ed.). Chapel Hill, NC: Algonquin Books of Chapel Hill.

MacEachren, Z. (2013). The canadian forest school movement, Queen's University Learning. *7*(1).

Mallory, J. P. (1989). *In search of the indo-europeans: Language, archaeology and myth*. Thames and Hudson.

Matthews, B. E., & Riley, C. K. (1995). *Teaching and evaluating outdoor ethics education programs*. Vienna, VA: National Wildlife Federation. (ED 401 097).

McClain, C., & Vandermaas Peeler, M. (2015). Social contexts of development in natural outdoor environments: children's motor activities, personal challenges and peer interactions at the river and the creek. *Journal of Adventure Education and Outdoor Learning, 16*(1), 31–48. doi: 10.1080/14729679.2015.1050682

McManis, L.D., & Gunnewig, S.B. (2012). Finding the education in educational technology with early learners. *Young Children, 67*, 14-24.

Nazlıoğlu, M. (1988). Çevre bilincinin oluşmasında çevre eğitiminin rolü (Yüksek lisans tezi, Hacettepe Üniversitesi).

OECD. (2015). *Enabling the next production revolution.* OECD Publishing.

Özbuğutu, E., Karahan, S. & Tan, Ç. (2014). Çevre eğitimi ve alternatif yöntemler–literatür taraması. *Mustafa Kemal* Üniversitesi *Sosyal Bilimler Enstitüsü Dergisi, 11* (25), 393-408.

Öztan, Y. (2002). Çocuklarda oyunla ilgili içgüdüsel eğilimler ve eylemler. *Aylık Anne Baba Eğitimci Dergisi.*

Patrick, H., Mantzicopoulos, P., & Samarapungavan, A. (2009). Motivation for learning science in kindergarten: Is there a gender gap and does integrated inquiry and literacy instruction make a difference. *Journal of Research in Science Teaching, 46*(2), 166- 191.

Pekdoğan, S. (2016). Reggio emilia yaklaşımı üzerine bir çalışma. Amasya Üniversitesi.

Plant Dergisi. (2020). Çocuklara çevre bilinci (27.06.2021). https://www.plantdergisi. com/dr-ogr-uyesi-sima-pouya-3/cocuklara-cevre-bilinci.html

Plowman, L., & Stephen, C. (2003). A 'Benign addition ?' research on ICT and pre-school children. *Journal of Computer Assisted Learning, 19*, 149-164. https://doi. org/10.1046/j.0266-4909.2003.00016.x

Plowman, L., Stevenson, O., McPake, J., & Stephen, C. (2012). *Computers and Education, 59*(1), 30-37. https://doi.org/10.1016/j.compedu.2011.11.014

Pluess, M., Assary, E., Lionetti, F., Lester, K. J., Krapohl, E., Aron, E. N., & Aron, A. (2018). Environmental sensitivity in children: Development of the Highly Sensitive Child Scale and identification of sensitivity groups. *Developmental Psychology*, *54*(1), 51–70. https://doi.org/10.1037/dev0000406

Pruneau, D., Freiman, V., Barbier, P.V., & Langis, J. (2009). Helping young students to better pose an environmental problem. *Applied Environmental Education and Communication, 8*, 105-113. https://doi.org/10.1080/15330150903133678

Pyle, R. M. (2002). *Eden in a vacant lot: Special places, species, and kids in the neighbourhood of life.* In P. H. Kahn & S. R. Kellert (Eds.), Children and nature: Psychological, sociocultural and evolutionary investigations (pp. 305–327).

Rejeski, D. W. (1982). Children look at nature: Environmental perception and education. *The Journal of Environmental Education*, *13*(4), 27-40.

Rickinson, M. (2006). Researching and understanding environmental learning: Hopes for the next ten years. *Environmental Education Research, 12*(3–4), 445–58.

Rothmeyer, J. (2019). *Interaction of environmental education and montessori pedagogy.* (Unpublished Master's Thesis). University of Wisconsin.

Ruchter, M., Klar, B., & Geiger, W. (2010). Comparing the effects of mobile computers and traditional approaches in environmental education. *Computers and Education, 54,* 1054-1067. http://dx.doi.org/10.1016/j.compedu.2009.10.010

Schmidt, M.E., Pempek, T.A., Kirkorian, H.L., Lund, A.F., & Anderson, D.R. (2008). The effects of background television on the toy play behavior of very young children. *Child Dev, 79* (4). 1137-1151. 10.1111/j.1467-8624.2008.01180.x.

Schnack, K. (2008). *Participation, education, and democracy: Implications for environmental education, health education, and education for sustainable development.* In Participation and learning: Perspectives of education and the environment, health and sustainability, Edited by: Reid, A., Jensen, B.B., Nikel, J. and Simovska, V. 181–96.

Schweinhart, Larry. (2002). The high scope preschool curriculum: What is it? Why use it?. *The journal of at risk issues; a joint publication of National Dropout Preventation Center and Network, 8*, 13-16.

Scrimin, S., Osler, G., Pozzoli, T., & Moscardino, U. (2018). Early adversities, family support, and child well-being: the moderating role of environmental sensitivity. *Child: Care, Health And Development*, *44*(6), 885-891.

Seldin, T., & Epstein, P. (2003). *The Montessori way*. The Montessori Foundation Press.

Seldin, T.D. (2002). *Maria Montessori's biography*. Gale Encyclopedia of Education. http://www.answers.com/topic/maria-montessori.

Smith, A. (2001). Early childhood a wonderful time for science learning. *Australian Primary & Junior Journal, 17* (2), 52–55.

Solomon, E. P., & Heide, K. M. (2005). The biology of trauma: Implications for treatment. *Journal of Interpersonal Violence, 20,* 51-60.

Stanislava, M. (2020). Cultıvatıon of envıronmental educatıon by the Montessorı method. *Section Education and Accreditation in GeoSciences, 20*(5.2).

Stevenson, B., Dillon, J., Wals, A. E. J., & Brody, M. (2013). The Evolving Characteristics of Environmental Education Research. In R. B. Stevenson, M. Brody, J. Dillon, & A. E. J. Wals (Eds.), International Handbook of Research on Environmental Education (pp. 512-517). Routledge.

Tahiroğlu, M., Yıldırım, T., & Çetin, T. (2010). Değer eğitimi yöntemlerine uygun geliştirilen çevre eğitimi etkinliğinin, ilköğretim 7. sınıf öğrencilerinin çevreye ilişkin tutumlarına etkisi. *Selçuk* Üniversitesi *Ahmet Keleşoğlu, Eğitim Fakültesi Dergisi 30*, 231-248.

Tai, L., Haque, M.T., McLellan, G.K., & Knight, E.J. (2006). *Designing Outdoor Environments for Children*. McGraw-Hill.

Tantekin, F., & Yalçın, F. (2017). E. Aktan Acar (editör), *Doğanın kalbinde oyun temelli eğitim: orman okulu yaklaşımı içinde: erken çocukluk eğitimi mozaiği*. Nobel Yayıncılık.

Taşkın, Ö., & Şahin, B. (2008). "Çevre" kavramı ve altı yaş okul öncesi çocuklar. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi*, *1*(1), 1-12.

Tatlı Çocuklar. (2019). Doğa ve çocuklar (27.06.2021). https://www.tatlicocuklar.com/blog/doga-ve-cocuklar/

Taylor, A. F., Kuo, F. E., & Sullivan, W. C. (2001). Coping with add: The Surprising Connection to Green Play Settings. *Environment and Behavior*, *33*(1), 54–77. https://doi.org/10.1177/00139160121972864

Tektaş, M., Akbaş, A. & Topuz, V. (2002). Yapay zeka tekniklerinin trafik kontrolünde kullanılması üzerine bir inceleme. *Marmara Üniversitesi Teknik Bilimler MYO*.

Temel, F. (2018). *Okul öncesi eğitimde alternatif yaklaşımlar*. Hedef Yayıncılık.

Thornton, L., & Brunton, P. (2015). Understanding the reggio approach: early years education in practice (3rd ed.). *Routledge*. https://doi.org/10.4324/9781315744018

Tomopoulos, S., Dreyer, B.P., Berkule, S., Fierman, A.H., Brockmeyer, C., & Mendelsohn, A.L. (2010). Infant media exposure and toddler development. *Arch Pediatr Adolesc Med, 164* (12). 1105-1111. 10.1001/archpediatrics.

Toran, M. (2015). *Steıner Pedagojisi ve Waldorf Okulları.* (Ed. Fulya Temel). Okul Öncesi Eğitimde Alternatif Yaklaşımlar. Hedef Yayıncılık.

Torquati, J., Cutler, K., Gilkerson, D., & Sarver, S. (2013). Early childhood educators' perceptions of nature, science, and environmental education. *Early Education & Development*, *24*(5), 721-743.

Turgut, H. & Yılmaz, S. (2010). *Ekolojik temelli çocuk oyun alanlarının oluşturulması.* III. Ulusal Karadeniz Ormancılık Kongresi, IV,1618-1630.

UNWater. (2013). *Water Quality.* http://www.unwater.org/fileadmin/user_upload/ unwater_new/docs/water_quality.pdf

Uysal, D. (2007). *Okulöncesi eğitim kurumlarında uygulanan fen ve doğa etkinliklerinin işlevselliğine ilişkin öğretmen görüşleri* (Yüksek lisans tezi, Anadolu Üniversitesi).

Ültanir, E. (2012, July). An epistemological glance at the constructivist approach: Constructivist learning in Dewey, Piaget, and Montessori. *International Journal of Instruction, 5*(2), 195-212.

Ünal, M. (2009). Çocuk gelişiminde oyun alanlarının yeri ve önemi. İnönü Üniversitesi Eğitim Fakültesi Dergisi, 10(2), 95-109.

Watters, J.J., Diezmann, C.M., Grieshaber, S.J., & Davis, J.M. (2000). Enhancing science education for young children: A contemporary initiative. *Australian Journal of Early Childhood, 26*(2), 1-7.

Wells, N. M. (2000). At home with nature, effects of 'greenness' on children's cognitive functioning. *Environment & Behavior, 35*(6), 775–795.doi: 10.1177/00139160021972793

Wells, N.M., & Evans, G.W. (2003). Nearby nature: A buffer of life stress among rural children. *Environment & Behavior, 35*(3), 311–330. http/doi. 10.1177/0013916503035003001

Willis, J., Weiser, B., & Kirkwood, D. (2014). Bridging the gap: Meeting the needs of early childhood students by integrating technology and environmental education. *International Journal of Early Childhood Environmental Education, 2*(1), 140-155.

Yapıcı, Ş. & Yapıcı M. (2006). Çocukta Bilişsel Gelişim. *AKÜ Eğitim. Eğitim Fakültesi Dergisi. 6*(1).

Yaşar, M. C., İnal, G., Kaya, Ü. Ü., & Uyanık, Ö. (2012). Çocuk gözüyle tabiat anaya geri dönüş. *Eğitim ve Öğretim Araştırmaları Dergisi, 1*(2), 30-40.

Yoleri, S. (2012). Çocuk ve çevre: okul öncesi çocuklar arasında çevre bilinci

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