



The Interior of Kindergartens and the Spatial Satisfaction of Teachers: A Case Study of Hacettepe University Kindergarten*

*Anaokulu İ Mekânları ve Öğretmenlerde Mekânsal Memnuniyet: Hacettepe Üniversitesi Anaokulu Örneđi***

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Abstract

This study evaluates the spatial characteristics of Hacettepe University Kindergarten, as well as the intended design decisions to make the kindergartens safer, healthier, and more comfortable for both children and teachers. The purpose of this study is to gauge the viewpoints of kindergarten teachers, identify actual workspace problems based on the results of the survey, and make suggestions by using Hacettepe University Kindergarten as a case study. This research has been planned as a qualitative study, though some findings are based on quantitative data. Data was collected in two different ways. The first phase involved observation while, in the second phase, the satisfaction of the teachers of Hacettepe University Kindergarten with the space provided was analyzed using the Place Satisfaction Scale as a data collection tool.

The findings are presented in two parts. In the observation and space analysis, it was found that the kindergarten buildings studied were generally felt to be satisfactory. However, participants also suggested that some elements should be evaluated and improved to optimize the space. In the second part, which involves the scale analysis, 42 questions scored above 4 out of 5 points on the Likert Scale, which corresponded to profound levels of satisfaction with the space. It is also noteworthy that no item of data was scored below 3 and that only 5 of the questions scored below 4 points; in these responses, teachers underlined important problems related to interior design.

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** This study is based on a masters thesis entitled 'The Interior of Kindergartens and the Spacial Satisfaction of Teachers: A Case Study of Hacettepe University Kindergarten' which was conducted under the supervision of Assoc. Prof. Gülin Cankız Elibol, Hacettepe University Faculty of Fine Arts, Interior Architecture and Environmental Design Department.



The results provide recommendations on interior space planning for children to learn in more peaceful, comfortable and healthy kindergartens, as well as to meet children's physical needs and to ensure their safety.

Keywords: Kindergarten, Design, Interior design, Teachers, User satisfaction, Hacettepe University Kindergarten, Ankara

Öz

Bu çalışmada, Hacettepe Üniversitesi Anaokulu örneğinin mekânsal özelliklerinin değerlendirilmesi, aynı zamanda anaokullarının çocuklar ve öğretmenleri için daha güvenli, sağlıklı ve konforlu bir yaşam alanı haline getirilebilmesi için alınabilecek tasarım kararlarının incelenmesi amaçlanmıştır. Ölçekte yer alan sorular ile öğretmenlerin mekâna yönelik memnuniyetlerini araştırmak, yaşanan mekânsal sorunları tespit etmek ve bu sorunlar hakkında çözümler önermek araştırmanın hedeflerindedir. Çalışma, nitel bir araştırma olarak planlanmıştır ancak, kimi bulgular sayısal verilere de dayanmaktadır. Çalışmada, veriler iki yöntem ile toplanmıştır. Birinci yöntem gözlemdir. Bu aşamada, tasarım bağlamında yerinde gözlem ve mekân analizleri gerçekleştirilmiştir. İkinci aşamada ise anaokulu öğretmenlerinin mekân memnuniyetleri araştırılmıştır. Bu aşamada, veri toplama aracı olarak Mekân Memnuniyet Ölçeği kullanılmış; ölçek, Hacettepe Üniversitesi Anaokulunda görev yapmakta olan öğretmenlere uygulanmıştır. Bulgular, bu çerçevede iki aşamalı olarak sunulmuştur. Gözlem ve mekân analizlerinde, çalışmaya konu olan anaokulu binalarının yeterli ve tatmin edici olduğu saptanmış ancak kimi unsurları geliştirmenin ve iyileştirmenin de yarar sağlayabileceği gözlemlenmiştir. İkinci aşama olan ölçek bulgularında ise soruların 42'si, 5'li Likert üzerinden 4 puan ve üzerinde yanıtlanarak katılımcılar, mekânla ilgili memnuniyetlerini ifade etmişlerdir. Üç puanın altında bulguya rastlanmamıştır; bulgular içerisinde, yalnızca 5 soru 4 puanın altında yanıtlanmış, bu yanıtlarda öğretmenler, iç mekân tasarımıyla ilgili önemli problemlerini vurgulamışlardır. Sonuçlarda, çocukların daha huzurlu, konforlu ve sağlıklı anaokullarında öğrenim görmeleri, çocukların fiziksel ihtiyaçlarının karşılanması ve güvenliklerinin gözetilmesi için iç mekân planlanmasına dair öneriler sunulmuştur.

Anahtar sözcükler: Anaokulu, Tasarım, İç mekân tasarımı, Öğretmenler, Kullanıcı memnuniyeti, Hacettepe Üniversitesi Anaokulu, Ankara

Introduction

The pre-school period has an important role in a child's development, and awareness of this fact is increasing in the related fields. One area that is particularly relevant to this subject is related to educational buildings and other children's spaces. Moreover, it is observed that other specific implementations about children in relation to general spaces are also increasing. Correct exploitation of spatial components such as form, scale, proportion, structural solutions, lighting, ventilation and color, can support both the development, imagination and creativity of the child (Öztürk and Taylga, 2021, p. 1228).

Pre-school education spaces are mostly used within the 0-6 age period. As this is the most dramatic period of child development, it is particularly important to create spaces for children at this age to ensure that they feel safe and to increase their capacity for learning. After all, learning and exploring only begins when a child feels safe. It is for this reason that the developmental characteristics of the children of the age group concerned should be fully explored by designers in the creation of an educational space (Yavuz Öden, 2021, p. 289).

As every child's viewpoint of spaces and objects is different and unique, researchers have found that basic design education can begin during the pre-school period as every child possesses, in some form, the creative processes of imagining, practicing, changing, exploring, discovering, recognizing, manipulating, developing, reflecting and sharing (Yalçın, 2015, s. 4-7). Children in the 3-6 age group, for example, perceive their environment through color rather than through form and shape, with age, technological developments and globalization all being important factors in color preference. The reason why color is an important element while making design decisions about the toys, furniture and equipment to be used by children is the effects of those color choices on a child's psychology (Elıbol, et al., 2006, p. 36).

One of children's most important requirements is green space where they can plant, cut and water grass. Being able to access outdoor areas where these activities can be performed is not only important for the health and development of children, it also allows them to connect with nature (Öztürk and Bayrak, 2017, p. 34). One recommendation is for deciduous trees in playgrounds



to be grown in the opposite direction of the sun's rays in winter (Şenol, 2004, p. 82).

Lighting is an indispensable requirement of providing functionality and comfort in the interiors of educational spaces. Appropriate lighting in kindergartens varies, depending on the type of space and its intended function. In kindergartens, the amount of light required varies according to the activities that take place throughout the day, and the lighting requirements in kindergartens are determined by EN 12464-1:2011 lighting standards. According to these standards, lighting for the activity zones of kindergartens should be above 300 lux with a light uniformity of 0.40. The same document also specifies the reflectance values of the space surfaces: ceiling reflectance value ranges from 0.7 to 0.9, walls from 0.5 to 0.8, while the recommended values for the floor are between 0.2 and 0.4 (Angelaki, et al., 2022, p. 21).

The main features of properly designed pre-school educational spaces are to ensure adequate space for children to move freely; minimizing the elements that can cause injuries; providing interesting spaces that enable both individual and group activities; adjusting ventilation, lighting and heating according to the child; and ensuring sufficient hygiene (Erzurum et al., 2020, p. 375).

It has been found that indoor air pollutants reduce air quality and have a detrimental effect on the performance of students in schools. It is therefore recommended in the construction of buildings that sufficient fresh air is provided through natural and artificial ventilation, and that wood products and other building materials containing formaldehyde are not used above the level permitted by international regulations (Birken, 2018, p. 31).

As children are the primary users, their needs must be the main consideration in the designing of pre-school interiors. An appropriately designed pre-school provides the safest, healthiest and most comfortable possible environment for students. In addition to the children, the other primary user of the space, namely teachers, are also undeniably impacted by interior design (Sancak and Yıldırım, 2019, p. 637).

This paper considers kindergartens, which is one type of pre-school, and the children and teachers who use them, in terms of these considerations. The aim is to consider

the nature of a model space for kindergarten children, based on its design, ergonomics, security and similar issues with observation and analysis methods.

While the study is planned as a form of qualitative research, qualitative data is also included in a case study where, in the first stage, an interior is analyzed based on observation and spatial analysis. During the second phase, scale work is applied to the teachers working at the sample kindergarten: Hacettepe University Kindergarten. The findings of both phases are presented under the relevant headings; the results are discussed, and recommendations are developed, with the scale used in the study being the Spatial Arrangement Satisfaction Scale (Sancak and Yıldırım, 2019).

Method and Material

This study is executed as a case study with data being collected through observation, analysis and survey (scale). The space analysis observation technique was used with space analysis conducted through interior design components. In order to investigate the spatial satisfaction of the teachers working in the sample institution, a scale, which conforms to the validity and reliability studies conducted by Sancak and Yıldırım (2019), and is entitled "Satisfaction Scale for Spatial Arrangement in Schools" (Cronbach-Alpha reliability coefficient 0.93), was used. The data was analyzed through basic descriptive statistics obtained by basic calculations.

Even though this study is planned as a qualitative research, some of the data remained qualitative. The purpose of this study is to research kindergarten spaces and examine the spatial satisfaction of pre-school teachers. Hacettepe University Kindergarten spaces (Beytepe and Sıhhiye Campuses) in Ankara province were used as the sample cases.

Hacettepe University's Sıhhiye campus is located in the area between Ankara's first residential area, Ulus, and the Hamamönü districts. Beytepe Campus is located in the Universities district on Eskişehir Road (Yerleşkede Yaşam, t.y.).

Written permission was obtained before the study from the author to use the scale. Necessary permission was also obtained from Hacettepe University Ethics Committee to conduct the scale and conduct further research acquired (permission date 27.03.2023 no E-35853172-100-00002823980 and 20.11.2023 no E-66777842-300-

00003227907). Furthermore, secondary permission was to take photographs of the interiors.

The 47 question Spatial Arrangement Satisfaction Scale (Sancak and Yıldırım, 2019) was implemented with 17 participants consisting of teachers from three individual buildings: Hacettepe University Beytepe Kindergarten Main Building, Hacettepe University Beytepe Kindergarten Additional Building, and Ayser and İhsan Doğramacı Kindergarten. These questions were answered according to the 5-point Likert scale. The names of the participants were not included in the study and the answers were evaluated anonymously. None of the questions were concerned with confidential school or university matters. Quantitative data was not used to establish any statistical relationship or make any generalization in terms of statistics, but merely to understand satisfaction levels at a basic level.

Results

The data obtained through observations and the scale are presented below under the title of Results in two main sections: Observation-Based and Scale-Based Results.

Observation-Based Results

Beytepe Kindergarten Main Building is located near the faculty buildings at the back entrance of the Beytepe campus of Hacettepe University in Çankaya, Ankara. The

Additional building is located at the same campus where the campus and the highway intersect. The location is far from the faculty buildings and the road, providing plenty of fresh air away from noise and exhaust fumes. The third school, Ayser ve İhsan Doğramacı Kindergarten, is located on Sıhhiye Campus.

The Additional building was built recently. In terms of green space, even though the building is adjacent to woodland, there is still a limited amount of area for the children to play, and development is ongoing. On the other hand, Beytepe Kindergarten Main Building provides both a playground space and a relaxation area with seating. In this unit, access to the garden from most of the interior spaces allows children to spend more time in the garden in which safety precautions are considered (Figure 1A and 1B).

In both kindergartens, classrooms are located on the ground floor to improve access and security. Large classrooms in the additional building provide much needed space for the children.

It is observed that in the additional building, children's play zones fulfil the technical requirements for children in terms of both storage and enabling activities such as reading books together, painting and drawing. Space has also been reserved for floor and other physical activities.



Figure 1A. The additional building playground of Beytepe Kindergarten.

Figure 1B. The main building playground of Beytepe Kindergarten.

Photographs: Sera Gülnar.



As classrooms are located by exterior walls, and large windows are provided to allow for efficient use of natural light. The exception to this is the sports hall in the additional building (Figure 2A, 2B and 2C), which not only requires additional ventilation, but also depends on artificial light for the interior. The building does, however, have a computer lab for the children to use.

The classrooms of the Ayser and İhsan Doğramacı Kindergarten are used both efficiently and flexibly for

education, play and other purposes (Figure 3A, 3B, 3C and 3D). Unlike the other two kindergartens, no sleeping area is provided. While every classroom having their own toilets is convenient for the children, hygiene may possibly be a cause for concern, and insufficient ventilation could lead to unpleasant smells. It is also suggested that classrooms should have additional storage units. Since the hall, which is normally reserved for children's sports activities, is also used for other purposes, children go outdoors for sports activities and socializing.



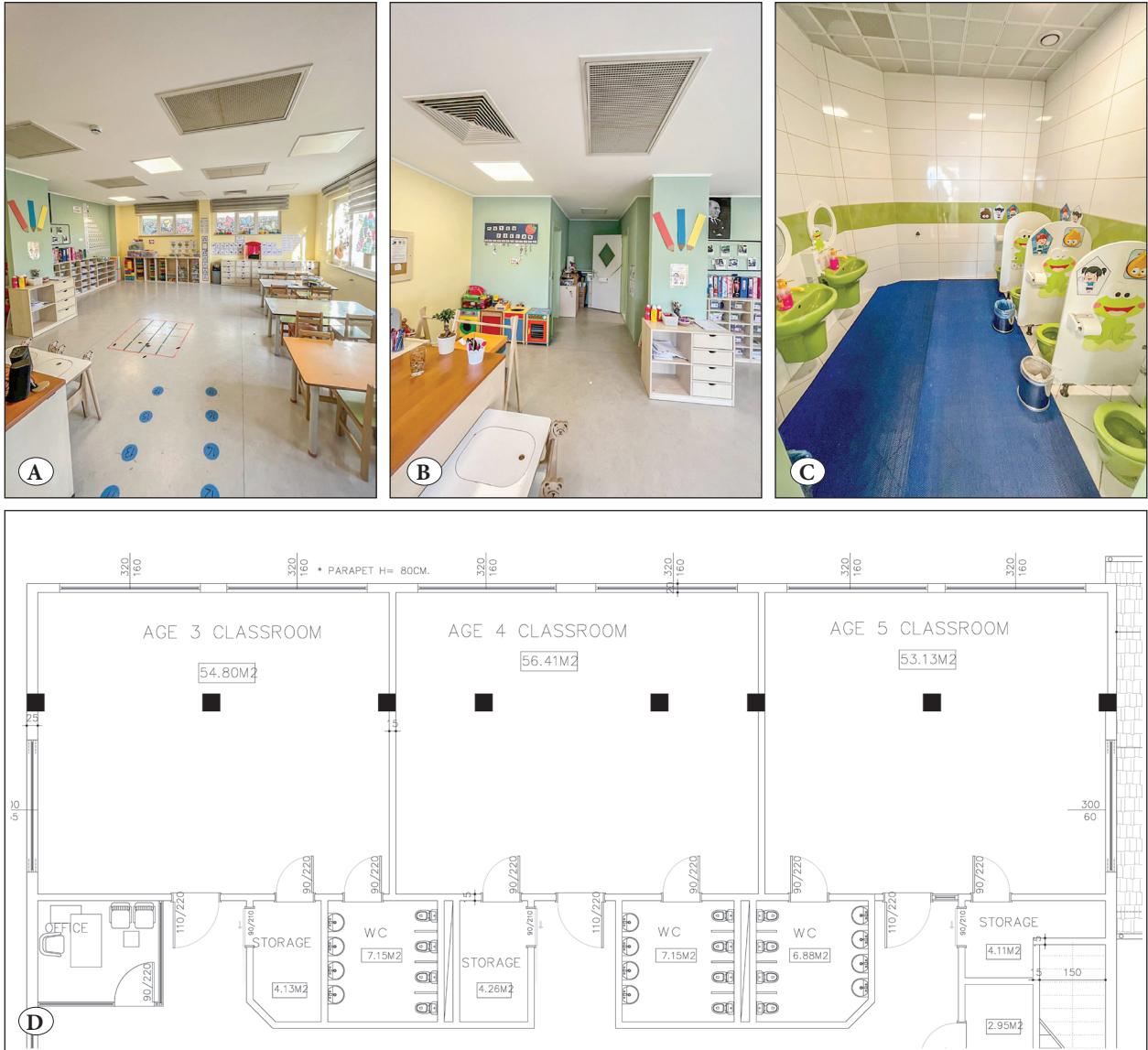


Figure 3A, 3B, 3C and 3D. Ayser and İhsan Doğramacı Kindergarten classroom, toilet photographs and plan.
Photographs: Sera Gülnar.

It is observed that the classrooms at the Beytepe Kindergarten main building are limited in comparison to the other two and that the classrooms are separated by storage units. The interiors are illuminated by artificial light (Figure 4A and 4B).

All three buildings provide storage units for children to store personal belongings such as coats, bags, umbrellas and shoes. (Figure 5A, 5B, 5C). These storage units have been designed with the children's anthropometric

features in mind and accessible hangers have been provided in the corridors. The drawings and paintings of the children are displayed in the corridors to provide a strong sense of connection with their kindergartens.

It can be seen that, compared to Beytepe Kindergarten main building, Beytepe additional building and Ayser and İhsan Doğramacı Kindergarten has newer furniture and interior equipment.

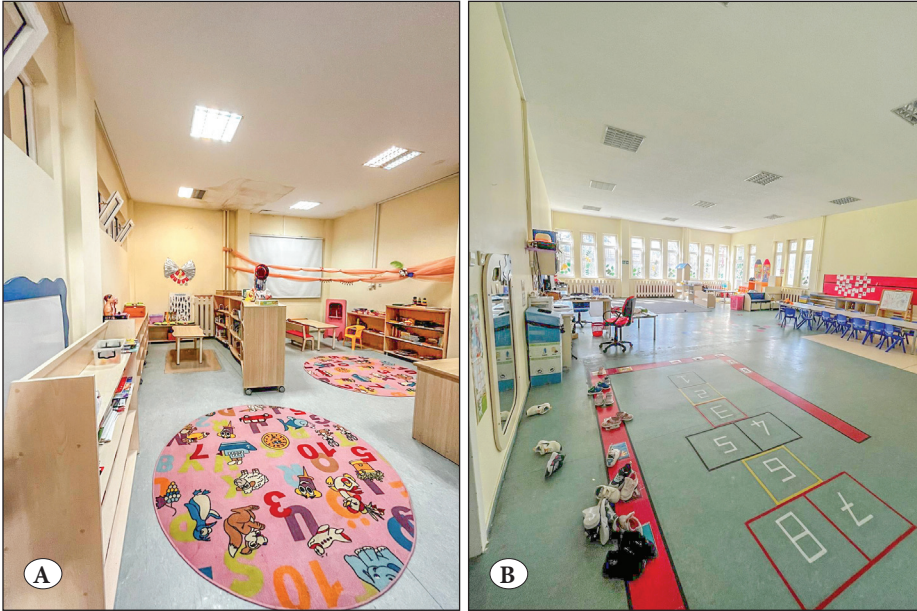


Figure 4A and 4B. Beytepe Kindergarten main building and activity zone.
Photographs: Sera Gülnar.

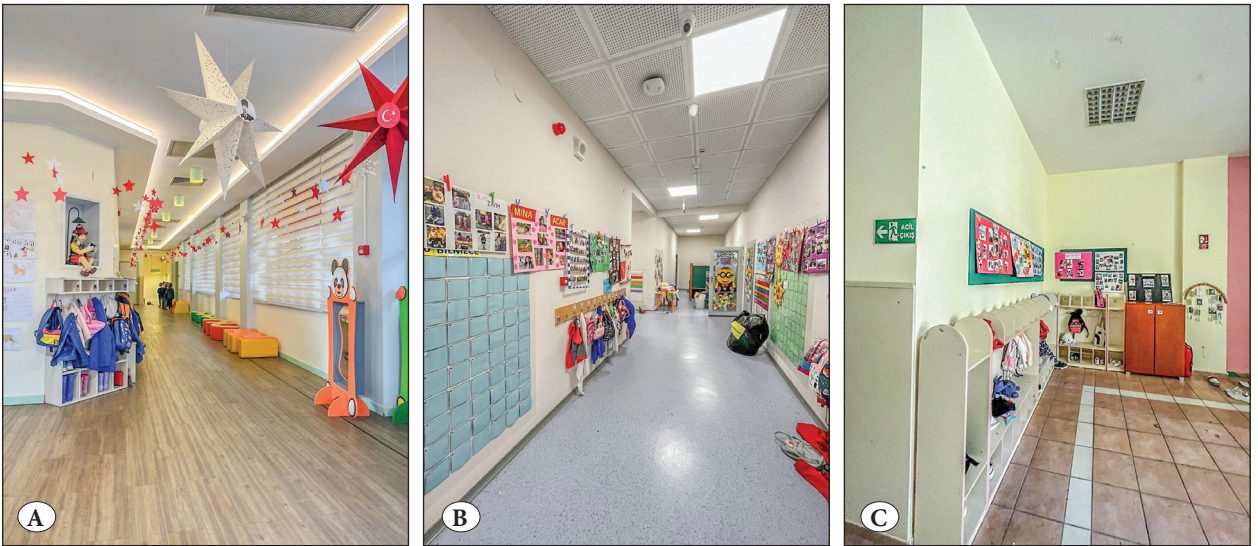


Figure 5. Corridor, storage units and hangers. **5A.** Ayser ve İhsan Doğramacı Kindergarten **5B.** Beytepe Kindergarten additional building **5C.** Beytepe Kindergarten main building.
Photographs: Sera Gülnar.

Beytepe Kindergarten's main building and the dining hall of Beytepe's additional building have been designed according to the number of children who are using this area; and it has the capacity of serving a greater number of students when required. It was also observed that the kitchen of the Ayser ve İhsan Doğramacı Kindergarten is larger than is necessary (Figure 6A 6B 6C and 6D).

At least one children's library has been established to develop children's reading habits. This zone is intended for teachers to read books to their students, and was deemed important during the design of the interiors of the kindergarten. On the other hand, as Ayser and İhsan Doğramacı Kindergarten does not have a separate library for children, reading activities in these schools take place in the classrooms.

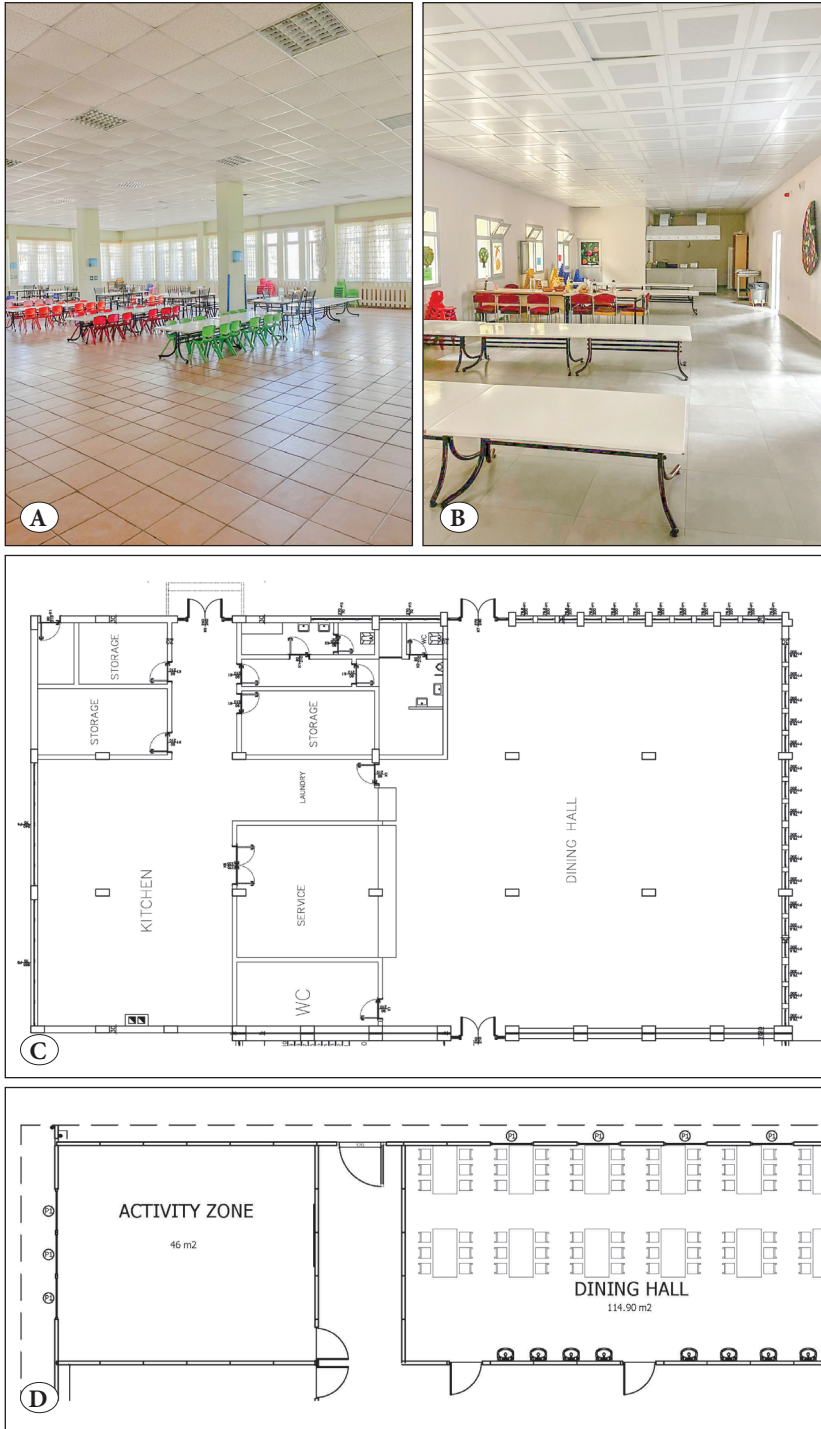


Figure 6A, 6B, 6C and 6D The dining hall of Beytepe Kindergarten main and additional building photographs and their plans.

Photographs: Sera Gülnar.



Results of the Survey and Discussion

The 47 question Spatial Arrangement Satisfaction Scale (Sancak and Yıldırım, 2019) was implemented with all 5 teachers of Hacettepe University Beytepe Kindergarten Main Building, all 6 teachers of Hacettepe University Beytepe Kindergarten Additional Building, and all 6 teachers of Ayser and İhsan Doğramacı Kindergarten teachers, making a total of 17 participants. The questions were answered according to the 5-point Likert scale,

which was conducted in the original Turkish. Table 1 below provides an English translation of the scale for this article. It must be stated at this point that this translation is not intended to be an official English translation of the scale, but has merely been included as this report has been written in English.

Table 1 below presents the average rates along with the scale questions.

Table 1. *The Average Satisfaction Rates of Teachers on the Place Satisfaction Scale*

QUESTIONS IN THIS SCHOOL...	Beytepe Main B.	Beytepe Add. B.	Ayser and İhsan Doğramacı
1. I am satisfied that the garden has been properly designed for the students to play.	5	4.67	4.17
2. I am satisfied that there are enough seating zones in the garden for students.	5	4.84	4.17
3. I am satisfied that sufficient measures have taken to prevent students from being hurt in the garden if they fall.	5	5	4
4. I am satisfied that the canteen has been properly organized to meet student needs.	4.6	4.8	4.5
5. I am satisfied that there is sufficient classroom lighting.	5	4.84	4.5
6. I am satisfied that the design of the corridors provides suitable classroom access for students.	5	4.67	4.67
7. I am satisfied that the organization of the classrooms is suitable for the learning environment.	5	4.84	4.67
8. I am satisfied that the sinks have been organized according to the developmental needs of the students.	5	4.84	4.67
9. I am satisfied that the stairs are safe.	5	4.84	4.34
10. I am satisfied that the corridors and stairs are sufficiently illuminated.	5	4.84	4.67
11. I am satisfied that the students are able to easily move between the floors where the classrooms are located.	5	4.84	4.5
12. I am satisfied that measures have been taken to prevent accidents such as students from falling from windows.	5	4.84	4.5
13. I am satisfied that the garden provides sufficient green space.	5	4.34	4
14. I am satisfied that measures have been taken according to environmental factors that may pose a threat to students.	5	5	4
15. I am satisfied that extracurricular time arrangements (canteen, games, sports, social activities, etc.) have been appropriately arranged for students.	5	5	4.4
16. I am satisfied that suitable extracurricular time arrangements have been made for teachers.	5	4.67	4.4
17. I am satisfied that the canteen is easily accessible for students.	4.4	4.75	4.5
18. I am satisfied that teachers have been assigned suitable duties in accordance with the physical structure of the school.	5	5	4.5



Table 1. Continued

QUESTIONS IN THIS SCHOOL...	Beytepe Main B.	Beytepe Add. B.	Ayser and İhsan Doğramacı
19. I am satisfied with the creation of suitable interiors for sharing announcements and visual materials.	5	5	4.34
20. I am satisfied with the arrangements for transportation between the teachers' room and classrooms.	5	5	4.2
21. I am satisfied with the emergency procedures made in corridors in relation to events such fire or earthquake.	5	5	4.67
22. I am satisfied that the teachers' room has been organized in accordance with the needs of the teachers.	4.6	4.67	4.17
23. I am satisfied that the teachers' room is in a suitable location for student and parent transportation.	4.8	5	4
24. I am satisfied that the interior equipment of the teachers' room (tables, chairs, cabinets, etc.) has been organized in accordance with the needs of teachers.	4.8	4.67	4
25. I am satisfied that sufficient space has been provided for teachers' basic needs.	4.8	5	4
26. I am satisfied with the creation of various activity zones (rest, academic study, sports, etc.) for teachers.	4.8	5	4
27. I am satisfied that sufficient archive space has been provided (materials, exam and exhibition materials, etc.).	4.6	4.84	3.67
28. I am satisfied that the location of the guidance service is easily accessible for students.	4.8	5	4.75
29. I am satisfied that the size of the guidance service is suitable for group meetings.	4.8	5	4.2
30. I am satisfied that the guidance service has been arranged in a way that is suitable for students.	4.8	5	4
31. I am satisfied that the design of the infirmary is suitable for first aid.	4.8	5	4.4
32. I am satisfied that the entrances and exits are easily accessible for students.	4.8	5	4.8
33. I am satisfied that the organization of the laboratories enables student learning.	4.8	5	4.34
34. I am satisfied that appropriate arrangements have been made for students with disabilities (access to classrooms, sinks, elevators, ramps, etc.).	4.8	5	3,17
35. I am satisfied that the library has been organized in a way that encourages students to read books etc.	4.8	5	3.75
36. I am satisfied with the provision of waiting areas for parents.	4.6	4.67	3.67
37. I am satisfied that the locations of emergency and other signs in restrooms, classrooms, and course classrooms are fully visible for students.	5	5	4.5
38. I am satisfied with the placement of directional signs/notifications in appropriate places.	5	5	4.5
39. I am satisfied that the classroom walls are painted taking into account the characteristics of the students.	5	5	4.34
40. I am satisfied with the provision of shade in the garden.	5	5	3.17
41. I am satisfied that the floors of the corridors and classrooms are organized in accordance with the developmental characteristics of the students.	5	5	4.5



Table 1. *Continued*

QUESTIONS IN THIS SCHOOL...	Beytepe Main B.	Beytepe Add. B.	Ayser and İhsan Doğramacı
42. I am satisfied that interiors have been organized so they can be customized by students.	5	5	4.5
43. I am satisfied that appropriate arrangements have been made for events such as ceremonies and celebrations.	4.8	5	4.34
44. I am satisfied with the internal arrangements of the classrooms (arrangement of desks, allowances for group work, location of hangers, positions relative to the blackboard, etc.).	5	5	4.34
45. I am satisfied that hygiene and cleaning activities are carried out regularly.	5	5	4.34
46. I am satisfied that broken or malfunctioning tools/equipment (faucets, fluorescents, door handles, windows, etc.) are repaired in a reasonable amount of time.	5	5	4
47. I am satisfied that sufficient social activity arrangements have been made.	5	5	4

The scale questions were evaluated and the results are presented below.

It is found that while the teachers of the Beytepe Kindergarten Main Building awarded full points (5), the average satisfaction score of teachers from other schools are relatively lower (4.67 and 4.17). However, it can be said that the average overall scores are quite high.

It is also observed that the average score awarded by teachers to questions about the interior design arrangements of Beytepe Main Building and Additional building are usually greater than 4.5.

The majority of the questions about corridors, circulation and emergency arrangements are given full points (5), or close to full points in the case of Beytepe Main Building and Additional building. That said, it is seen that the scores of these questions are relatively lower in Ayser and İhsan Doğramacı Kindergarten.

Questions about spare time activities are considered separately for students and teachers. It can be seen that with questions about the outdoor areas, green area arrangements and the spare time activities of Ayser and İhsan Doğramacı Kindergartens, the average points are lower than in the other buildings. However, considering that answers above 4 points indicate a positive opinion, it can be said that the averages are quite high.

It can be concluded that the teachers of all three schools are satisfied with classroom accessibility.

Lower scores were awarded by teachers from Ayser and İhsan Doğramacı Kindergarten to questions about arrangements for emergencies, such as fire and earthquakes, when compared to those provided by teachers from the other schools. Furthermore, while teachers at Ayser and İhsan Doğramacı Kindergarten were satisfied that the parent interview room and the teachers' room were located at the far end of the corridor, which is out of student reach, this may sometimes make it difficult for them to access the children while meeting with the parents.

Teachers also reported that it is not always easy to pass between the tables during lunchtime, and that they sometimes have difficulty in controlling the children while having their meals. Another issue is that the narrow stairs leading down to the dining hall may be dangerous for children (Figure 7). Teachers at Ayser and İhsan Doğramacı Kindergarten particularly emphasized these stairs while providing answers to the scale.

Conclusion and Suggestions

Children spend most of their time in pre-school educational institutions during the early childhood period between the ages of 0-6. This is a critical period for child development as it is a time where individual and highly important characteristics relating to physical, cognitive, emotional skills, social skills, their curiosity, critical thinking and problem-solving skills are formed, thus forming a basis for their lifelong education (Dilmaç, 2018, p.1).



Figure 7. The dining hall staircase at Ayser and İhsan Doğramacı Kindergarten.
Photograph: Sera Gülnar.

It can be said that the interior design of these educational institutions plays an important role in child development. As stated by Sezer, “most of our permanent learning takes place in the social-emotional domain, which also includes the affective domain. Factors such as furniture, color, lighting, sound, smell, surface features, floors, and ceilings all affect learning” (Sezer, 2019, p.73).

Children can learn and flourish in places where they feel safe, comfortable and where they can explore their world freely. It is for this reason that it is extremely important to create pre-school education institutions according to the needs of the children, such as hygiene and safety. In addition, pre-school educational institutions should engage the attention of the children (Babaroğlu, 2018, p. 1319).

Pre-schools in Türkiye can be established by public or private organizations according to laws and regulations. These organizations are supported and audited by Ministry of National Education and Social Services Child

Protection Agency (SHÇEK) (Babaroğlu, 2018, p. 1318). Pre-school education institutions are designed according to certain standardizations and limitations so they are suitable for the children. These standardizations are determined as “Guidelines for Minimum Design Standards for Educational Buildings” (Erzurum et al., 2020, p. 375).

This study investigated the satisfaction of teachers according to the arrangements of pre-school education institutions, Hacettepe University Beytepe Kindergarten Main Building, Hacettepe University Beytepe Kindergarten additional building, and Ayser and İhsan Doğramacı Kindergarten. 17 teachers working at these kindergartens participated in the research and answered the survey questions. Buildings were also evaluated in relation to interior design components and requirements such as color, light, material, texture, furniture, ventilation, air-conditioning, air quality of the interior, acoustics and illumination.

According to this research, it was found that Hacettepe University Beytepe Kindergarten additional building is more functional in comparison with the other schools as it was specifically designed and built for pre-school students.

While teachers working at Ayser and İhsan Doğramacı Kindergarten drew attention to subjects like storage units, hygiene and ventilation, teachers of Hacettepe University Beytepe Kindergarten main building demonstrated that they are generally satisfied with the space.

Teachers at Hacettepe University Beytepe Kindergarten additional building felt that, due to the recent construction of the building, the green area in the garden still needs development. They also added that such development would be of benefit for parents waiting for their children.

In addition to the results reached in this study, the following suggestions were made to improve the interior design of the kindergartens (Table 2).

This study is limited to three kindergartens in Ankara. To improve the research, further studies may be implemented with larger samples. The process of designing a kindergarten not only involves general design principles, it also requires specialized tasks and skills. Some of the stages of kindergarten design may also require the participation of related parties, such as teachers and students, as this makes it easier to create more peaceful and safer



Table 2. *Suggestions for the Kindergarten Interiors*

Interior	Suggestions
Playground	Sufficient green spaces should be provided for the children. While planning the entrances, both accessibility and security should be considered.
Toilets	Toilets should be designed according to the age and characteristics of the children. In order to prevent children from falling, floor materials should be selected primarily on safety concerns.
Spare Time Activity Zones	Both students and teachers should be considered while designing spare time activity zones. Special activity zones should be created especially for the teachers. Interiors should be designed to facilitate children playing games and resting. Materials should be smooth and safe for children and sufficient natural light should be provided. Activity zones should be designed with appropriate measurements and spatial organization to allow children to move freely.
Classrooms	It is important when choosing the flooring material of the classrooms that floors are easy to clean and non-slippery. Possible accidents and injuries should be prevented by taking precautions, such as ensuring furniture has no sharp corners, and that soft materials are used due to the risk of bumping or falling over. Furniture being stored should be firmly fixed to the walls so it doesn't fall if children attempt to climb on them. Suitable precautions should also be taken with drawers that have opening and closing mechanisms. The furniture used in the kindergartens should be constructed from materials that are durable, useful, functional, changeable, easy to clean and not harmful to the children. Naturally finished wood provides high aesthetic value and is easily utilized. To prevent children making excessive noise, classroom acoustics should be considered, while sufficient natural light should also be provided.
Corridors	Storage units and hangers that enable children to store their personal belongings need to be designed in a way that they can be used without help. Such units should not be tilted. It is suggested that works produced by children, such as drawings and paintings, should be displayed on these units to develop their sense of belonging to the school. Necessary regulations should be considered for emergencies such as fires and earthquakes. Classroom accessibility needs to be considered. Staircases should be used minimally and adequately illuminated, and the shape, materials and the measurements of staircases should be appropriate for the children. The prevention of accidents should also be considered in the planning of staircases, as should issues related to disabled students, such as accessibility in terms of transportation, toilets, sinks, elevators and ramps. In this design, universal design criteria should be considered.
Dining Hall	Dining halls should be designed considering the safety and comfort of the children while eating their meals. Moreover, while planning the dining halls, furniture should be chosen in accordance with the measurements of the children, and space should be allowed for teachers to pass easily between tables to help children.
Library	Children's libraries should be created in kindergartens in order to help develop reading habits at an early age.

education spaces both for the students and teachers. It is suggested that "Guidelines for Minimum Design Standards for Educational Buildings" published by the Ministry of National Education, Department of Construction and Real Estate (MEB, 2015), may be beneficial for both designers and users.

Ethics Committee Approval

Ethical approval for this study was obtained from Hacettepe University Ethics Committee. Secondary permission was acquired (27.03.2023 no E-35853172-100-00002823980 and 20.11.2023 no E-66777842-300-00003227907) for the taking of interior photographs.



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