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Evaluation of the Landscape Design of Kindergarten Gardens

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Abstract

Education is the most important activity in human life. The behaviours a person has at birth (breathing, movement, etc.) only ensure their survival and their survival depends on education. The fact that education is so important has also ensured that planned events are carried out systematically. At this point, schools have become an important part of human life. School is a living area where rest, learning, and personal development are supported, environmentally sensitive, healthy, and active individuals are raised in this space. In addition to education and training, the school provides an environment for children to play with their friends, especially during breaks and lunch hours, which constitute the breaks between classes. lay is a part of real life and the most effective learning process for children it can be purposeful or not, with or without rules, but in any case, the child willingly and with pleasure takes part in it, the basis of physical, psychomotor, emotional, social, mental and language development. The study aims to determine how children perceive the outdoors and what the needs of preschool education institutions are in terms of landscape design. The effects of the physical environment on children's perception were discussed, and surveys and drawings were conducted in the study. They preferred wood materials for wall and floor elements. This preference is followed by natural stone and podima. Children generally liked the natural-looking, warm-colour, and aesthetically appealing material examples. School garden design should be made in line with the wishes and demands of the children.

Keywords: Kindergarten, Landscape Design, Landscape, Outdoor, Niğde

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INTRODUCTION

The period from birth until a child starts primary school is called the ‘preschool period’. The first five years of life are when the child develops rapidly and has a high learning capacity, as well as when they need love and attention the most. This period is also described as when the child is most open to the effects of the environment (Karatekin and Çetinkaya, 2013). Children go through different developmental processes from the moment they are born. Children in the 0-3 age group depend completely on their families and are under their influence. Children in the 4-7 age group are more independent, but still in a controlled period. Especially from the age of 6-7, a period begins in which they can now play on their own and do not need much parental supervision. During this period, the child is in his/her most active period, while at the same time being much more interested in his/her environment.

During this period, which includes the 7-14 age group and is also called the primary school age, the school now constitutes the environment where the child spends the most time and is, therefore, most affected. The information he/she receives from this environment and the events he/she observes will form the foundation of the child's integration into society as a healthy individual (Erdönmez, 2007).

During this period, the child leaves egocentrism (the period in which the child discovers his/her environment, believes that this environment was created for him/her, does not care about anyone else, and covers the ages of 2-6, the self-involvement period) and begins to socialize. He/she establishes relationships with his/her peers and those who are younger and older than him/herself. Interest in dynamic group games, desire to move constantly, imitate those who are older than him/herself, development of psychomotor skills (Psychomotor skills are the organism gaining mobility depending on the will as a result of brain and spinal cord development together with physical growth and development. In other words, psychomotor skills can be defined as coordinated muscle activities directed by conscious mental activity used during the performance of a task. For example; handwriting, typing, etc.) become evident in this developmental stage (Özgen and Aytuğ, 1992). The experience and information that the child gains by living and playing in the schoolyard during break times play as big a role as the information he/she receives from school and other educational tools. According to Özgen and Aytuğ (1992), the child ensures the development of his/her emotional, physical, and social existence feelings through play and establishes a relationship with the environment. By satisfying his/her experimental needs, he/she develops his/her individualization and socialization together and gets to know nature.

As Yıldızcı (1982) stated in his study on urban green space planning; children's playgrounds provide children with an environment where they can play and develop their creative skills in a place separate from their family environment, and in this environment, the child should be able to find the form of play, tools and human environment within their own instincts, tastes and imitation tendencies, away from all influences. Especially, considering the great role that play plays in child development, the planning of primary school gardens, where the child spends most of his time during this important period in the development process, is an issue that needs to be addressed with importance. Children are open to all kinds of influences coming from the environment. Therefore, they are also affected by the changes that occur with the urbanization process. The problem of adaptation to the environment arises differently in children whose personality development is occurring or continuing. Children are quickly and easily affected by their environment due to the characteristics of the age they live in. Therefore, the child will be in harmony or conflict with his/her urban life to the extent that the conditions surrounding him/her are positive or negative. Since our country is a developing country, it has a largely young population and it is impossible to think that preschool children within this population will not be in the landscape design process (Sivri, 1999).

Children need constant movement and they need to play for their healthy development (Arslan et al., 2021). Pre-school education ensures that children develop physically, mentally, and emotionally, gain good habits, and prepare for primary education Dağlı, 2007; Karatekin and Çetinkaya, 2013). The period when a child is most affected by his/her environment is the preschool period when most of his/her psychomotor development is completed. It is seen how important the spatial quality of preschool education institutions is where the child spends most of his/her time (Gül, 2012).

For this reason, it is not possible to ignore these areas in the designs. The spaces and equipment which is used by children in preschool education buildings should be suitable for the child and should appeal to the child's spiritual comfort within the space. It is difficult for children to continue their education and develop in spaces where they feel anxious and psychologically disturbed. Dynamics and flexibility are important in the architectural planning of spaces in kindergartens. If flexibility is provided in the area, it will be possible to rearrange the area according to the activities and to get rid of the monotony of the space. A flexibly designed area allows children to organize their environment with the help of themselves and their educators. Children have a very rich imagination and creativity. They do not like boring and monotonous orders. They like places and toys that allow them to use their creativity and are surprising, fun, and open to discovery (Yuvacı and Dağlıoğlu, 2016). The aim of this study is to determine the quality and quantity of the criteria to be sought in school gardens in Niğde, with the student opinions, to develop spatial organizations in existing schools and to create a typical model for the design of newly constructed school gardens in line with the findings obtained.

MATERIAL and METHOD

The study focused on the outdoor landscape design of preschool educational institutions where 5-6-year-old children spend most of their time during their preschool education. The study is based on a methodology developed on visual surveys and drawings. In order to obtain healthy results in this section, the child must have acquired certain characteristics, such as the ability to hold a pencil, create composition in a picture, and be socially competent. The 5-6 age group was particularly preferred because they had completed their psychomotor development. Within the scope of the study, three preschool education institutions, two private and one public, were selected in the central district of Niğde.

Sefa Kelebek and Niğde Özel Vuslat Kindergartens are private schools; Emine Çetin Kindergarten located on the Niğde Ömer Halisdemir University campus is a public school. The number of samples was determined as 90; however, considering the possible errors and the number of classes where the application was made, the number was increased to 100. A visual survey was applied to photographs of garden walls, garden gates, plant design examples, outdoor flooring examples, pergolas, and children's play groups selected by the perception levels of 5-6-year-old children. Children have indicated their preferences by colouring the box under the photographs. According to the literature reviews (Özdemir, 2011; Soydan et al., 2014; Vural and Yılmaz, 2018), the number of photographs to be applied varies under each subject heading.

Six photographs were determined for limiting elements, floor coverings, doors, pergolas, playgroups, form to plant design, and colour in plant design, four for emphasis in plant design, and three for texture in plant design. Since the survey focused only on wishes, children were asked to draw the garden of their dreams to support the survey. While points, lines, surfaces, textures, forms, and colours are visual design elements, integrity, balance, emphasis, alignment, and proximity are considered visual design principles. The examples in the photographs were selected according to design elements and principles, and the photographs were grouped according to these principles.

In the examples, those with different characteristics in terms of colour, form, texture, and material and those in harmony with their surroundings were prioritized. Analyses were made on the photographs that children mainly selected. 'They chose the example with a cold colour, formal structure, and fine texture' was interpreted as a deduction. To determine the garden of the children's dreams, the objects in the pictures were counted and an attempt was made to reveal why the objects in the majority were important to the child. The children's preferences were determined by the survey and the pictures drawn. In the surveys, children were given options and an attempt was made to determine what the gardens they could not express but could imagine were like through drawing pictures. Thus, children's expectations were revealed in a healthier way with two studies.

RESULTS and DISCUSSION

The survey study was conducted in pre-school education institutions in the Niğde Central Region and applied to 100 children aged 5-6 in three different schools. 43 of the children are girls, 57 are boys, 46 are 5, and 54 are 6. 27 students are in Private Vuslat Kindergarten, 29 are in Sefa Kelebek Kindergarten, and 44 are in Emine Çetin Kindergarten. 61 of the children's mothers have bachelor's degrees, 24 have associate's degrees, and 15 are high school graduates. 32 fathers have bachelor's degrees, 27 have associate's degrees, and 11 are high school graduates. The survey study which consisted of nine parts was applied over photographs. These parts are limiting elements, covering, pergola, door, playgroups, and also form, colour, emphasis, and texture in plant design. Photographs have six different characteristics for the limiting element have shown in Figure 1.

Figure 1. Limiting elements examples

Among the limiting elements, wooden fence was selected as the first with 38%, natural stone cladding as the second with 29%, and travertine cladding as the third with 24%. Wooden fences make decorative look and feel more natural. These fences are virtually maintenance-free and a long-lasting solution that offers strength and durability for sturdy and beautiful spaces that will last a long time. Natural stones, known by different names such as "decorative stone" and "culture stone" are increasing their popularity daily.

Various types are created by taking molds of natural stones using pumice, sand, cement, and colour pigments. Decorative stones have been prominent as a material used in construction projects for many years. Many types of stones in nature indicate the existence of different natural stones. Each stone has its unique characteristics. With the advancement of technology, these stones are used for decorative purposes today. Photographs have six different characteristics for the floor covering have shown in Figure 2.

Figure 2. Floor covering examples

In the flooring samples, wooden flooring ranked 1st with 47%, natural stone flooring ranked 2nd with 33% and podima stone flooring ranked 3rd with 25%. Wood is a flooring type that is both modern, natural, and aesthetic. Its models have evolved from the past to the present and are constantly renewed. Wooden flooring is a product that can be easily used in many places. There are different product groups for these flooring products for each place. In recent years, wooden flooring has become preferred in many places due to its increased ease of use, warmer appearance, stylish appearance, and increased colour and texture options.

Natural stone flooring is inherently unique and captivating in its appearance. Each stone floor has its own unique pattern, grain, and colour variation, ensuring that no two floors will ever look exactly the same. This unique uniqueness adds a personalized touch to any space that reflects the beauty and diversity of the natural world. The appeal of natural stone lies in its imperfections and variations, which contribute to a rich, textured appearance that synthetic materials cannot replicate. Podima stone is a natural material and is usually obtained from volcanic rocks. It has a smooth structure and absorbs water well.

This way it prevents the roots from rotting by absorbing excess water accumulated in the soil. Podima stone also creates air pockets in the soil. Photographs have six different characteristics for the pergola have shown in Figure 3.

Figure 3. Pergola examples

When selecting pergola samples, special attention was paid to their different forms. Modernist design pergola ranked first with 56%, metal pergola ranked second with 43% and suspension system ranked third with 21%. The modernist pergola is an informal form and is made of artificial material. Natural material wood was used in the roof and seating areas and warm colors were preferred. Metal pergola with formal form is made of artificial material and cold colour. Suspension systems are structural elements that can easily applied to different spaces and designed in different geometric shapes. Flexibility provides great freedom to architects and designers.

Thanks to their lightweight structures, they do not add additional load to the structure and can be easily installed on existing structures. Suspended tension systems also have a great appeal in terms of aesthetics. Their clean and modern appearance can adapt too many architectural styles. Different lighting effects can be achieved by using transparent or opaque materials. This adds a unique atmosphere to the structure. Photographs have six different characteristics for the playgroup have shown in Figure 4.

The simple plastic game group ranked first with 50%, the plastic very complex game group ranked second with 34% and the complex wooden game group ranked third with 14%. The simple plastic playgroup is an artificial material containing slide types in different forms such as tunnel, straight, and curved, and consists of warm colours. The complex wooden playgroup is cold-coloured and has a large form. It has a complex structure that includes different game systems and its material is natural. Photographs of different forms used in planting design were evaluated in the survey (Figure 5).

Figure 4. Playground examples

Figure 5. Forms examples used in planting design

Simple plant design ranked first with 48%, informal plant design ranked second with 20%, and plant design with herbaceous ranked third with 16%. A visual with fine texture and plant heights was preferred in the simple design. Herbaceous plants used in plant design, have flowers in different warm colours and are low-growing like ground covers. In informal plant design, there is a wider viewing angle. Plants of various shapes and sizes were used. A non-linear, scattered visual was preferred. The plants used in the visual are predominantly green. Species with different leaves and flowers were selected. The design made shrubs and herbaceous has a little more closed feature. The colour green is predominant, and there are taller species than in the design using herbaceous. Photographs of different colour used in planting design were evaluated in the survey (Figure 6).

Figure 6. Colour examples used in planting design

Green and purple were selected as the first with 35%, pink as the second with 32%, and purple as the third with 22%. The green and purple colours in the first photo are in the cold colour group. The pink in the second selected image is a sign of hope. It is a positive colour that inspires warm and comforting feelings and creates everything will be okay. The third photo is dominated by purple. Purple is in the cold colour group and makes the space look narrower and colder than it is. Photographs of emphasis used in planting design were evaluated in the survey (Figure 7).

Colour emphasis was selected first 47%. Crown structure emphasis was selected second 35%. The first photo shows a tree species with different colours. The second photo shows a tree species that attracts attention with its long and thin trunk. Photographs of texture used in planting design were evaluated in the survey (Figure 8). The photo with finely textured species is in first place with 55%. The photo with rough textured species is in second place with 21% and the photo with medium textured species is in third place with 12%. The other parts of the plants can be easily perceived in the first photo. In the second photo are species with coarse texture and compact structure. In this image, the trees cannot be perceived completely and the closed feature is at the forefront. Privacy, surprise, etc. situations can be provided with the closed feature.

In the last photo, these features are a little weaker, some areas can be perceived among the species, although few. Photographs of the garden door were evaluated in the survey (Figure 9).

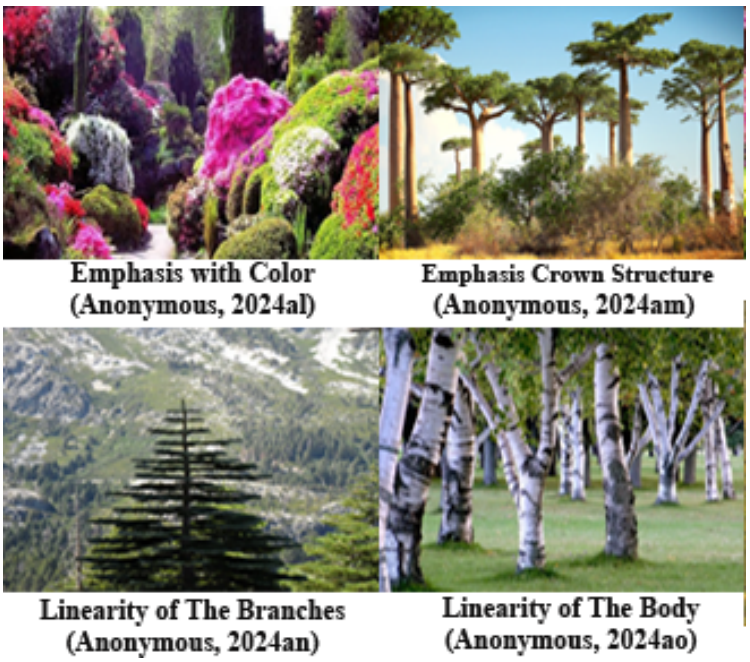

Figure 7. Emphasis examples used in planting design

Figure 8. Colour examples used in planting design

The iron-closed door is in first place 34%. The wooden wide door is in second place 29% and the wooden narrow door is in third place 25%. In the first photo, there is a large door made of iron, an artificial material. Since it has a closed form, it provides privacy between two spaces.

The second photo has a large door made of natural material. The door has a closed feature rather than a hollow form. This eliminates visibility between the two spaces and creates privacy. The third photo is similar to the first and second photos in size, but unlike them, it has a more natural appearance, and like the second photo, it has a closed feature.

The pictures drawn by the children were separated into 5 and 6 age groups, and the objects were determined and counted (Figure 10).

Figure 9. Garden door examples

The objects in the pictures are slides, swings, seesaws, plants, animal figures, a limiting element (wall), informal toys, a road, a house, a flag, a pool, and sitting (Figure 11). These figures were determined and counted separately for 5 and 6 age groups. It was observed that among these figures, slides, swings, and plants were the most drawn objects. The number of children in the 5-year-old group is 46 and the number of figures in the pictures they draw is as follows; slide in 9 pictures, plant in 12 pictures, house in 10 pictures, door in 5 pictures, human in 6 pictures, Ferris wheel in 4 pictures, car in 1 picture, swing in 10 pictures, toys in different shapes in 8 pictures, animal figure in 5 pictures, boundary element in 3 pictures, flag in 1 picture, pool in 4 pictures and more than one figure can be found in 7 pictures.

The number of children in the 6-year-old group is 54 and the number of figures evaluated is as follows; slide in 39 pictures, swing in 25 pictures, plants in 30 pictures, houses in 15, people in 9, toys drawn in different shapes in 10 pictures, seesaw in 9 pictures, animal figure in 18 pictures, boundary element in 1 picture, road in 3 pictures, flag in 4 pictures, and car figure in 5 pictures. Both age groups are slide, swing, plant, house, people, seesaw, informal toys, and animal figures. The survey study conducted in preschool education institutions in Niğde was applied to 100 children aged 5-6 in three different schools. . These schools are; Sefa Kelebek Kindergarten, Özel Vuslat Kindergarten and Emine Çetin Kindergarten.

The 5-6 age group is especially preferred because they have completed the necessary psychomotor development; to obtain healthy results in the visual survey and drawing section conducted within the scope of the study, the child must have acquired certain characteristics such as the ability to hold a pencil, create composition in a picture and sociability.

Figure 10. Picture from different kindergarten

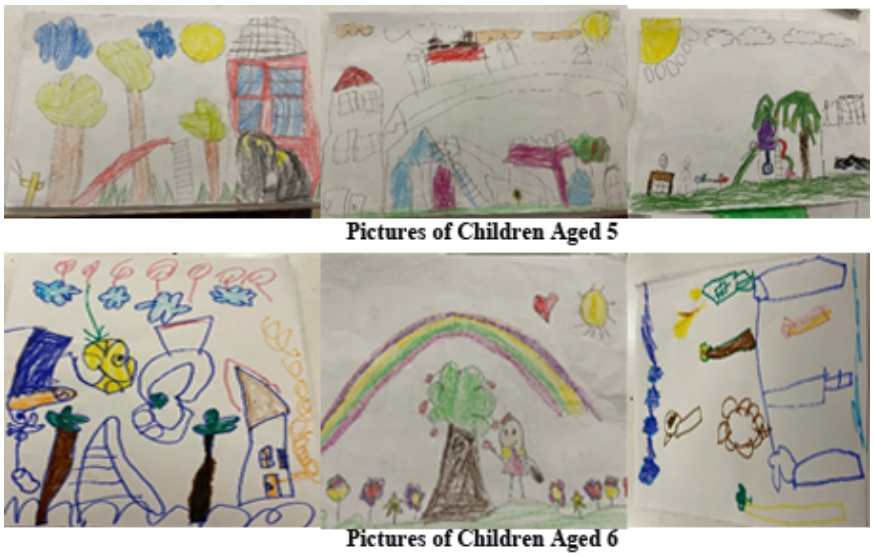

Figure 11. Pictures of children aged 5-6

They liked wooden materials such as walls and flooring. Wooden fences and natural stone coating come to the wall. At this point, it is revealed that children prefer walls visually rather than for their features such as enclosure and privacy, and they choose walls that are naturally open. While wooden flooring was the first choice of covering, natural stone, and podima came after. Children liked the natural-looking, warm-coloured, and aesthetically appealing material examples. It has been observed that children pay attention to features such as natural material, warm or cold colours, design differences, and interesting points in pergolas. The primary choice in playgroups is the simple play group dominated by warm colours. Then, a complex playgroup with artificial materials. It has been revealed that colourful and short plants can attract more attention in gardens created for children.

In planting design, while the group of tall trees and shrubs is created from green or one of different cool colours, it is possible that species such as seasonal ground cover can be more striking. In the photos shown under the title of texture in plant design, the most liked is the fine textured design example. Children like designs with dense crowns and closed features in plant design. When the wall example was examined, the opposite result was seen. Children want the elements that limit and hide them to be made of natural cover, that is, vegetation. The last category they evaluated was the garden door. They liked the close, high, and wide iron door. Based on these results, it is revealed that a significant portion of the children care about the door being large. In the painting "Dream Garden", it was observed that children mainly drew play elements. There is also a significant amount of vegetation, but while not every painting contains a plant figure, there is a play element in every painting. Based on this point, it is noteworthy that focal points o are objects that create play opportunities due to their age.

CONCLUSION

Based on the survey results and the pictures drawn, the design criteria to be considered when creating an area for children in preschool education institutions can be listed as follows; the wall should have a perforated form and should not be closed, the flooring should be warm-colour, natural or patterned, and if a shading element is to be used, it should be noted that the dimensions of this element should be large and have an attractive form. It will be more interesting for children if the play elements to be used are simple or complex when using different forms in plant design, plainly arranged or colourful non-tall ground covers dominated by lively-warm or cold colours can be preferred, and in tall tree or shrub species, green or other cold-colour flowering species can be preferred. When it is desired to create emphasis in plant design, species that attract attention with their colours, and colours can be preferred, the texture of the plant design can have a fine feature, in other words, it can be created from fine-textured species, and the door to the garden with the outer environment should be as wide and high as possible. When the results of the pictures drawn are taken into consideration; The presence of at least one playgroup in the garden, emphasis on plant design, and also the inclusion of structural elements such as houses is a situation that children want more; However, it should not be forgotten that this study was not conducted equally among a large group and private schools or schools affiliated with the national education system and reflects the results of a specific region (Soydan et al., 2014).

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