
Research Paper

Rethinking Open Spaces of Schools for City and Society

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Abstract

It is not new to construct the potentials of open spaces and nature as a part of education and to plan school gardens as an extension of education. However, this issue has become one of the current research topics for two reasons. The first of these reasons is related to location. In big cities like Istanbul, there are very few qualified open spaces where children can easily access, play games, interact with nature in a safe way, and be 'children'. For this reason, in most places in Istanbul, school gardens are the only places where children can benefit from these opportunities. While these areas respond to outdoor activities such as games and sports, on the other hand, they should be structured in a way that allows children to establish a relationship with nature. The second reason for investigating the potential of open spaces is that this potential is needed more than ever and urgently due to the pandemic. This study focuses on an "outdoor classroom" design in the garden of an existing pre-school in Istanbul. The main goal of the design is to create a space that will stimulate the curiosity, discovery and creativity of children with a semi-structured design in the school garden, based on the concepts of experience and interaction. Within the scope of the study, the emergence, maturation and implementation of the design idea as a result of a participatory process in which the opinions of educators and students are included will be revealed in detail.

Keywords

child, space for children, school backyard, outdoor classroom

1. Introduction

Nature offers human beings almost all resources to live and exist. Rivers, trees, fruit and everything. Nature is nurturing and generous in every sense. In addition to the physiological needs necessary for the survival of human beings, and probably more important than them, nature offers us "knowledge". Unlimited knowledge. From animal teeth to spears, fish fins to paddles, human beings have studied nature not only to satisfy curiosity but, more importantly, to learn from it for innovations and inventions (Xiao and others, 2021).

In order to understand many issues such as development, change and renewal, it is sufficient to look at geography and nature that evolves according to the seasons. When we look at nature carefully, it can be said that there is no limit to what can be learned from it. Nature offers mankind the greatest open-source ever to understand togetherness, transformation, and even responsibility. This article focuses on how this eternal and ancient resource can be utilized in education. Thinking and planning the potentials of nature as a part of education is a very important and comprehensive issue. For example, the contribution of nature's potentials in terms of child development is incredible. In the literature, many research and case studies in the field of educational sciences can be seen on this subject. However, the subject of this article puts children at the center and focuses on thinking about nature at the intersection of two disciplines: education

and urban planning. At this intersection, the article examines the planning of school gardens as an extension of education.

In the literature, it is stated that the first open-air school was opened in Berlin in 1904 to prevent the spread of tuberculosis (Weinstein, 2020; Tweedy and London, 2017). Then, open-air schools spread rapidly in Europe. It is seen that this issue is not new. So why is this “not new” issue being brought up again by researchers now? Why should the subject of “planning school gardens as an extension of education” be one of the current research topics, especially in the context of “the city”? Let's try to answer this question from the "child" window in two contexts: place (city) and health (healthy city).

- **Location:** Unfortunately, the structure of today's cities, population/density and the way of construction make nature almost invisible/inaccessible. In cities, especially in big cities, qualified open spaces where children can easily access, observe and interact with nature are insufficient. In many places, the only place where children can (or have the potential to) take advantage of these opportunities is in school gardens. While these areas respond to outdoor activities such as games and sports, they should be structured in a way that allows children to relate to nature.
- **Health:** The second reason to explore the potential of open spaces can be seen in reminders of the pandemic. Do the environments we live in really offer healthy opportunities for us? Again, when we think of cities, can we say that we always have the opportunity to be in a clean air and with nature? Let's rethink these questions for today's children and future children? Thus, we can easily grasp the seriousness and importance of the subject. We need the healing and instructive power/potential of nature more than ever and urgently. As we strive to better rebuild our environments in the wake of COVID-19, we must put nature at the center and improve cities for all stakeholders, most notably children.

The subject of the interaction of the city and nature is undoubtedly a multi-layered and broad subject. The focus of this article is to develop this relationship with one of the smaller and more easily done practical interventions instead of large ones. The development of this relationship is vital for the individual, city and environment in particular, and for social development and the future in general.

It is possible to approach the idea of “practical intervention” mentioned here with a few very general observations first and then convey these determinations into a hypothesis. Namely, 1: It is obvious that there are many school buildings in cities. 2: the vast majority of these schools have gardens. Hypothesis 1: By nature-centered planning of these gardens, the city-nature interaction can be strengthened. Based on this hypothesis, the main question - especially for those who look at from planning and architecture point of view- is "how?". What is the way/method of planning nature-centered school gardens? In other words, and from a broader perspective: what is the way to rethink the open spaces of schools for the city and society?

This article focuses on a design realized in response to this question, the "outdoor classroom" design in the garden of an existing pre-school in Istanbul. The main purpose of the design is to create a space in the school garden that will stimulate children's curiosity, discovery and creativity with a semi-structured design based on the concepts of experience and interaction.

2. Outdoor Classroom

In this section, the subject of outdoor classroom is briefly introduced and answers are sought to the following questions: What is an outdoor classroom? What are their potentials?

UNICEF considers pre-school education institutions “the best place to start life” and emphasizes that a quality pre-school education is the foundation of a child's life journey. (Unicef, 2019). Within educational institutions, school gardens are areas that offer rich stimulating learning opportunities as accessible and non-formal learning environments.

In their educational philosophies and pedagogical approaches, Rousse and Froebel emphasized that the natural environment in which children live as an important source and context in which they learn through sensory interaction with the physical world makes a unique contribution. Underlying these approaches is the belief that children actively solve problems through play and construct knowledge through experimentation and exploration (Little vd, 2017; Änggård, 2010). However, according to Johnson and Duffek(2008), although school gardens are equipped with playgrounds aiming to support students' physical, cognitive, emotional and social development, natural areas/components have been ignored as supportive elements for learning.

So could outdoor classrooms be a way to recall nature as an active part of learning? Outdoor classrooms allow children to experience; enabling students to learn by doing, seeing, touching and feeling; able to offer different spatial opportunities for different needs; It can be defined as rich open spaces that encompass nature with its different layers (sun, wind, rain, trees, soil, water, mud, etc.). Moreover, all these experiences in childhood are extremely important not only because it is a critical period in terms of the learning potential of children, but also in terms of shaping their personal characteristics and the relationship they will establish with their environment. Outdoor classrooms do not only support child development, but they can also play a transformative role for the city and society. Outdoor classrooms provide an environment for children to recognize and understand the challenges needed to maintain healthy, sustainable ecosystems, thereby supporting a sustainable future. Thus, they raise environmental awareness and support the idea of sustainability holistically. Outdoor classrooms planned in school gardens offer quality open spaces where children can easily access, play games and interact with nature in a safe way, where they can be 'children'. Moreover, the green areas planned for children in the cities become widespread by planning school gardens as active areas, and they are made accessible to everyone.

In the dense fabric of today's cities, qualified areas where children can have these experiences are limited and unfortunately most of the children are unlikely to benefit from these opportunities. Outdoor classrooms can offer this opportunity in kindergartens – pre-school education institutions – as the second place where children spend the most time after home. According to Turkey's national education statistics, for example, there are 3960 pre-school education institutions in Istanbul. (MEB, 2022). In other words, if outdoor classroom designs that center nature in pre-school gardens are implemented, thousands of new qualified children's spaces will be created in Istanbul, and hundreds of thousands of green spaces will join the city. This indicates not only healthy children's spaces and healthy childhood, but also a healthy city. Therefore, this article focuses on a pre-school case, but this single case is considered an important and pioneering step in the dissemination of this approach.

3. Case Study: An Outdoor Classroom Design in Istanbul

The fieldwork of the article was determined as the "outdoor classroom" designed for Nişantepe Pre-school in Çekmeköy, Istanbul. Çekmeköy is located in the north of Istanbul (Figure 1), and just like Istanbul, Çekmeköy also hosts different living environments ranging from shanty settlements to mass housing estates and luxury single-family homes. Nişantepe is one of the districts that exemplifies this diversity (Figure 1). This place is a field at which, all kinds of housing presentations can be observed since on which slums, apartment buildings that are converted from slums, cooperatives pleading to lower and middle

income group, and the sites that symbolize privilege and comfort are being built (Ozorhon and Ozorhon, 2017).



Figure 1. Maps İstanbul, Çekmeköy, Nişantepe Source: Ozorhon and Ozorhon, 2017

This diversity and differences in living environments are also reflected in children's spaces. For example, housing estates in the neighborhood contain children's spaces that appeal to those living here. On the other hand, in addition to housing estates, there are low-rise houses and apartments mainly appealing to the low-income group in the neighborhood. Children's places in the neighborhood are insufficient for the children living here. Children mostly spend time on the streets of the neighborhood and in the areas they find empty. Canakcioglu(2020) discusses the playgrounds in this neighborhood, states that the immediate surroundings of the houses, streets and sidewalks are transformed into playgrounds where children play freely with their peers, and emphasizes the dangers that this situation will create. *“The lack of control by parents and adults, the diversity of spatial heterogeneity that dominates the urban fabric, and the insecurity of urban morphology make the child vulnerable to dangers”* (Canakcioglu, 2020). There is a duality in terms of children's spaces. While the children living in the estates are together in the limited areas designed for children, other children in the neighborhood spend their time in the undevised areas but freely. Nişantepe pre-school in the neighborhood is a place where both groups of children come together. In this sense, it has an important potential for all children in the neighborhood. Moreover, in this area, children spend time beyond school time, even if it is not currently a qualified children's place. All this shows that this area, which is almost completely covered with firm ground except for a few trees and is used for cars rather than children, should be reconsidered.

3.1. Design Process

First of all, it should be noted that the first sparks of the design process were laid by the educators of the pre-school, who were aware of the problems of the field. They are the people who are aware of the importance of open spaces and nature, especially in terms of early childhood education, and are pioneers in carrying out projects and actions for this. Can this garden be considered as an extension of education? More than that, can this be designed as a natural place where all children in the neighborhood can access, own and develop a sense of belonging, offering free experiences? Educators, who set out with these questions, reached our university and our laboratory and asked for support in design. In this part of the article, the design process (Figure 2), which consists of a total of 5 phases (the pre-phase and the following 4 phases) is presented in detail.

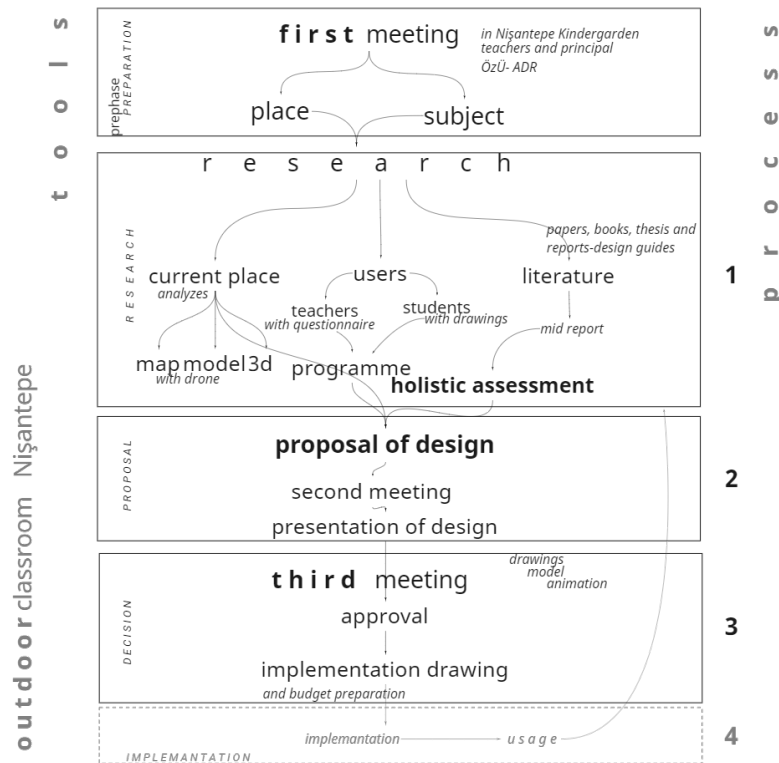


Figure 2. Designing Process

3.1.1. PrePhase: Acquaintance

The first meeting took place when pre-school educators and architectural design team came together online due to pandemic conditions. In this meeting, educators explained that they set out to design an outdoor classroom in the pre-school garden, and they revealed what “outdoor classroom” means and what it means for their discipline. They also shared various sample images and expressed their spatial expectations. This first encounter showed that it was appropriate for the research phase of the design to proceed along three interrelated axes. The first of these axes is the subject (outdoor classroom), the second is the place (the place where the pre-school is located and its garden) and the third is the user (teachers and students).

3.1.2. First Phase: Deep Research

a.Subject The first research branch started with the examination of the "outdoor classroom" issue through the literature. Key questions are: What is an outdoor classroom? What are the components that should be in an outdoor classroom? How should these components be put together? Searching for answers to these questions, the design team searched articles, theses, reports, books and guides, and examined the "outdoor classroom" practices. And after the research, all the findings were brought together and a report was created.

b.Place The second branch of the research, which progressed simultaneously, focused on “place”. For this, the first step is for the design team to visit Nişantepe pre-school. With this visit, determinations were made about the pre-school, its garden and its surroundings. Using the drone, the current situation was documented with photographs and videos, and then, plan and cross-section drawings were created in the laboratory through these images, and models were made. Existing trees were identified, the current use and the problems related to this use (eg, where the children's movement area and the routes of the cars

overlap in places) and the limitations of the physical conditions of the garden were observed. On the other hand, it was discussed that an idle area in the eastern corner of the garden could be added to the design.

c. User Undoubtedly, the most important components of the design process are the users. Users' needs, expectations and even dreams. The main users of pre-school are educators and students. A participatory process was followed in the creation of the outdoor classroom program. For this purpose, in addition to the meetings held with the teachers, 3 questions were asked to them and they were expected to answer these questions with their individual experiences and expectations. These questions are: 1) What activities are planned in the outdoor classroom? 2) How many students are supposed to participate in the activities to be done in the outdoor classroom? 3) In which areas is the development of the students targeted with the outdoor classroom? The students were asked to do the paintings of the pre-school garden of their dreams.

3.1.3. Second Phase: Proposal

The second phase is about bringing together and evaluating the research progressing from different branches. How will research results be included in the design process? For this, first of all, a program for the outdoor classroom was created by bringing together the report created by the literature research and the feedback from the users. Different areas to be found in the outdoor classroom, possible activities to be carried out in these areas, and the tools required by each area were determined. The next step is to associate the program and the place. The design proposal started to be developed by overlapping the problems and potentials indicated according to the the analysis of the site. Alternative approaches were criticized using two- and three-dimensional representation techniques, and as a result, a design proposal was developed.

3.1.4. Third Phase: Decision

In the next meeting, the studies were shared with the users in two presentations. In the first of these presentations, the design proposal developed with the research data and results was shared with the teachers through the plan, section, view, digital and physical model. After the meeting with the teachers, the design proposal was shared with the students through the physical model. The students, who examined the design through the model, associated the proposal with the school garden in their dreams, tried to embody the idea with their questions, got excited and started to develop a sense of belonging at this stage.

3.1.5. Implementation

The implementation process of the outdoor classroom has not yet started. The budgeting studies of the project and the planning of the process continue.

3.2. Design Outdoor Classroom

Outdoor learning activities become important, especially in order to avoid the effects of children's alienation from nature as a result of contemporary living conditions. In order to ensure the spread of this movement, various organizations or researchers have created design guides. When these guides are examined, it can be said that the common aim is to strengthen children's communication with nature. In addition, the importance of providing a basis for activities that will enable children to learn by experience is emphasized in studies on this subject.

By following the design process set forth in the previous section, it is aimed to create a new and green environment in which spontaneous experience and interaction is provided and children can develop their potential. In Figure 3, the current state of the area and its transformation with the outdoor classroom design can be seen. The area has been evaluated holistically, and vehicle-pedestrian circulation has been

separated primarily for safety reasons. Then, the sections that should be in the outdoor classroom were brought together by considering the usage scenarios of the area. Accordingly, the outdoor classroom includes the following sections: Gazebo, Science-Art-Music Departments, Harvest Gardens, Amphitheater, Climbing Area, Tree House, Playground, Sandlot, Excavation Area, Water Canal, Insect Hotel.



Figure 3. Pre-school garden current situation (a) Outdoor classroom as the pre-school garden (b)

The sloping area to the east of the area and separated from the garden by a wall is included in the garden. With the participation of this sloping area, the outdoor classroom was enriched, and an amphitheater was formed spontaneously due to the topography. The outdoor classroom area was separated from the driveway with dwarf border plants, the existing trees were preserved and new ones were proposed to be added. The area completely covered with firm ground has been transformed into a green natural ground. The 4 m high retaining wall forming the boundary of the area formed a background for the placement of outdoor workshops, and the science, art and music departments were constructed here with recycled natural materials (pallets) (Figure 4). An area protected from the sun has been created under the gazebo, and areas where children can spend time sometimes together and sometimes individually are planned in the green area.



Figure 4. Views of Outdoor Classroom

4. Conclusion

“Everything in nature can be a toy for a children.” (Arce, 2018)

Outdoor classrooms have a lot of potential in terms of child development. The value of these potentials is increasing day by day, and the planning of school gardens defines a very important area in terms of 'child' and 'child-environment relationship' in particular, and 'city and society' with a more holistic understanding. What can we gain besides creating an area that supports education in many ways with open classrooms to be planned in school gardens? We can bring environmental awareness and sustainability awareness to children at an early age, which is very important for children who can have a say in the planning of the built environment, which will become the adults of tomorrow. With the spread of outdoor classrooms, qualified open spaces open to children's access and use increase in the city, and they can play freely in these areas with the feelings of discovery and curiosity. And thus, green areas and healthy environments in the city increase. As a result, outdoor classrooms, which are planned to encourage thinking, sharing, learning by

experiment, discovery and imagination, not only strengthen the pre-school education curriculum, but also provide children with strong social and social awareness at an early age and help them become adults who are aware of their duties and responsibilities. For these reasons, supporting and disseminating open-air classroom practices in pre-school gardens offers important potentials to create healthy-resilient communities of tomorrow.

This article focuses on how and with which components an outdoor classroom design develops. However, even this one example is considered to be important for the development and dissemination of this approach and even for the production of policies. On the other hand, watching how it is used by children after implementation is as important as the implementation of outdoor classroom design, and it will be both pioneering and instructive. As indicated in the diagram showing the design process and method, the information obtained by monitoring and evaluating the post-implementation user experiences will both ensure that the design has achieved its purpose, and will provide important data for new outdoor classroom designs.

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