

Comparison of Outdoor and Indoor Playground Qualifications of State and Private Kindergartens: Case of Malatya Province

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Abstract

In this study, it is aimed to contribute to the determination of the most appropriate spatial dimensions by comparing the dimensions of the indoor and outdoor playgrounds in private kindergartens and public kindergartens in Malatya. In this study, document analysis method was used. When the research findings are examined, it is seen that although there are not specifically multi-purpose halls in public schools other than classrooms, the playgrounds of public kindergartens have large areas where students can engage in activities comfortably compared to private institutions. Again, it has been found that public kindergartens have larger areas in indoor playgrounds compared to private kindergartens regarding quotas, in terms of quota based area measurements. In future research, applying motor skill tests to children studying in public kindergartens and private kindergartens, which have two different service standards, will provide detailed and targeted answers about field competencies from the results achieved.

Keywords: Outdoor Playground, Indoor Playground, Preschool Education, Motor Development, Physical Activity.

Devlet Okullarında ve Özel Okullarda Öğrenim Gören Spor Yapan ve Yapmayan Orta Öğretim Öğrencilerinin Saldırganlık Düzeylerinin İncelenmesi

Özet

Bu çalışmada Malatya ilindeki özel anaokulları ve devlet anaokullarında bulunan açık ve kapalı oyun alanlarının ölçülerini karşılaştırarak en uygun mekânsal ölçülerin belirlenmesine katkı sağlamak amaçlanmıştır. Bu çalışmada doküman analizi yöntemi kullanılmıştır. Araştırma bulguları incelendiğinde devlet okullarında derslik harici spesifik olarak çok amaçlı salonlar bulunmamakla birlikte, devlet anaokullarının sahip olduğu oyun bahçeleri, özel kurumlara göre öğrencinin rahat aktivitede bulunabileceği geniş alan ölçülerine sahip olduğu görülmektedir. Yine devlet anaokullarının, özel anaokulları göre kapalı oyun alanlarında, alan ölçüleri ile ilgili olarak özel okullar kadar kurallar dahilindeki ölçülerden kontenjana göre daha geniş ölçülerde alanlara sahip olduğu bulgusuna ulaşılmıştır. Gelecekteki araştırmalarda, iki farklı hizmet standardına sahip olan devlet anaokulları ve özel anaokullarında öğrenim gören çocuklara motor beceri testleri uygulanması, ulaşılan sonuçlardan alan yeterlilikleri ile ilgili ayrıntılı ve hedefe yönelik cevaplar alınabilmesini sağlayacaktır.

Anahtar kelimeler: Açık Oyun Alanı, Kapalı Oyun Alanı, Okul Öncesi Eğitim, Motor Gelişim, Fiziksel Aktivite.

INTRODUCTION

The quality of education in the development of human beings depends on the design and presentation of the environments and places that will enable this fiction to be implemented correctly effectively, as well as the education system that is designed. According to the definition of pre-school education, which constitutes the first stage of the education life of individuals, in the Ministry of National Education regulations, the aims of the kindergarten are seen to ensure the physical, psychomotor, mental, language, social and emotional development of children and to give them good habits (1). Many studies in the literature support the view that the quality of pre-school education affects children positively (2,3,4). The quality of pre-school education is closely related to the educational environment as well as the curriculum and the teacher (5). The fact that researchers state that a child who attends kindergarten for eight hours will be involved in approximately one hour of physical activity and is less likely to engage in one hour of physical activity outside of the preschool setting, emphasizes the importance of preschool education and spatial characteristics (6). According to NASPE's statements, preschoolers should engage in at least 60 minutes of structured physical activity (for example, throwing, kicking, catching, and playing to music) and at least 60 minutes of unstructured physical activity (for example, with wheeled vehicles and playground equipment) daily (7). Various studies of lack of physical activity have investigated the behavior of preschoolers in various environmental contexts. In terms of physical activity levels, free game appears to be less efficient than structured activities in achieving high physical participation during the game (8). Too large independent space can cause teachers' blind area to be out of care, on the other hand, the independent area is too small to perform suitable activities for very crowded group of children. Children's social play area (playground) should be clustered for children to gather (9). In addition, the playground in these places should be designed in accordance with the static and dynamic anthropometric measurements of children. Class size / number of children ratio, teacher training, playground size, use of electronic media, and trips to external institutions have emerged as important determinants of locomotor score and total motor score (10). Again, recent studies have emphasized the vital importance of motor skills for children's physical activity levels. It has been shown that

physically active children have higher motor skills, while less active children have lower motor skills. Moreover, children with better motor skills spend more time in moderate to vigorous physical activity (11). Therefore, motor competence and physical activity can be considered as interconnected concepts in child development. Preschoolers should be provided with a tool to build the foundation for basic motor skills that can be developed in early and middle childhood. Regarding the motor skills of preschool children with coordination disorders and developmental delays, it has been concluded that children with this particular developmental regression are less active than children with better-developed motor skills (12, 13). However, in another study, recent evidence linking the low motor skills of typically developing preschoolers to low levels of physical activity highlights the importance of monitoring typically developing children, particularly in the preschool setting where activities aim at improving motor skills. In addition, considering that the preschool years are an extremely critical time for the development of healthy lifestyle behaviors, it is necessary to examine which environmental features encourage motor skills in the preschool setting (14, 15). Playground design affects children's physical skills and motor coordination (16).

Area Measurements of Indoor and Outdoor Playgrounds of Kindergartens in Turkey

There are area rules in the current regulations for outdoor and indoor playgrounds in Turkey. According to the regulations of private education institutions in Turkey, the quota of the children for the school garden is determined by calculating 1.5 m² of space for each individual in the open area reserved for use as a garden, provided that the playground is not less than 25 m². The usage area allocated for a student in kindergarten classrooms and kindergarten classrooms of schools should not be less than 1.5 m² (17). In state education and training institutions, at least 1.5 m² area is required for each student in kindergarten playground area. Playground should be on the ground floor in closed areas, preferably in a position that can be opened to the garden. Area per person in indoor playgrounds should be minimum 2.40 m² (18).

Open and Indoor Playground Sizes in Kindergartens in Different Countries

The Norwegian Ministry of Education and Research has defined a guiding principle for the space that should at least be available to children. It

is 4 m² per child for the ones over three years old and 5.3 m² for children under 3 years old. The size of the exterior area should be six times the interior area (24 m² for over three-year-olds, 31.8 m² for under three-year-olds) (19). In Poland, the indoor area requirement for daycare centers and kindergartens for up to 5 children is set at 16 m². The minimum indoor space requirement for each additional child is 2.5m² per child. However, there is no clear data about the outdoor playground measurements in Poland. According to OECD international data, kindergartens have higher and more detailed standards for public buildings between 2.5 and 3 m² (20). In the United States, if an indoor facility has less than seventy-five square feet of accessible outdoor space per child or otherwise provides indoor active play area, a large indoor function room meeting the seventy-five square feet requirement per child may be used if it meets the following requirements: The facility or home should be equipped with an outdoor playground that is directly adjacent to indoor facilities or free from hazards and can be reached by a route no more than one-eighth mile from it. The outdoor playground should be at least seventy-five square feet for each child using the playground at any time. The following exceptions should apply to space requirements: A minimum of thirty-three square feet of accessible outdoor play area is required for each baby; At least fifty m² of accessible outdoor play area is required for every child between eighteen and twenty-four months old. For children 6 to 23 months, 2 to 5 years old, 5 to 12 years old, there should be separate playgrounds; A roof used as a playground should be surrounded by a four to six feet high fence in accordance with local regulations, with the bottom edge less than three and a half inches from the floor. The fence should be designed to prevent children from climbing (21). In Canada, the room for preschool children must have a barrier-free floor of at least 2.8m² for each child in the 0-3 age group. The kindergarten play area must have at least 2.58 m² (approximately 28 square feet) of unobstructed floor space for each child. In outdoor playground conditions, in childcare centers that operate 6 hours or more per day, the outdoor playground must be at least 5.6 m² (60 square feet) for each child (22). Similarly, for the kindergarten age group, outdoor playground measurements in the range of 5 to 10 m² are required for Canada according to OECD playground data qualifications. Each fenced outdoor playground must be limited to 64 children. If the playground is used by infants, toddlers, preschoolers, or family age groups, the fence must have a minimum

height of 1.2 m (4 feet) (20). In Ireland, in nurseries, day care centers and kindergartens, for children under the age of two, space with an area of minimum of 3.7m² per child; for children under the age of two to three, space with an area of minimum 2.8m² per child; for children aged three and over, space with an area of minimum 2.3 m² per child must be provided. There are no specific measurements stipulated for open areas. (23). In South Africa indoor and outdoor playgrounds for nurseries, daycare centers and kindergartens must be clean and safe for young children. Every child should have enough space to move freely, which means there should be 1.5 m² indoor playground per child and 2m² outdoor playground per child (24). In Australia, daycare centers and kindergartens must ensure that education and care facilities have at least 3.25 m² barrier-free indoor space and at least 7m² barrier-free outdoor space for every child. In Switzerland, it is stated that the indoor education classrooms should be between 70-90m², and no specific measurement rule is given regarding the external environment (25). In New Zealand, it is at least 2.5 m² per person indoors, while it is 5 m² outdoors (26). When we look at the international standards, the OECD average of area measurement for indoor playground is 2.9 m² per child for kindergarten and 3.6 m² for daycare centers. The OECD average of area measurement for open space requirement per child is 7 m² for kindergarten and 8.9m² for childcare. The competence of these indoor and outdoor playgrounds in preschool children is important for the child's physiological, psychological and motoric skills. It is of great importance for the continuation of development that the infrastructure of these skills is taken into account and grounded throughout the preschool education period. The grounding stage of a good skill education can be achieved by examining it with extensive and detailed research and comparisons. There are no studies in the literature that examine the competencies of outdoor and indoor playgrounds in the education of preschool children in detail and compare them with playgrounds in other countries. In this study, it is desired to present a document analysis study in order to reach the appropriate spatial conditions by examining various data and offering the best education to the children by comparing the indoor and outdoor playground measurements of the kindergartens and nurseries where the children who receive preschool education throughout the province of Malatya.

MATERIAL AND METHOD

This study has used a document analysis method, which is considered suitable for our purpose.

Analysis of Data

Document analysis is a type of qualitative research that uses a systematic procedure to analyze evidence based on documents and answer specific research questions. Like other methods of analysis in qualitative research, reviewing, examining, and

interpreting data is necessary for document analysis to gain meaning and empirical knowledge of the structure under study (27).

Relieving Ethical Concerns

In order to examine the data in detail and to carry out this research within the framework of scientific ethical rules, permission was obtained from the Malatya Directorate of National Education (numbered E-34259660 and dated 20.04.2021 written permission) (Annex-1).

RESULTS

Table 1. Comparison of area measurements of kindergartens in private and public institutions

Private Kindergarten			Public Kindergarten		
Outdoor Aream ²	Indoor Aream ²	Total Building Aream ²	Outdoor Area m ²	Indoor Area m ²	Total Building Aream ²
336	20	1200	133	47	570
1061	16,32	1172	1125	48	800
253,89	25	155	523	47,5	773,97
1000	25,20	450	3274	46,8	978,24
94	16	331	2442	46,5	935
350	26	583	3473	45,9	1220
434,17	15,11	451			
500	15,40	460			
450	18,76	959,1			
256	27,50	227,1			
-	20	2835			
192	21,12	220			
640	30,35	562			
382,56	29,95	777,5			
880	28,10	882,9			
280	16,81	331,54			
1074	17,65	300			
1068	17,85	300			
287	17,11	809			
148	34,20	1306			
782	22	1365			
194	20	118			
2766	63,91	650			
426	19,85	683			
300	28	567,5			
510	20,60	263,9			
322	17,40	650			

In Table 1, it is seen that the open playgrounds of public kindergartens have a larger area than private education institutions. Again, in Table 1, public kindergartens used larger measures in the construction of playgrounds compared to private kindergartens in the area measurements determined according to the students quota. In addition, only 1 (one) school does not have an open playground.

Table 2. Comparison of average area measurement of kindergartens in private and public institutions

Average Area Measurement of Private Kindergarten			Average Area Measurement of State Kindergarten		
Outdoor Area m ²	Indoor Area m ²	Total Building Area m ²	Outdoor Area m ²	Indoor Area m ²	Total Building Area m ²
343	23	616	1496	46	879

As shown in Table 2, the average area of buildings in private kindergartens is 616m², average classroom area is 23,23m², average outdoor playground is 343,62m². In private kindergartens, the student quota of one internal education class varies according to the m² of that area. Again, in Table 2, the average area of buildings in public kindergartens is 879m², average classroom area is 46.8m², average outdoor playground is 1496 m²(6 schools). In public kindergartens, the student quota of one internal education class is 20.

Table 3. Comparison of numbers and average of playgrounds in kindergartens in private and public institutions

Number and Average of Private Kindergarten Play Areas	Number and Average of Public Kindergarten Play Areas
Number and Average of Multi-Purpose Playgrounds (within 27 Schools)	Number and Average of Multi-Purpose Playgrounds (within 6 Schools)
11 (minimum 17 m ² , maximum 658 m ²)	1 (48 m ²)

In Table 3, some of the private institutions have more than one specifically multi-purpose halls in the building. In 11 of 27 private schools, there are multi-purpose halls or game halls of which area measurements are minimum 17 m² and maximum 658m². Only 1 of the 6 public schools has a multi-purpose hall or game room as large as the area of the internal education classroom.

DISCUSSION

According to the data obtained from the document analysis, it has been seen that the open playgrounds of public kindergarten institutions have a larger area than private kindergarten institutions. While at least 10 (ten) of 27 (twenty-seven) private education institutions have a multi-purpose hall and an extra gymnasium outside the classroom, 1 (one) has been observed in public kindergartens. While student quota of public kindergarten institutions are fixed at 20 (twenty), those of private education institutions vary according to the architectural plan. When state institutions are compared to private education institutions in terms of minimum student quota, the area per student in state institutions is larger than in private institutions. When we look at the OECD international data, the United States, 10-12 m² for indoor area, and Norway, 30-35 m² for open area, are the countries of minimum area per person (20). These two countries have area measurements that are considerably higher than the OECD minimum area measurements per capita. One of the

important points of this data is that Turkey's area measurements are inversely proportional to OECD international required area measurements. While the square meter per capita gets smaller as the area grows in Turkey, per capita measurements increase as the area grows in OECD international scales.

This means that the physical activity and motor development levels of children educated in kindergartens or nurseries in these countries will be noticeably higher than the ones in other countries. Because larger open playgrounds and wide open environments with natural elements encourage physically active play. Recent studies have shown positive associations between larger playgrounds and higher physical activity (28,29, 30,31). Studies conducted in this area have also shown results that support this prediction. The positive findings of this pilot study can be explained by the fact that children run and chase more games with fewer children per playground. This supports the findings of Dowda et al. (30) that a small number of children in large playgrounds is associated with increased physical activity. (30). Children in childcare centers with at least 60 minutes of outdoor or active time were more active within 24 hours than those without these opportunities. Outdoor time and total active time spent in childcare were also associated with moderate to vigorous physical activity time during the 24-hour-day. Physical activity and high motor skill performance are also frequently encountered in related studies (32, 28, 11). When we consider the studies involving the relationship between motor skill performance and playgrounds, it has been shown that outdoor games produce developmental results that cannot be achieved indoors. Not only has research shown that playing outdoors in general is beneficial for children's physical development, recent research has revealed that children who use forests or natural areas as playgrounds perform better on motor skill tests than children who play in traditional playgrounds (33). Numerous studies have shown that outdoor play from birth to age 5 produces developmental outcomes that cannot be achieved indoors. However, Butcher and Eaton (32) found that preschoolers who spend more time in active gross motor activities during indoor free play in a daycare setting have better functioning ability, but worse balance and visual motor control, than children who spent their time in fine motor activities. There is a low but positive correlation between the motor skill proficiency of the 5-year-old group and the inner playground.

Although public schools do not have multi-purpose halls outside of classrooms, the playgrounds of public kindergartens have large areas where students can do activities comfortably when compared to private institutions. Again, public kindergartens have larger areas in indoor playgrounds compared to private schools, in terms of student quota, which is within the rules on the basis of area measurements. When the position of Turkey in the international platform regarding playgrounds is examined, it is thought that the inverse proportion between the area measures in Turkey and OECD international data is an important finding. It is thought that investigating the reason for this and revealing the correct information will be an important progress in order to increase motor skills and physical activity in pre-school education. This study is the first study in which a detailed regional analysis of playground standards has been made. In order to reveal the motor skill and physical activity differences between countries, a study that includes play areas of countries and performances of students can be included in the literature. In addition, in future research, applying motor skill tests to children studying in public kindergartens and private kindergartens, which have two different service standards, will provide detailed and targeted answers about field competencies from the results achieved.

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