An Alternative to Preschool Education Settings: A Sample Project

Okul Öncesi Eğitim Ortamlarına Bir Alternatif: Bir Proje Örneği[1]

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Abstract

This is a qualitative study which investigates the characteristics of an ideal preschool setting. The study has recourse to personal observations as well as projects of ideal preschool education institutions conducted by undergraduate students at the Department of Preschool Education, Faculty of Educational Sciences, Ankara University. Besides the design of original preschool education institution, the study uses the data obtained from interviews with 18 preschool teachers and 8 directors of preschool education institutions. The data from these interviews were summarized and interpreted by descriptive analysis. Visual elements were used to define the preschool institutions, designed for the purpose of this present project, and its interior and exterior settings, classroom environment, living and playing areas, activity corners, garden and position and characteristics of other components. An architectural drawing is used as well. In the light of all above mentioned findings, the study proposes the design of a sample preschool education institution.

Keywords: Design for children, Education settings, Preschool

Özet

Bu çalışma, ideal okul öncesi eğitim ortamının özelliklerini tartışan nitel bir çalışmadır. Araştırmacıların kişisel gözlemlerinin yanında, Ankara Üniversitesi Eğitim Bilimleri Fakültesi Okul Öncesi Öğretmenliği Lisans öğrencilerinin hazırladığı ideal okul öncesi eğitim kurumu proje çalışmalarından ve 18 okul öncesi öğretmeni ve 8 okul öncesi eğitim kurumu müdürü ile yapılan görüşmelerden elde edilen verilerden yararlanılmıştır. Bu görüşmelerden elde edilen veriler, betimsel analiz tekniği ile özetlenmiş ve yorumlanmıştır. Okul öncesi eğitim kurumunun iç ve dış mekânları; sınıf ortamı, yaşam ve oyun mekânları, etkinlik köşeleri, bahçesi ve diğer mekânların konum ve özellikleri, görsel öğelerden yararlanılarak tanımlanmıştır. Tanımlanan okul öncesi eğitim kurumu mimari bir çizimle şekillendirilmiştir. Tüm bu bulgular ışığında örnek bir okul öncesi eğitim kurumu tasarımı önerilmiştir.

Anahtar Sözcükler: Çocuklar için tasarım, Eğitim ortamları, Okul öncesi

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Introduction

Children are born with an immense genetic capacity that enables them to explore, discriminate, and interpret reality through their senses. Neurobiological research has clearly demonstrated the co-protagonism of the senses in the construction and processing of knowledge and individual and group memory. It follows that an unstimulating environment tends to dull and deafen our perceptions. Studies have shown that this is true even for very young children, and therefore schools must be capable of supporting and nourishing the sensory perceptions in order to develop and refine them (Ceppi and Zini, 2003).

The quality of the physical space and materials provided affects the level of involvement of the children and the quality of interaction between adults and children. The physical environment of the school and classrooms is also important to the development of young children and their entry into school. The physical environment of school buildings and grounds is a key factor in the overall health and safety of children, staff, and visitors. School buildings and grounds must be designed and maintained to be accessible and free of health and safety hazards, and to promote learning and school engagement (The National Association for the Education of Young Children, 1991).

The key is to view the physical environment and its ambient quality as active and indispensable parts of the learning process. The qualities of the environment must be clearly outlined by educators to provide a guideline or "academic blueprint" for architects and community members as they complete school facility design. Physical design of schools and how content is delivered are keys for successful learning (Taylor, 2009).

Physical environment affects people's both behavior and development. Indoor and outdoor environments are important for searching, learning and growing of child. Education area which stands the preschool children period is a place that they investigate, talk, ask questions, learn and make creative activity within a group or individually. While the quality of physical environment and materials allow child to attend activities in different stages, they also affect the quality of relationship between adult and child. Hence, indoor and outdoor environment should be dependable, clean and attractive (Kıldan, 2007 as cited in Mills *et al.*1998).

It is important that the preschool education institution should be designed for answering children's requirements. Besides being functional, preschool education institution should be compatible with its curriculum. Therefore, an ideal preschool should be well designed in terms of intellectual and aesthetical manner (Acer, 2007 as cited in Taylor and Vlastos,1983).

Places supporting the children's individual improvement should allow flexible usage as workshops during their education period. These spaces provide a learning system through living, criticizing and interpreting; they also have an important role for creating active and creative surroundings between teacher - children and fellow relationship (Erkılıç, 2000).

This study aims to propose a sample design of preschool education institution. First of all, literature survey was conducted. The study utilizes personal observations as well as projects of ideal preschool education institutions conducted by undergraduate students at the Department of Preschool

Education, Faculty of Educational Sciences, Ankara University. In addition to this, the study uses the data obtained from interviews with preschool teachers and directors of preschool education institutions.

Methodology

This is a qualitative study which investigates the characteristics of an ideal preschool setting. This research is composed of two phases. Firstly, data were obtained from interviews with 18 preschool teachers and 8 directors of preschool education institutions, totally 26 educators working about this field. The data collected from these interviews were summarized and interpreted through the technique of descriptive analysis.

The data of this study were collected through interviews conducted in the schools where preschool teachers work. Semi-structured interview technique was used to gather data. The semi-structured interview form developed by the researchers was used to find out teachers' opinions about the physical situation of preschool education institutions. The results of interviews were transcribed on interview forms. Descriptive analysis technique was used to analyze the data obtained through the teachers' answers to the questions during interviews. The purpose of descriptive analysis is to convert the raw data so that readers can understand and use them if required. To this end, the data are arranged according to the themes put by research questions and are presented in view of the questions posed during interviews (Yıldırım and Şimşek, 2006).

During the interviews, the teachers and directors were asked which aspects they liked and disliked in their institution, what could be done to substitute the dissatisfying aspects, and their suggestions about the priorities of a new potential preschool education to be designed.

The assessment processes of the interviews were as follows: determining the themes in view of the purpose of the study, examining the replies to each question according to these themes, identifying the teachers who indicated these themes and identifying the common opinions based on the number of teachers indicating the given themes.

Secondly, the configuration and features of preschool education institution, indoor and outdoor spaces, classrooms, living and playing spaces, activity areas, garden and other spaces were defined with the help of literature; personal observations; projects of ideal preschool education institutions conducted by undergraduate students at the Department of Preschool Education, Faculty of Educational Sciences, Ankara University; opinions of teachers and directors; and visual materials. Described preschool education institution was drawn as a plan schema. According to the findings, the sample design of preschool education institution was suggested.

Findings

Findings From Teachers and Directors

According to the results of questionnaires done by educators from private and public preschool education institutions, admirable features for existing preschool education institutions and suggestions for a new institution are evaluated. Findings are presented in a single table for both teachers and directors.

Admirable physical features for preschool education institutions by educators are shown in Table 1.

Table 1. Admirable features for preschool education institutions

Admirable features by educators	n=26
Spaciousness and convenience of classrooms, corridor, dining room, garden, lounge etc.	22
Convenience of building appearance and general composition (one-storey building, without stairs, safety)	14
Having different spaces for activities such as theatre, movie, conference hall, swimming pool, gymnasium, closed playing area, art studio, chess hall, ceramic studio, drama studio etc.	14
Luminous classrooms and convenience of heat and ventilation	10
Well-equipped dining room	8
Appropriate materials and equipments	7
Availability of garden toys, green area and animal shelter	5
Adjacent to classrooms and ergonomic lavatories and toilets	3
Different entrances for services and parents	1

According to the Table 1, educators primarily attach importance to the usability of the building. The terms of spaciousness, well-ventilated, illumined and well-equipped are used for spaces. Additionally, different spaces for activities outside the classrooms are explained as admirable features.

Important features and spaces introduced by educators while designing a new preschool education institution are given in Table 2.

Table 2. Required features and spaces in a new preschool education institution

Features and spaces in a new preschool education institution	n=26
Different spaces for activities outside the classroom (studios, conference hall, gymnasium etc)	13
Spaciousness, illumined and well-ventilated spaces	10
Arranging the garden for different purposes (garden for vegetable-fruit, shelter for animals)	5
One-storey building	4
Toilets adjacent to classrooms	4
Spacious and illumined dining room	3
Appropriate materials and equipments according to children's ages	2
Sleeping areas outside classrooms	1
Restroom for teachers	1

According to the Table 2, the most important feature specified by educators working in preschool education institutions is the availability of different spaces for activities outside the classroom. When the answers about whichever spaces evaluate, restrooms for children, science and nature observatory, traffic area, art studio, drama and costume studio, dream room, mirrored room, music room, technology room, kitchen for children, library, support room (for children requiring special

education) are defined. In addition to them, functional spaces and arranging the garden take place in primary stages.

The Suggestion of A Preschool Education Institution Design

Design characteristics of the suggested preschool education institution are given in this section.

General Features

Recommended preschool education institution is a one-storey building. It has two entrances. It is located far from city center. Garden is separated into 6 different sections. Windows are double-hung window and adequate for children's height. They can easily look outside through windows. Middle area is designed as a winter garden covered with glass. Heating system is provided by ground. Corridors are covered with fishing net for exhibitions.

Outdoor Spaces

Preschool garden is composed of 6 different sections. Border of garden is organized as a tricycle track for children. 1st section is a playground with outdoor playing materials; 2nd section is a vegetable and fruit garden; 3rd section is a green area; 4th section is a playing area with sand, concrete, soil and gravel; 5th section is an animal shelter; 6th section is used for car entrance.

Service Spaces: They are located in both two entrances in front of the building. There is connection between service spaces and cloakroom.

Tricycle Track: It is a concrete road prepared for cycling and driving, supported by traffic signals.

Playground: It is coated with tartan. Wooden playing materials are situated in this space. Ground is elevated to create hills. Every class has exit to this playground.

Vegetable and Fruit Garden: There are no trees to protect garden from shadow. This area is separated into different parts. Materials are kept in a small store in the garden. There is a fountain to achieve irrigation. Plantations are arranged by soil. Classes have exit to this garden. There is also a small greenhouse in the garden.

Animal Shelter: It is surrounded with wire. It includes a poultry house, a small pool for ducks and turtles, birdcage and dog hut. There is an access from the studios parts.

Terrace: This space is divided into 4 parts. These are concrete, gravel, sand and soil areas. It can be written with chalk to the concrete part. Other parts are separated with wooden elements to play easily according to their own needs. There is a store to keep materials used in this space.

Green Area: There are trees and grass areas in this place. Additionally, there is a tree-house.

Store: Stores placed in vegetable and fruit garden, playground, shelter for animals can be reached from their own spaces. They are used to keep the materials for studios and other spaces.

Indoor Spaces

This building is composed of one common middle area and a main part that includes classrooms and studios. In the middle area, there are information desk, waiting room, director offices, winter garden, aquarium, dining room, kitchen and store.

Entrance: There are two entrances, one of them is ramp. They are separated according to the ages. Corridors from entrance through the middle area are designed for thematic exhibitions such as space, undersea etc. Children can access to classes and studios through these thematic corridors.

Cloakroom: Service area opens to the cloakroom. It connects to the thematic corridors. This space includes sitting elements for parents and children to wait and dress.

Parts of Middle Area

Waiting room: Parents wanting to see teachers, directors or specialists wait in this place. It connects with the entrance and information desk. There are cards and boards to inform parents.

Infirmary: It has two entrances. One of them is from outside, the other is from inside. It stands on the left side of the middle area.

Driver and Security Room: It is close to the service area. It has a different entrance from main entrance. It stands on the right side of the middle area.

Director Offices: There are two offices. One is reserved for teachers and specialists; the other is used for director. They are situated in the right and left side of middle part.

Aquarium: It is constructed with glass and contains different colored fish and other sea creatures for the children's observations and explorations.

Winter Garden: It is covered with glass to take sunlight into this space. Floor is covered with artificial grass. There are playing materials in winter garden.

Dining Room: This space can utilize natural light and can be easily ventilated. It contains kitchen and store. It can be reached outside from this space.

Main Parts

Classrooms: There are two classes for different ages. Floor is covered with hardwood and wall-to-wall carpet. It can be reached to garden from all classes. There is mezzanine in the classes. Corners of the classes are separated to be used for different purposes such as science and nature parts.

Toilets: Every class has its own toilets. Materials in these places such as lavatory and washbasin are designed for children's ergonomics. Floors are covered with easily cleaned and nonslip materials.

Conference Hall: It closes to classrooms. It is used for conferences, movie, theatre and special performances. It has slopping floor as amphitheatre. The chairs on the front are designed according to children's height. There is also an offstage in this space.

Science Studio: Children use this studio for experiments and observations. There are microscopes, a telescope etc. in this studio. It can be reached to garden from this studio.

Gymnasium: Floor is covered with hardwood. Gymnasium includes showers and toilets.

Repair and Construction Studio: Parents, children and teacher can work together in this studio. There are also carpenter tools. Children can design their own toys. Floors are covered with an easily cleaned material.

Rainbow Studio: It is a space for drama, music, dancing and dreaming. This space has a sound insulation. It is designed for easily performing. Floor is covered with hardwood. There are pillows, colored fabrics, costumes, mirrors etc. in this studio.

Art Studio: Children make painting, sculpture, ceramic and clay works in this studio. Floors are easily cleaned. The design of studio allows children to reach all materials easily. There are open and close shelves. Additionally, deep lavatories appropriate for children's height are designed to clean their hands and materials.

Reading Room: This room is illumined, and it has sound insulation. Floor is covered with carpet, and there are pillows. Books on the open shelves can be used easily by children.

Museum and Collection Studio: There are albums, collections (money, napkin etc.), old materials (typewriter, old home goods etc.). Besides immobile collections, it can be organized according to different themes.

Discussion and Conclusion

Education surroundings which are poorly designed have negative effects on the development of children and cause more stress. However, well-designed spaces impress positively children's physical and mental health and have a vital role to decrease the risk of accident. Barker (1968) found out that, as well as personality and intelligence, the psycho-social environment also shaped child behaviors.

Bronfenbrenner (1999) in his Bioecological model emphasized the role of quality environments in the lives of children. He noted differences in children's developmental outcomes based on the quality of the physical environment and the interactions (proximal processes) carried out in such environments. The NICHD (2000) study on the quality of out-of-home care for children indicates that children in higher quality child care settings show better cognitive, language and social outcomes compared to children in lower quality settings.

Current literature on school environments finds that the physical classroom has a direct impact on higher student achievement, teacher satisfaction, and teacher retention (Earthman, 2002; Schneider, 2003).Some educational research demonstrates that the physical classroom environment plays a strong role in student achievement. A study of students in schools that were renovated to be student centric showed gains of 5 to 17 points on standardized tests compared to students in schools that were in need of renovation (Lyons, 2001). School buildings that are deemed substandard are correlated with reduced learning. This research illuminates the need for a more holistic, caring approach to education and emphasizes the importance of thoughtful attention to the physical classroom as a key factor in creating schools as student-centered places of learning (Van Note Chism and Bickford, 2002). Further study of best practices in studio learning environments may prove beneficial in the creation of holistic classrooms for students with disabilities and students placed at risk and simultaneously enhance learning for all students (Magee 2009).

An overview of the literature shows that current studies concur that there are elements of certain learning environments that support learning (Belcher 2004). Within this body of literature, themes emerge that show a movement away from the traditional classroom to more flexible, multi-use space as being most efficient for student learning. School building design and funding for the interiors of classrooms need to become a part of curriculum planning. Because of everchanging technology, classroom designers need to constantly assess available learning tools and have access to an ongoing funding source (American Architectural Foundation, 2006; Kuh, 2007; Van Note Chism, 2006).

Human-centered guidelines for the design of learning environments include "healthfulness," the need for the student to have natural light and "ergonomic" furniture accommodating all students, "stimulation" in the form of "multi-sensory cues," "elements of surprise," "transparency and visual access," which asks designers to consider connecting the classroom to nature and others outside of the classroom.(Gee, 2006). There is also a need to incorporate "social, community space" as well as an area for "solitude" (Gee, 2006).This shows the importance of the common usage of sufficient education institution project.

It is known that physical features of preschool education institutions affect children's growth, emotional conditions, relationships, improvement of aesthetical sense in positive or negative ways. We need to consider supporting elements for improvements of children to be indispensable, while designing preschool education institutions. This institution should also provide the educational requirements of children. The physical environment of a nursery school, where children spend approximately seven hours a day, is quite effective on children's emotional development; and the school and play settings which do not comply with children's demands and expectations increase the level of introversion and tendency to play alone (Laike, 1997). According to the results of a study where randomly and spatially designed education settings were compared, spatially designed settings support the acquisition of logical-mathematical skills in children (Hunter, 2005).

In the face of numerous problems and deficiencies in education system, it may seem ostentatious to discuss the problems related with space; however, it is an undeniable fact that the spaces which are designed consciously in terms of architecture and address to children's emotional and intellectual world play a motivating and guiding role in education (Erkılıç, 2000).

Currently, life styles in dense urbanization and their results should be taken into consideration to provide a life in nature and to live in their own learning area. This design should give chances to tend to science and art, to encourage their creativity, and to take responsibility in the activities in this active learning area. Additionally, it should not be forgotten that the best learning occurs with playing. To conclude, the sample project of preschool education institution produced in this study is recommended to build new preschool education institutions.

It is suggested for further research to compare, with respect to such variables as social and emotional development and aesthetic perceptions, the children who receive education in the institutions designed specifically as a preschool education institution and holding the characteristics suggested in this study and the children who receive education in the institutions which are not designed specifically for this purpose and do not have the characteristics meeting the expectations of children. The variables such as exhaustion and professional satisfaction level of teachers can also be taken into consideration.

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