New Approaches in Education: Forest Schools

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Abstract
Despite the advantages of being urban for individuals due to the increase in urbanization in developing countries, societies have been forced to live in areas with excessive pollution and population density, especially when their living spaces are squeezed into narrow and closed spaces. This situation negatively affected individuals of all ages, especially children. Due to the amount of time children spend in school and the little time they spend outside; many industrialized countries have begun to explore more opportunities for outdoor learning. The concept of ‘Forest School’, which is new in the literature, has started to be used in order to improve children’s learning abilities in the open air. In this study, by creating the Forest School criteria in the urban forests of Erzurum city, suitable places and functions of the education system were determined, future contributions are foreseen.

Keywords
Educational model, Forest School, Natural Environment, Urban Forest, Erzurum city.

1. Introduction
The environment is known as an environment that existed with the first living thing that started to live on earth [34]. With a different approach, it is defined as the environment in which people and all other living things interact and maintain their relationships throughout their life cycle [24, 21, 17]. In another definition, Billington (2011) [5] defined the concept of environment as a holistic space that deals with not only living things but also the gases that surround the world, the integrity of the soil and water parts on the earth and their interaction with each other, by taking a wider perspective. Today, the decrease in environmental awareness and especially children's insensitivity to the environment is considered as an important problem [16, 24]. Thus; In the formation of this situation, the dominance of urban spaces and security weaknesses make families uneasy [23]. In this direction, children cannot spend much time outdoors and cannot fully reach their social and physical competencies. The increase in population density in urban centers, green areas, safe natural playgrounds, and a decrease in the number of children who will use these spaces have emerged [16, 28]. In this case, it is argued that it causes nature deprivation syndrome in children. It is stated that some of the people from different age groups living in the cities, as a result of spending most of their time indoors, develop baseless fears and even a feeling of disgust in being in the natural environment and communicating with natural beings. Studies show that individuals who are far from nature experience various problems (psychological, spiritual, physical, etc.) [6, 27]. Many studies are carried out on the problems experienced by the pressures of cities on people and their inability to integrate with nature. These studies clearly emphasize people's longing for the natural environment [12]. However, the high job opportunities force people to live in the city [34]. In this case, urban life is an inevitable reality, and it must contain solutions that will satisfy the longing for nature and create nature consciousness [7]. Because people have to live in cities where they can both work and perform recreational activities [15].

As a result of all these, the city and its immediate surroundings should be planned in such a way as to offer this opportunity to the public. All occupational groups involved in the urban planning and design stages have to carry out their work by considering all these criteria. In fact, these occupational groups should reveal approaches that include many criteria such as people's age groups and individual wishes. Environmental awareness and recreational activity traditions begin to form in people when they are children. For this reason, children's curiosity towards nature should be eliminated and places where they can live together with the environment should be designed [2]. Natural areas to be created in urban spaces will not only contribute to the formation of physical, mental, psychological and social communication skills of children, but also increase environmental awareness [22]. Children's perception of their environment differs from adults. Playgrounds are of great importance as the games played by children are effective in the realization of learning activities. The natural environment both attracts the attention of children and contains many objects that they can easily discover and learn about the environment. Staempfli (2009) [29] revealed in his study that the natural environment has a significant impact on children's behavior and play habits. Natural spaces, with the number and variety of materials they contain, provide children with great opportunities for learning, developing their creativity and maturing behaviors [9]. For example; Trees can be used not only for climbing, but also as a symbol object that they can use in the game. International studies show how important children's activities outside the classroom are [18]. According to Basile (2000) [3] and Wilson (1996) [32], environmental awareness and tendency towards nature are formed in the preschool period. Environmental awareness instilled at an early age and environmental science taught enable future generations to have a positive attitude towards the environment. Environmental education contributes not only to the formation of nature awareness, but also to children's ability to question, observe and explore [20].

The use of materials in natural spaces creates natural landscapes for children to create environmental awareness [26]. For example; In
natural areas. Children need green playgrounds such as trees to climb, shelter and bushes to hide [30]. In such a case, it is one of the important tasks of this professional discipline to create the green area texture in the urban space and to offer it to the user [13]. Again, Prescott (1987) [24] concluded that interior arrangements of kindergarten settings are very simple compared to the natural environment. The amount of active open-green space in urban areas should be increased with landscape works, and it should be made available to people and especially children. An important environmental approach in presenting these opportunities is “Forest Schools”. Forest schools are an increasing form of education all over the world. The location and suitability of the place are as important as the quality of the education to be held in natural areas. In order to create the natural environment in urban areas and to ensure that the forest school education process continues in a healthy way, the equipment should be designed in accordance with children. In urban planning services, the work of the members of the landscape architecture profession is important in the task of ensuring accessibility. Three unique features related to nature are mentioned in the literature, these are: high diversity is the fact that nature is not made by man and the impression of timelessness. These concepts emphasize that the works planned in the urban space should reflect the naturalness.

In addition, some studies show that the natural, diverse and adventurous arrangement encourages creative play [33;10;11]. Forest schools are one of the important open spaces that will enable children to meet with natural places. These schools are an education model that has continued since the 1950s. This approach, which was first seen in Sweden and Denmark, first spread to Scandinavian countries, then America, Canada, China, Europe and New Zealand [1]. Forest school is defined as an education program carried out in forest areas, natural areas such as meadows and pastures [6]. The main reason behind the interest of this concept, which has spread all over the world, starting from the Scandinavian countries, is to ensure that children stay outside for a long period of the year. Thus, many processes such as making a controlled fire with children, nature walks, promotion of forest and regional plants, collecting and processing objects that will be lesson materials, teaching wildlife and feeding living things in a controlled way, physical development of children, increase in motor skills, socialization, long outdoor activities. Many valuable parameters such as immunity being more developed because of staying for a long time are provided in these trainings.

In this study, the role of forest schools in natural landscape areas in order to establish and strengthen the connection of children with the environment is discussed. A study was carried out on how to adapt the bond between child, environmental awareness and landscape architecture to Erzurum, a winter city, by using the term “forest school”. Forest schools have been one of the first studies examined in Turkey according to the literature research conducted by the landscape architecture discipline in the field of science.

2. Material and Method

2.1. Material

The concept of Forest Schools and Erzurum constitute the material of the study. It has been the primary goal to delineate the definition, functions and criteria of the concept of forest schools. Erzurum province, which constitutes the main material, has an area of 25,000 km² in the Eastern Anatolia Region. Erzurum, which has a population of 766,729 people, is 1853 m above the sea. The city, where the continental climate is clearly felt, is an important cold climate city for our country. However, the city of Erzurum, located in the eastern Anatolia region, has been discussed as it contains two different urban forests and different urban open-green areas. In order to ensure the sustainability of the study and make it applicable in the field, the city of Erzurum was considered as a material and the idea of laying foundations of the Forest School was born. Erzurum, which is the Study Area, has become a study area because it contains green areas with many different statuses (Figure 1).

The method of the research was planned in 4 different stages. These stages are:

- First, a large-scale literature review on the subject was made.
- At the next stage, the criteria of forest schools were determined.
- Suitable places and functions for the Forest School system have been determined for the city of Erzurum.
- At the last stage, it is aimed to build a bridge between the professional discipline of Landscape Architecture and the term Forest Schools by considering all literature studies and criteria.

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3. Findings

When the literature and data collection stages of similar studies on forest schools are examined (Dey 1993), the analysis of the data in this study includes three interrelated activity streams. These processes are described in simple terms such as description, classification and linking. 6 main principles form the basis of the forest school. These principles were set by the UK Forest Schools community in 2011.

- Principle 1: forest school education consists of visits and activities in the natural environment or forests at different periods. It is a program in which children actively fulfill the elements of planning, adaptation and review. A structure should be created in such a way that the participation density of the students in different seasons of the year is at least once every 2 weeks, the program should be followed by trainers and participants.
- Principle 2: In order to establish a relationship between children and nature, the Forest School program carries out its activities in forest areas. In areas where there is no forest area or where access is difficult, the green areas, woodlands and woods arranged in the urban area provide an environment for students to explore and explore.
- Principle 3: The forest school aims to develop the social, cognitive, emotional and spiritual aspects of the participants. Raising self-confident, creative individuals with freedom of ideas has been determined as the main goal.
- Principle 4: Forest School; It offers students the opportunity to take calculated risks that are appropriate for the environment and for
experiences with learning and development by observing the parts of the forest school program. For learning and development, play and choice are essential. The forest school is run by qualified forest school practitioners who develop themselves by working in the field. The forest school is managed by educators who have at least 3rd level forest school education. It is expected that the number of instructors in the environment will be proportional to the number of students (such as 1 instructor for 7 students). Parents or adults who will assist the applications are tested whether they are suitable to work with children and young people before they take part in the forest school application. Educators must have a first aid training certificate to be applied in open areas. The forest school administrator is a careful practitioner who thinks through. She sees herself as a student too.

Principle 6: A set of student-centered processes is used for development and learning in the forest school. In the forest school, an individual-centered program is implemented according to the interests and needs of the students. Pedagogical approach is used while the trainer prepares an individual-centered program and to establish an effective communication. Play and choice are essential parts of the forest school program. For learning and development, play is vital in forest school. Evaluating their achievements, developing their emotional intelligence and making a plan for the future are among the main features of the application. Observations are very important to the forest school. Individuals associate experiences with learning and development by observing the environment and activities.

Forest schools in the world first started to provide education in many countries such as Scandinavian countries and Germany, England, Wales, Scotland, Russia, Lebanon, Lithuania and Japan. If we take a few different examples of Forest School from around the world;

**Cedarsong Forest Kindergarten (Vashon, Washington)**

The founder of Cedarsong Forest kindergarten, Erin Kenny, came up with this idea and implemented it while looking for a kindergarten for her own child’s education. It was founded in America, inspired by a forest school in Germany. The main purpose is for students to communicate with each other, solve problems together, and have environmental and nature awareness. The school continues its education throughout the year, serving 5 days a week (Figure 2).

**Little Tree Hugger (Leesburg, Virginia)**

Unlike other forest schools, this school provides education in different languages such as Italian, German and Spanish, in addition to basic education. The entire school has been designed to introduce a farm life and includes many farm animals. While children can paint in their spare time at school, they can spend time with animals. The school focuses on issues such as less material use and recycling in order to raise environmental awareness in children (Figure 3).

**Sotkankoto Kindergarten (Vikki, Helsinki)**

The Sotkankoto kindergarten is located in the Vikki area, an ecological zone in the north of Helsinki. The school is very close to the forest. The land on which the school is established is a sloping and rough terrain. The school has a single storey building, in the middle of which there is a fireplace where a campfire can be lit. The equipment in the school is made using natural materials and wood. Due to its proximity to the forest, students are taken to the forest several days a week (Figure 4).

**Istanbul Information Cocoon (Independent Private Kindergarten)**

A unique program based on High/Scope (consisting of an active learning method) is implemented at Istanbul Bilgi Koza School. The school continues for 2 hours a day in all weather conditions. The basic principle in the education of the school is to enable students to learn by tasting, touching and feeling (Figure 5).

**Mersin Dumlupınar Kindergarten (Independent State Kindergarten)**

In Mersin Dumlupınar Kindergarten, which started education in nature in 2015-2016, ‘Educational Techniques in Nature’ are applied. Some of the school’s instructors have received training on this subject in Italy and Germany. My school administrators support the idea that children will learn about life through experiences. Therefore, the learning by experience model constitutes the basic philosophy of this school (Figure 6).
In the 21st century, the necessity of approaches emphasizing the importance of gaining knowledge, which are called out-of-school/out-of-class education practices, outdoor education practices, and education without walls, by doing and experiencing, has become more evident today (Karadoğan, 2016: 49). The main purpose of these approaches is to ensure that the potential exists in children and to enable them to realize their own potential and use it (Şahin, 2016: 126).

Although the starting point of the concept of ‘Forest School’ was considered as a traditional adventure education, these areas have now turned into an international open-air education center based on remedial policies such as the trust, mutual relationship and freedom of nature and natural spaces on the individuals of the society. Therefore, forest schools located in the city or outside the city become one of the effective and powerful elements of the natural landscape. The forest schools project to be carried out in Erzurum urban forests, which was chosen as the study area, especially considering the climatic similarities of the countries where education began, is a project that will provide children and families with a year-round education seen as an opportunity. It has been determined that especially the forest areas in the city are rich in biodiversity, the ease of access to these areas, the fact that their natural resources have not been destroyed much and that these areas can be forest schools in terms of compliance with the above-mentioned criteria. Activities that will turn the difficult conditions into opportunities in these areas due to the long winter season are also being considered.

Considering the validity and effectiveness of forest schools in the world, although the main purpose is the development of children, it will provide indirect and direct contributions to individuals living in Erzurum on a large scale. Thanks to these schools;

- Children will also have an idea about animal and plant habitats, and will be able to observe the decay rates of various natural and man-made creatures.
- It will create time and space for children to play outside.
- The qualities of various environmental features (eg scrubland, trees, slopes) that emerged in different seasons, which meet the needs of children for stimulating and challenging play environments, will enrich the functions of children’s play.
- Children playing in the forest tend to display better motor skills with increased creativity than children playing in a traditional playground. In these areas, children will show more positive developments physically and spiritually.
- The education model implemented will contribute to the development of children as individuals who value themselves and their environment, be respectful, more sensitive and positive, with its positive effect on their self-esteem.
- Thanks to the Forest and Nature School trainings, families and their children will gain a year-long learning experience consisting of both face-to-face outdoor, experiential learning and online self-directed learning.
- Especially in these areas, it is necessary to ensure the safety of children and their families. Therefore, when a suitable environment is provided, it is considered appropriate for children to participate in activities with their parents from time to time.
- Especially in Erzurum and similar cities, where the terrestrial climate lasts for a long time, in forest areas, plant species with color and calligraphic effects in winter, landscape spaces and schools will be able to attract from the outside.
- Ice museum, snow educational activity workshops, etc. places that will increase the use of winter will be planned within some of the forest schools.
- In these areas, children will get to know plants and the natural-raw material obtained from them with their sense organs, and will include them in their lives as a part of their skills and development.
- It is assumed that the adaptation of new education paradigms (student-centered, participatory curriculum development) and techniques such as distance education will be implemented in the future, thanks to the implementation of forestry education in forest schools.

As a result, the education process carried out in the forest helps children in every way beyond collecting information and makes life easier for them. These schools contribute to the social, emotional, spiritual, physical and intellectual development of students (URL-1). It creates a safe, non-judgmental nurturing environment for students to try and take risks. In early childhood, children's empathy towards the natural world should be emphasized, and in early adolescence, children should be put into social action about the environments in which they empathize. Sobel, D. (1995). The Forest School inspires a deep and meaningful connection to the world and an understanding of how a student fits into the world. Our approach to risk means that students continually improve their abilities by solving real-world problems, developing self-belief and resilience. For this reason, Forest School helps participants become healthy, flexible, creative and independent learners, and raises individuals who are stronger and more confident in life, more sensitive to their self and their environment, and more respectful.

Declaration of Conflict of Interests

The authors declare that there is no conflict of interest. They have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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