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İLKÖĞRETİM BAHÇELERİNİN 6-7 YAŞ GRUBU ÇOCUKLARA SAĞLADIĞI OLANAKLAR[1]

Yrd. Doç. Dr. Serap YILMAZ[2]
Yrd. Doç. Dr. Tuğba DÜZENLİ[3]
Araş. Gör. Doruk Görkem ÖZKAN[4]

Özet

Bireyin fiziksel, zihinsel ve sosyal gelişimi çocukluk yıllarında başlar ve oyun bu gelişimi etkileyen önemli faktörlerden biridir. Çünkü oyun, çocukların toplumsal ve fiziksel çevrelerinin şartlarını öğrendikleri bir süreçtir ve çocukların bir problemi çözmede daha yaratıcı, esnek çözümlere ulaşabilmesini, doğa ile ilişki kurmasını ve toplumun bir parçası olabilmesini sağlar. Oyun oynamak çocukların hayatında bu kadar önemli iken zamanlarının önemli bir kısmını geçirdikleri okul bahçelerinin onlara hangi olanakları sağladığı ve bu mekânların nitelikleri çok önemlidir. Bu bağlamda okul bahçeleri çevreye duyarlı, sağlıklı ve aktif bireylerin yetiştirilmesi için önemli mekânlardır. Ayrıca öğrencilerin öğrenme kapasiteleri için de çok büyük bir öneme sahiptirler. Okul bahçeleri çocukların yaşam kalitelerinin önemli bir belirleyicisi olduğu için bu çalışma kapsamında bir ilköğretim okul bahçesi iki aşamalı olarak değerlendirilmiştir. I. aşamada okul bahçesinin çocuklara sağladığı olanaklar ile mekânsal özellikler ilişkilendirilmiştir. II. Aşamada ise 7 yaş grubu çocukların hayal ettikleri okul bahçesinin resmini çizmeleri istenmiştir. Bu resimler araştırmacılar tarafından, içerdikleri olanaklar açısından değerlendirildi ve sayısal verilere dönüştürüldü. Araştırmanın sonuçları, okul bahçesinin çocukların fiziksel ve sosyal anlamda gelişimini destekleyecek nitelikte olmadığını ortaya koymaktadır. Oysaki çocukların hayallerindeki okul bahçesinde: doğal bileşenler ağırlıkta olmak üzere, oyun donatıları ve oturma elemanları gibi çocukların doğa ile etkileşimini sağlayacak, fiziksel aktivitelerini artıracak ve sosyalleşmelerine imkân sağlayacak mekân bileşenleri vardır.

Anahtar Kelimeler: ilköğretim bahçesi, Oyun, Mekânsal olanaklar

AFFORDANCES PRIMARY SCHOOL GARDENS PROVIDE TO CHILDREN WITH 6-7- YEAR-OLD

Abstract

The physical, mental and social development of individuals start in their childhood, and playing is one of the important factors that affects this development because playing is a process in which children learn the requirements of their social and physical environments, and they enable children to reach more creative and flexible solutions for problems, to form a relationship with nature and to become a part of society. As playing has a great role in children's lives, the type of the affordance that their school gardens where they spend a great quantity of their lives provide to them and the quality of those spaces are significant Within this context, school gardens are very important places to bring up individuals who are environmentally-conscious, healthy and active. Moreover, they have a significant role for students' learning capacities. Because school gardens are important determiners for children's life quality, within the scope of this study, a primary school garden that has different qualities has been evaluated in two stages. In the first stage, spatial properties were associated with the affordances that the school garden provided to children; in the second stage, the 7-year-olds have been asked to draw a picture of their dream school gardens. These pictures were evaluated by researchers in terms of affordances and converted into numerical data. The results of the study indicate that school gardens do not have the quality of enabling children's development physically and socially. However, the school garden in children's dreams has spatial components, which are predominantly natural components and the components such as playgrounds and sitting elements which provide children interaction with nature, enhance their physical activities and create opportunities for them to socialize.

Keywords: Primary school garden, Playing, Spatial affordance

Özgün Araştırma/Original Article

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[2] Sorumlu yazar/Corresponding Author: Karadeniz Technical University, TURKEY, serapyilmaz@ktu.edu.tr
[3] Karadeniz Technical University, TURKEY, tugbaduzenli@gmail.com
[4] Karadeniz Technical University, TURKEY, dorukgorkemozkan@gmail.com

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INTRODUCTION

The most important part of human development is childhood. During this period, the physical, mental and social development of the individual begins, and playing games is one of the important factors that affect this development. Because play is significant for the socialization of the child (Onur & Güney, 2004), participation in urban life (Aksoy, 2011), physical, psycho-motor, language and emotional-mental development (Akandere, 2013). Play also enables the children to become more creative in solving problems, to attain flexible solutions and establish relations with the nature (Guddemi & Eriksen, 1992; Singer & Singer, 2000; Othman & Said, 2012). When the child plays a game, she / he learns to calm her / his stress, develop her / his personality and establish positive relationships with the social environment. In particular, outdoor gaming constitutes a natural and important part of the healthy development of the child, because the children who lack the ability to play in the outdoors might develop a neurotic personality in the future (Öymen Gür & Zorlu, 2002). Children learn certain skills that they would need in adulthood such as social competence, problem solving, creative thinking and safety skills through freely chosen outdoor games (Rivkin, 1995; Moore & Wong, 1997). As children play in outdoors, their appreciation for the environment evolves and they could understand basic knowledge. Thus, they also grow emotionally and academically (Singer & Singer, 2000). Outdoor games also offer the children the opportunity to explore their community; they enjoy the pleasures of sensual experiences created by the contact with the water and the soil; they find or create their own spaces where they could play; collect objects and develop hobbies (Clements, 2004).

Today, technological advances and urbanization have affected children as well as affecting every aspect of life. Insufficient and insecure outdoor spaces, too little leisure time to play, forced children to play in indoors and to spend most of their free time on television or computers. This has put a distance between the children and the nature (Pergams & Zaradic, 2008) and resulted in the preference of technological activities instead of outdoor gaming (Othman & Said, 2012). Staying away from outdoor activities and nature could cause several psychological and physical problems in children, especially the decrease in physical activity could result in obesity (Cooper et al., 2003, Heelan et al., 2005, Ozdemir & Yilmaz, 2008, Fyhri & Hjorthol, 2009). Activities such as running, climbing, and jumping that the child performs outdoors and gaming activities support the child's muscle growth, support the growth of vital organs such as the heart and lungs and help normal physical development; active gaming stimulates the child's digestive system and helps increase appetite so that physical growth can be sustained. Furthermore, outdoor gaming activities also provide clear thinking and higher learning ability by enhancing the growth and development of the primary nerve centers in the brain (Clements, 2004).

Physical activity facilities provided in school gardens are important in children's social-mental development, academic achievement and growing up as healthy individuals. Thus, the design of the school gardens where children spend their play age is discussed in the next section in the study.

School Gardens

Schools are defined as important institutions where physical activity is both promoted and supported (Zask et al., 2001; Ozdemir & Yilmaz, 2008). Because play and physical activities conducted at school are very significant for the development of children. School gardens affect children's health and development as outdoor spaces where these activities are performed, as well as their gaming habits and types (Malone and Tranter 2003; Moore and Wong 1997). It is

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also known that these spaces positively affect learning and cognitive skills (Fjörtoft and Sageie 2000).

The design of the school gardens where children spend most of their time and the facilities the school gardens offer are also very significant; school gardens affect children's game types and habits as well as the child health and development (Yenice, 2013). Thus, the design of school gardens should be considered in detail; primarily, the school gardens that children spend most of their play time should be designed based on the playing needs, behavior patterns and the needs of the age-gender groups (Malone & Trater, 2003; Ozdemir & Yilmaz, 2008). Second, school gardens should be designed as outdoor learning spaces, where children could communicate with their peers (Cooper & Danks, 2006), providing the children a feeling of happiness and comfort with their environment (Ozdemir & Yilmaz, 2008). Third, they should be designed to create opportunities for children by including natural elements. Because children in elementary school age tend to choose planted, shaded and sheltered areas as playgrounds (Moore, 1986, 1989; Laaksoharju et al., 2012).

Presence of natural components in school grounds affects the child development:

- It supports children's comprehension, imagination and creativity (Özdemir, 2011).
- To be able to experience the nature directly has a strong influence on children's cognitive, emotional and values development (Kellert, 2002), and
- A green environment has an impact on the development of children's concentration and calming skills (Taylor et al., 2001; Taylor & Kuo, 2009).

The various activities and furniture in school gardens also improve the physical activities of children during breaks (Ridgers et al., 2007; Ozdemir & Yilmaz, 2008). Physical activity affects children's academic achievement and development:

- It helps children to be active in the physical and mental sense in the classroom (Zask et al., 2001).
- It supports the coordination and perception and motor skills of children and helps their physical, mental and spiritual development (Tai et al., 2006).

To summarize, school gardens must provide playgrounds, physical activity and social facilities and natural elements for the children to be beneficial environments for children. Furthermore, the answers to the questions "what kind of school garden the children dream of at the school?" and "what are the affordances available for the children at schools?" are significant and the present study is designed to find answers to these questions. Thus, the study was based on the idea to "study the possibilities in the environment as a way of assessing the diversity of activities available in school gardens for children". Because children utilize and define the environment different from adults based on the functional characteristics of gardens. What is important for them is not the aesthetical perfection of the space but the functional affordances (Heft, 1988). Kytta (2003) divides the affordances into two categories: potential affordances and those that occur when children experience outdoors. The environmental potential is assessed based on the relation between the quality and the quantity of the environment and the perception of the individuals (Kytta, 2003). According to Kytta, the environment as a playground has numerous potential facilities: jogging, walking, sitting, climbing, jumping, sliding and social play (e.g., debate, communications) (Kytta, 2004). The existing facilities in an environment are those that children can experience simply by movement and perception (Kytta, 2002, 2003, 2004). Thus, the concept of “affordance” refers to the availability of the properties of a space that can be perceived, utilized and shaped based on children’s needs (Kytta, 2003, 2004).

Perceived affordance: a type of affordance that people know exists in the environment but does not or wants to use it.

Utilized affordance: the kind of affordance that exists in the environment and actively used.

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Shaped affordance: the affordances that are not present in the environment but appear when individuals change the environment.

In the context of the present study, children will not be asked what activities they perform or do not perform in their environment. The study will be conducted in two stages;

Stage I: How children utilize their environment will be evaluated by observation. Thus, at this stage of the study, the utilized and shaped affordances available for the children in the environment will be evaluated.

Stage II: How the children want their environment to be will be evaluated. They will be asked to communicate their thoughts by drawing.

METHODOLOGY

Study Area

The present study was conducted in Dumlupınar primary school located in central Trabzon where students have diverse backgrounds (Figure 1). There were 920 students in the school, and 210 were 6-7 year olds, and the study focused on the children in this age group.

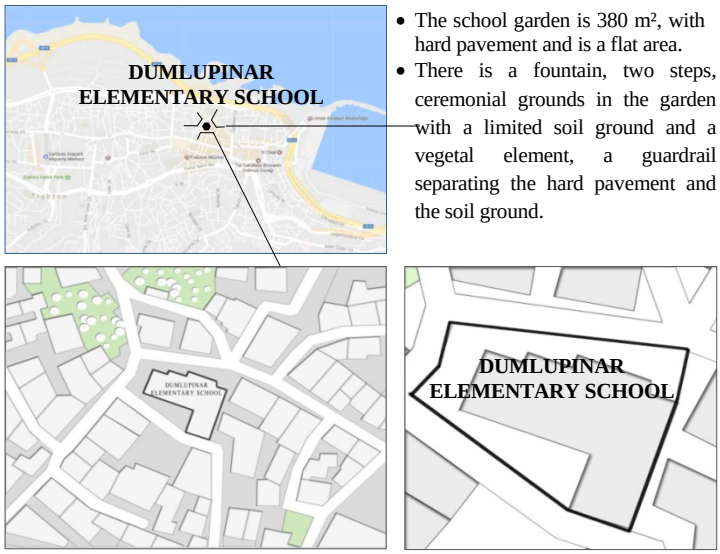

Figure 1. Study area

Methods

When previous studies on children are evaluated, it could be observed that generally "observation and cognition map" techniques were used (Barbour, 1999, Acar, 2009, Özgüner & Şahin, 2009, Ghanbari-Azarneir et al, 2015). Thus, cognition map was used in the first stage of the current study, while unstructured observation technique was used in the second.

Stage I: Observation survey

Observation was used in the present study since it is an effective technique to monitor human behavior and to understand human needs and preferences (Lang, 1987). Observation survey method was used to identify the situation with children in the school garden. Photographs were

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taken to identify the play behavior of the children. The photographs were analyzed to determine the affordances the school garden provided for children.

Observations were made during the class breaks and all activities conducted during the breaks were recorded with a camera for 15 days without notifying the children, and then the researchers watched the videos to determine the activities conducted in the school garden by the children.

Stage II: Cognitive Map

Painting is considered as an indicator of the child's perception of the outside world (Yaşar & Aral, 2009; Aykaç, 2012). Thus, drawing pictures is an appropriate method to enable children to express their feelings in a natural way. Children express emotions and thoughts, attitudes and dreams using drawings (Harrison, 2007; Selwyn, et al., 2009; Aykaç, 2012). After interviews were conducted with teachers, it was decided that children in this age group would express themselves better by drawing pictures since the research was designed based on the views of 6-7 years old children.

The reason why the age group is determined as 6-7 years was the fact that children are least affected by technological activities during the primary school period.
In the school where the study was conducted, the first grade included 7 sections and a total of 70 children were selected by randomly selecting 10 children from each section. For the children to freely draw their paintings they were allowed to paint the pictures during the natural flow of the class and the answer to the question “what kind of a school garden do the children imagine?” was obtained through the pictures the students drew.

Data Analysis

The data obtained based on observations that were conducted in a selected elementary school in Trabzon city center for the first stage of the study were evaluated and the activity was collected under 3 main topics (physical activities, playing and socialization).

In the second stage, the pictures that the children drew were analyzed merely by the researchers, and no help was obtained from an expert because the pictures were analzed stylistically (through concrete objects and living creatures that they included); the value related to the meaning such as drawing a ladder into the sky was left aside from the context of the study. As a result, each element in the pictures was listed and they were categorized into two by calculating their quantitiy. These categories were divided into two as natural and artificial. The elements that consisted of each category were evaluated and converted into numerical data and entered into frequency tables.

FINDINGS AND DISCUSSION

First Stage Findings

The affordances (utilized and shaped affordances) provided for children by the spatial qualities of the school garden and obtained by the observations are presented in Table 1.

The children's activities in the school garden include two groups: active activities (running, playing ball, jumping rope, climbing, jumping) and passive activities (chatting, singing). These activities were turned into schemas along with the children's pictures, and they have been illustrated in Table 2.

Table 1. Affordances provided for the children by the school garden

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Spatial properties of the school garden	Affordances provided for the children	
• Flat area	Running Playing ball Hopscotch Playing with marbles Jumping rope Walking together Chatting Singing Jumping Action games (cops and robbers)	**Utilized and shaped affordances**
• Steps	Sitting Chatting Jumping Games (ground clearance)	
• Fences	Climbing Vaulting	
• Fountain	Playing with water	
• Outdoor bearing elements of the building and building niches	Hiding	
• Ground crenels	Exploring	

Assessment of the affordances for the children in the school garden demonstrated that their activities were limited to activities conducted on flat areas such as running, playing ball, jumping rope. Even the two steps present in the school garden provided facilities for socialization of children, such as sitting and chatting and physical activities such as jumping. Even the building bearings-niches, the fountain in the garden, the crenels and the fence transform into play opportunities for children. These findings demonstrated that children consider even the most insignificant spatial component in the environment as an opportunity to play. Children playing in an environment are a dynamic interaction: it involves actualizing, exploratory and productive activities (Chawla and Heft, 2002). Because children perceive their environment differently from adults, they do not care about the aesthetic qualities of the environment, but the functionality the environment provides (Heft, 1988; Fjørtoft & Sageie, 2000) and utilizes this functionality for play.

Since there was no soil-grass surface and vegetation elements in the school garden, observations made on the grounds did exhibit any games related to the nature or natural elements. Yet, being in the nature affects children's psychological and cognitive health positively (Wells and Evans, 2003, Wells and Lekies, 2006, Tai et al., 2006, Thompson et al., 2008, Latfi & Abdul Karim, 2012, Othman & Said,2012), supports their challenging traits (Wells and Evans, 2003) and creativity (Chawla, 2007; Özdemir, 2011). Natural elements allow children to design their own games and create their own spaces. Thus, children's problem-solving abilities can also develop and their academic achievement is positively affected (Jenson, 2000; Zask et al., 2001; Clements, 2004, Yenice, 2013).

Table 2. The activities children engaged in the school garden

ACTIVITIES

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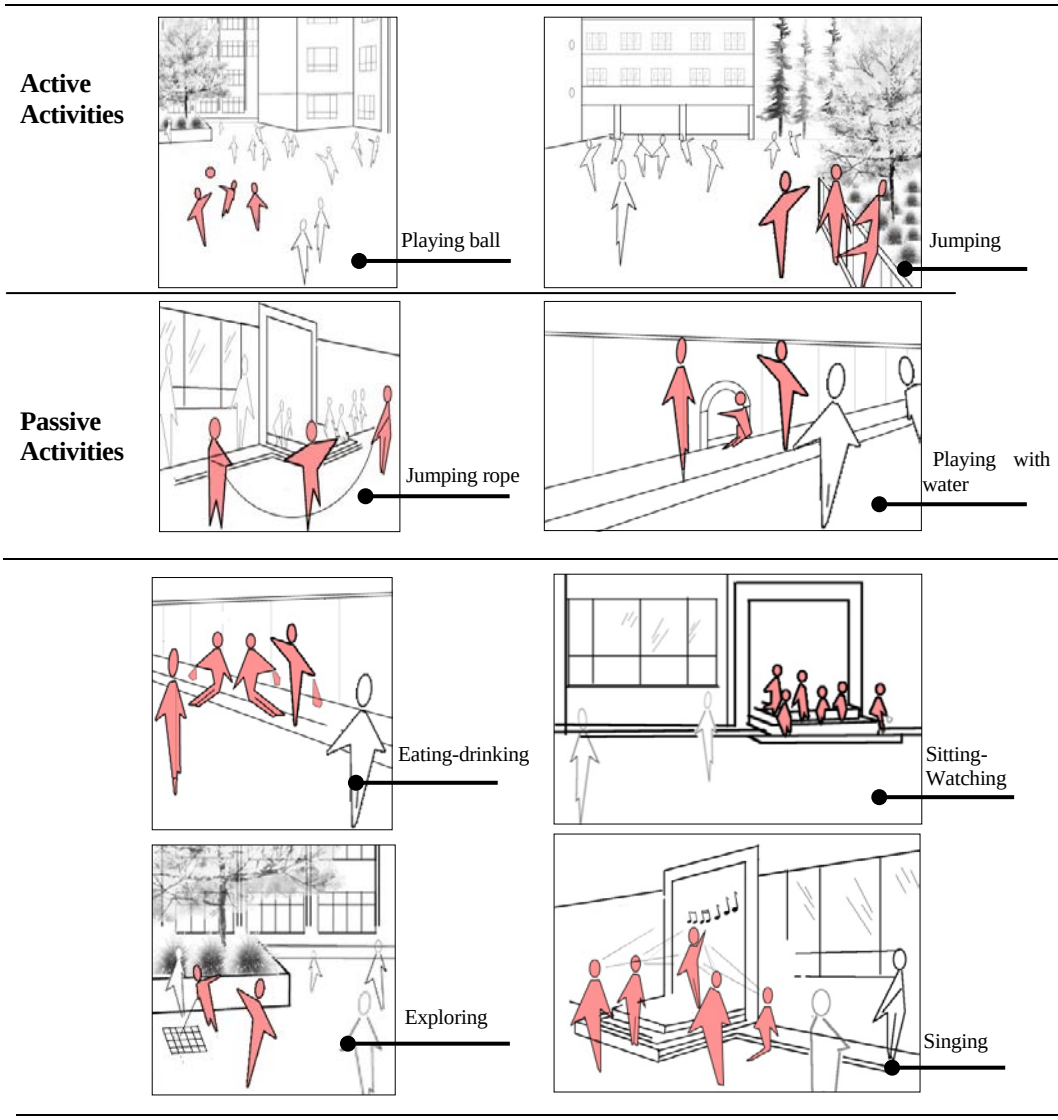

Second Stage Findings

The children were asked "how do they imagine the school garden of their dreams" and the answers was obtained with the pictures they drew (Figure 2). When the pictures were evaluated by the researchers, it was seen that all of the children had their school building and their friends in their pictures. The components of the pictures are classified under two groups, natural and artificial. The frequency values for the natural and artificial components are presented in Figures 3 and 4.

When the spatial components of the school garden that the children imagined were evaluated, it was determined that these were mainly natural elements; "*clouds*, *trees*, *flowers*, *water*, *stone*, *sand pools and animals*". It was no coincidence that children imagined a school garden with natural elements. Because children in elementary school age tend to choose sites that contain plants and shaded areas as playgrounds (Moore, 1986, 1989; Laaksoharju et al., 2012). Trees, stones and earth in nature are their playmates that they would shape, imagine, and play different roles with and they provide unlimited possibilities for creativity (Ross, 2004) and exploration opportunities (Fjørtoft, 2004). Furthermore, living in contact with the natural elements - in the natural environment, has a strong influence on children's cognitive and emotional development (Kellert, 2002).

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Figure 2. Examples of pictures drawn by children

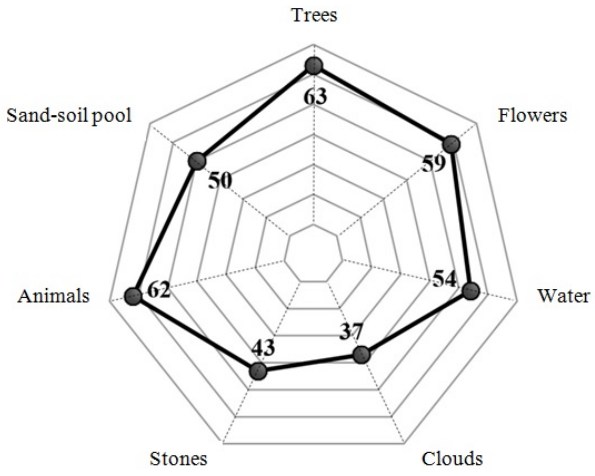

Figure 3. Frequency values of natural components

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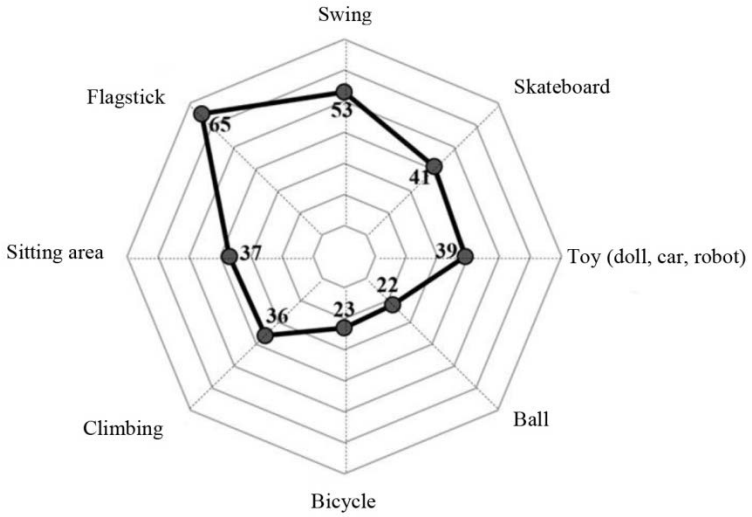

Figure 4. Frequency values of artificial components

Furthermore, school gardens develop environmental awareness of children as learning environments with the natural elements they contain (Othman & Said, 2012; Çukur & Özgüner, 2008). Also, the presence of natural elements in school gardens is an important factor that affects the achievements of the children. Studies demonstrated that students' activities conducted in school gardens that contain natural elements are more creative than the activities of students in school gardens where there are no natural elements, and that such environments have a positive effect on learning and cognitive development (Özdemir and Yılmaz, 2008). Thus, school gardens should include natural elements (trees, flowers, animals, etc.) as the children imagined.

Children included furniture elements such as "*swings, slides, toys, balls, bicycles, climbing tools and seating elements*" in their school garden drawings. The presence of these elements allows the children to perform various activities such as swinging and climbing in school gardens, improving children's physical activity and helping them to acquire skills related to movement (Aslak & Hjorthol, 2009), promoting the collective play and thus socialization and self-development of children and discovery of their abilities (Hauser, 2002; Tai et al., 2006; Cooper & Danks, 2006). Furthermore, almost all children drew a "*flag*" in the school garden. The Turkish flag found in the pictures drawn in the study was interpreted as an expression of children's awareness of being a nation, and the flag is the symbol of the country and therefore a symbol of the school.

CONCLUSION

While play and physical activity are key for childhood health and well-being (Aslak & Hjorthol, 2009; Castonguay & Jutras, 2009; Öymen Gür & Zorlu, 2002; Moore, 1986), school gardens include spaces with a monotonous view, constructed with concrete or asphalt pavements, including only a few trees and seating elements (Özdemir, 2011). Whereas school gardens should support the development of children, provide children with a chance to experience and learn the nature and develop children's concentration-relaxation skills. School gardens should be green environments that include natural elements (Taylor et al., 2001; Taylor and Kuo, 2009; Othman & Said, 2012). However, the school garden where the research was conducted included only a hard-pavement area and when the current situation is evaluated:

- It does not offer any natural playgrounds for children.

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- It does not allow children to learn about and discover nature. However, the school gardens should be outdoor classrooms.
- Children are deprived of the environmental awareness experienced provided by natural elements.
- It does not contain spaces with topographic changes that support the world of children and provide hiding and surprising facilities.

Nevertheless, children still utilized potential affordances in the school garden, enjoying various opportunities such as running, walking, sitting, climbing, jumping, sliding, exploring, hiding, chatting and communications. In the school garden that the children imagined, there were: natural components; playground facilities, and benches that could serve as meeting points. However, the school garden in children's dreams has spatial components, which are predominantly natural components and the components such as playgrounds and sitting elements which provide children interaction with nature, enhance their physical activities and create opportunities for them to socialize. According to the results of this study, the following can be suggested for the design of school gardens:

- School gardens should consist of a wide grass land that provides children playgrounds on which they can freely play and that includes trees and topography variety. Therefore, they can provide children opportunities such as hiding and discovering, they can enjoy the sensory experience provided by touching water and soil and they can have the opportunity to create their own playgrounds.
- There should be created a variety in school garden spatial components (steps, sitting elements and game accessories). Thus, children's physical activities and socializing opportunities can be enriched.

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