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Spatial Interaction in Educational Buildings: The Effect of Semi Open Space Usage on Student Behavior

Eğitim Yapılarında Mekânsal Etkileşim: Yarı Açık Mekân Kullanımlarının Öğrenci Davranışları Üzerindeki Etkisi

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ABSTRACT

Urban areas hold significant importance for the dynamics of people's lives. Paving the way for the interactions between spaces and residents, cities can also be considered as social areas that gather people. Urban space, which defines the built environment, the voids, and the relationships between them, can be interpreted as a system that integrates and gives meaning to these components. Site-specific design approaches enable residents to utilise their spaces efficiently while also allowing them to experience these spaces across various time periods and changing environmental conditions. Considering seasonal variations and climatic effects, flexibly designed open and semi-open areas enhance user comfort while supporting the continuity of social interaction. In this context, the accurate configuration of spatial components becomes a determining factor in user behavior. Correct behavioral patterns or personal and collective behavioral stances depend on the correct and flexible planning of spatial elements and components. Efficient and flexible space formations within designs reflect on the behavioral patterns of urban residents and help cities have a transformed image in an environmental context. The study was conducted in the front yard of an educational building in Erzurum, a cold-climate city characterized by long and harsh continental conditions. Students' behavioral patterns in the semi-open space located in the schoolyard were observed, and their relationship with the space was evaluated. The individual, interpersonal, and group behaviors of students, as well as their interactions with the semi-open space, were examined separately, and recommendations were developed for the effective use of semi-open spaces in educational buildings. The findings indicate that well-designed semi-open spaces can enhance students' social interaction, spatial comfort, and behavioral diversity, while flexible and context-sensitive open space design may support their physical, cognitive, and social development and increase spatial efficiency.

Keywords: Semi open space, spatial interaction, behavioral pattern, environmental psychology

ÖZ

Kentsel alanlar, bireylerin yaşam dinamikleri üzerinde oldukça önemli bir rol oynamaktadır. Mekânla kullanıcı arasında etkileşim fırsatı sunan kentler, aynı zamanda kullanıcıları da bir araya getiren sosyal alanlardır. Yapılı çevre ile boşluklar arasındaki ilişkiyi tanımlayan kent mekânı, bu ögeleri bütünleştiren ve anlamlandıran bir sistem olarak ele alınabilir. Yere özgü tasarım yaklaşımları, mekânların kullanıcılar tarafından verimli kullanılmasını sağlarken farklı zaman dilimlerinde ve değişen çevresel koşullarda deneyimlemelerine de olanak tanır. Mevsimsel değişkenlikler ve iklimsel etkiler göz önünde bulundurulduğunda, esnek tasarlanan açık ve yarı açık alanlar kullanıcı konforunu artırırken sosyal etkileşimin sürekliliğini de desteklemektedir. Bu bağlamda, mekânsal bileşenlerin doğru kurgulanması kullanıcı davranışları üzerinde belirleyici olmaktadır. Doğru davranış ilişkileri veya kullanıcıların bireysel ya da toplu davranış konumları, mekânın öge ve bileşenlerinin doğru ve esnek tasarlanmasına bağlıdır. Tasarımda verimli ve esnek mekân biçimlenmeleri, kent kullanıcılarının davranış kalıplarına yansır ve kentin çevresel anlamıyla birlikte imgesini de değiştirmeye imkân sağlar. Bu araştırmanın yürütüldüğü çalışma alanı, uzun ve sert iklim koşulları altında bulunan ve karasal iklime sahip bir soğuk iklim kenti olan Erzurum'da yer alan bir eğitim yapısının ön bahçesinde yer almaktadır. Çalışma kapsamında okul bahçesinde yer alan yarı açık mekânda öğrencilerin davranış kalıpları gözlemlenerek mekânla olan ilişkisi değerlendirilmiştir. Öğrencilerin bireysel, ikili ve grup halindeki davranışları ile yarı açık mekân etkileşimleri ayrı ayrı incelenerek, eğitim yapılarındaki yarı açık mekânların etkili kullanımıyla ilgili görüş ve önerilerde bulunulmuştur. Sonuç olarak, eğitim yapılarında yarı açık mekânların tasarımının, öğrencilerin sosyal etkileşimini, mekânsal konforunu ve davranış çeşitliliğini artırmada önemli bir potansiyele sahip olduğu söylenebilmektedir. Eğitim yapılarındaki açık alanların esnek ve bağlama uygun biçimde tasarlanmasının, öğrencilerin fiziksel, zihinsel ve sosyal gelişim süreçlerini destekleyerek mekânsal kullanım verimliliğini artırabileceği düşünülmektedir.

Anahtar Kelimeler: Yarı açık mekân, mekânsal etkileşim, davranış kalıbı, çevresel psikoloji

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Introduction

The phenomenon that concerns people individually or collectively and signifies a holistic concept with physical and cultural values is called "environment" (Tuncay, 2002). The scientific discipline that analyzes the relationship between people and their environments and that gathers social sciences along with the environmental and spatial designing disciplines is called environmental psychology (Mumcu et al., 2019). Environmental psychology examines the relationship between individuals and their environment, as well as the mutual interactions between them. It encompasses the social-psychological elements that influence users' behavior within an environment. In this respect, environmental psychology accepts and validates the experienced world in daily life in all its aspects (Gifford, 2014). The aforementioned phenomenon of daily life encompasses both the spatial environment in which the individual finds themselves every day and the social environment of which the individual is a part (Türksoy, 1986). The meaning of the environment consists of the objects that constitute it. In individual-environment interaction, attention must be paid to the characteristics and structure of the environment in order to examine how users will respond to their environment under what conditions (Rapoport, 1982). The multi-dimensional structure of the environmental psychology enables the use of different methods and observation practices for the behavioral patterns of people and their environment, therefore enriching the study designs.

Ecological psychology is an experimental theory of perception that examines the elements of perception, movement, and experience created by the organism within its environment in everyday settings (Lobo et al., 2018). This approach, which argues that the individual and the environment should be considered as independent wholes, examines users and their psychological processes in space independently of external factors (Kytta, 2003). Ecological approaches depending on the environmental psychology analyze the relationship between people and their environments, assessing both as the fragments of the whole context. Ecological psychology studies the lives of people in urban areas as well as the relationship between the behaviors or experiences of people in these spaces and the relevant environment (Mumcu et al., 2023). Behavior is defined as "the result of the interaction between the individual and environmental variables" within the psychological approach. Environment and behavior shape one another. Therefore, residents and their environments constantly affect each other (Atkinson et al., 2012). People's behavioral patterns differ based on their environments, indicating that the experiences of individuals regarding their environments depend on the spatial design and how people perceive the environment (Morval, 1985). The dynamics and patterns of spatial design also affect how and for how long people experience their environment. Lefebvre argued that residents could experience and adopt a place only through the meticulous design of the specific space (Forty, 2000).

Open urban spaces that are the integral parts of buildings can transform into successful urban places which can host social activities throughout the year, provided that they are designed with a space-specific approach. This approach not only ensures the efficient and effective use of spaces but also prevents the formation of passive open areas under ever-shifting seasonal conditions. Correct design strategies which help people experience open urban spaces at different periods pave the way for the areas that offer spatial flexibility and comfort, preventing the negative effects of climate within open areas. Accordingly, urban spaces can become the areas of constant activity and circulation while supporting spatial sustainability.

The design approach for the open spaces in cities with cold climate should consider such environmental conditions accordingly because people living in cold climates have to spend most of the year in indoor areas, which causes open urban areas to be passive when the temperature is low and affects the psychology or urban dwellers negatively. With limited outdoor experiences, people can feel isolated from the cities or have a reduced rate of social interactions. To minimize the feelings of isolation and sustain the psychological well-being of urban residents who experience spatial monotony during the colder periods, it is significant to design open urban spaces in a site-specific manner and to develop design strategies accordingly.

Focusing on an educational building present in an urban space, this study analyzes how the physical areas surrounding this building affect students' behaviors. Correct designs for the educational buildings where students interact with the public areas for the first time and gain an identity help them have more comfort in these spaces. Accordingly, behaviors of students in the semi-open space within the afore-noted building present in a cold-climate city were observed, and interactions with the space were examined.

Interaction Between Space and Residents in Urban Areas

Cities and buildings constitute an integral structure with their indoor and outdoor areas. The urban texture can be analyzed holistically but all urban components have different definitions, with each representing an urban fragment. Urban areas can be explained as "living organisms" that are coherent with the cultural pattern surrounding them and that can also adapt to the socio-economic conditions (Alexander et al., 1977). Urban spaces cover outdoor and indoor areas, streets and boulevards, or parks, essentially anywhere where human touch "fills the environmental gaps" (Trancik, 1986).

Urban gaps, which are the places gathering people, indicate the presence of communication between the people and society. When the relationships between urban occupancy and gaps complete one another, spatial interactions can be considered successfully fulfilled. These designed elements are combined in a framework, shaping the character of a region. However, if the relationship between occupancy and gaps is not designed correctly, spatial components get disconnected from this context, and the areas spread within the urban environment as lost or unused spaces (Erdönmez & Akı, 2005).

All spaces that are present between buildings in cities are assessed as urban social spaces or outdoor areas. Urban spaces are explained through individuals, user groups or the shared social characteristics of these groups, and their contexts can be defined with various physical, social, and symbolic characteristics. (Erdönmez & Akı, 2005). Norberg-Schulz (1971) defined the concept of city as a place of meeting where different people gather and which consists of public spaces. These spaces, where users spend their lives within a specific period, are shaped through the elements that define the city and reveal urban identity.

Moments spent in cities depend on the lives of dwellers, the architectural structures, urban objects, and natural urban elements (Ertaş, 2017). Urban spaces constitute the essential fragments which make a city what it is. In addition to the historical formation of urban memories, silhouettes and identities which are the consequences of urban physical and social traits, cities also bear the

characteristics of dynamic areas where people rest and interact socially and collectively, and which carry the common experiences, memories and traces. These elements of attachment to the city play a significant role in the emergence of both belonging and memory (Aytaç, 2013).

Cities, which have a critical impact on people's social lives, are the areas where the communication between society and people occurs the most, along with the meanings attached to these spaces. Outdoor urban areas such as streets, squares and parks serve as the social and behavioral negotiation places where users gather, interact and develop a shared urban culture. The urban interaction between people and their environments enables individuals and the society to create their own life culture within the context of social, spatial, and behavioral relationships. Open urban spaces and the surrounding social environment provide opportunities to observe other people and obtain important information about the people living there. In this context, spatial organization functions and urban space compositions, depending on the fragments and components of the space, are effective in interpreting the attitudes of the dwellers. The environmental meanings, symbols and indications that change with the spatial formations also direct urban users toward various behavioral patterns. Accordingly, certain traits that guide the behaviors within spaces can be observed (Erdönmez & Akı, 2005):

- Centrality/Proximity
- Determinacy/Focalizing
- Continuity/Guiding
- Accessibility/Restrictiveness
- Unifying/Separative

Spaces that cover physical, social, and psychological needs offer the correct comfort conditions to urban users to the extent that they support the elements corresponding to these needs. The urban space, regardless of its scale, should create a life that is both perceptible and livable for its users. In cities, factors such as the purpose of spatial use, usability and frequency of use change depending on the needs of urban dwellers. In addition to people's behavioral patterns and habits, spatial organization and physical conditions also affect the way people use a space (Düzenli & Alpak, 2017). Additionally, separation zones such as indoor spaces or occupied areas forming the settlement pattern, borders shaped by streets, and zones of gradual transition from public to semi-public urban areas are also important (Erdönmez & Akı, 2005).

Relationship Between Space and Behavioral Positions

Terminologically, the concept of space is related to possibility, being the place that exists and that also covers the possibility of existing (Demir, 2025; Polat, 2019). In indoor, open, or semi-open urban spaces, the patterns and dynamics arising from the relationship between dweller behaviors and the environment are defined as behavioral positions or behavioral patterns. According to Gump (1971), while individuals continue their lives within their environmental context, what they do and encounter within this context constitutes their very existence. This situation also demonstrates the place of individuals' behavioral positions within their daily lives. Accordingly, behavior and spatial fragments are interrelated, influencing one another. Changes in the spatial pattern or design alter users' behavioral patterns accordingly.

Behavior, which is the product of the continuous interaction between the individual and the environment, is shaped through learning, while the learned behavior always shapes the environment (Atkinson et al., 2012). As the users of behavioral positions change, environmental positions always remain constant (Moos, 1973). The spatial fragments in urban spaces influence users' behavioral patterns and embrace and surround them at the same time. Behavioral positions consisting of one or more unchanging behavioral patterns possess a unique character that remains constant when users change, without altering observable behaviors/the environment (Barker, 1968). Although behavioral pattern and environment are considered to be interrelated as a whole, the environment reflects an effective influence directing different users to the same behaviors. Behavioral patterns, which are significantly affected by spatial design, generally reflect the patterns generated through the guidance of the environmental pattern, rather than users' own characteristics. Consequently, as the spatial dynamics change, behavioral patterns also change drastically. In cases where users change but the space remains stable, it is safe to state that behavioral patterns will remain mostly the same. Accordingly, spatial patterns and dynamics have a modifying effect on the individuals using the city. The strong resemblance and interdependence between environment and behavioral patterns are called coordination/synapomorphy (Gür, 1996). Users' experience regarding a space and their tendency to form a sense of belonging are closely related to the behavioral patterns they show.

It is the experiences and perceptions of users that give a place its sense of affordance (Polat, 2019). People's efforts in developing behavioral patterns in accordance with their individual characteristics are explained through the theory of affordance (Greeno, 1994). According to Greeno (1994), affordances are preconditions or experiential interactions for individual activities. The theory of affordances argues that the individual is an organism inseparable from the environment and that they can directly perceive the environment they experience. Within the context of this theory, the environment can offer the individual both positive and negative functions. At the same time, the individual and the environment are always in mutual interaction, complementing each other (Gibson, 1986). Each of these behavioral dynamics within which people interpret the environmental pattern fragments and form a pattern and position for themselves is a prerequisite for affordance. In this context, educational buildings and the surrounding open spaces, occupying an important place within urban spaces, are particularly important.

Open Spaces Surrounding Educational Buildings

The physical conditions surrounding educational buildings affect the conditions for education, learning and users' health. The correct design of primary school buildings, where children gain their identities and acquire basic skills, and their urban surroundings will contribute not only to the children but also to the development of society. The urban spaces to be designed for this purpose should transform and evolve according to certain criteria (Karadayı et al., 2017).

Open spaces around educational buildings significantly affect students' behaviors and academic success. According to Meek (1995), urban planning decisions and use of architectural elements should be regarded as a means of boosting students' achievement and learning potential within the context of physical formation. Primary school years are particularly important

since children develop behaviors and habits during those years. The behaviors gained during this period yield positive or negative results throughout their lives. Thus, the buildings in which primary education is provided should have specific qualities, and their surrounding environments should be evaluated and designed accordingly. The buildings and the surrounding open and semi-open urban spaces should be planned with an innovative and multidimensional design that can broaden children's horizons and provide them various opportunities (Karadayı et al., 2017).

Open urban spaces, which are highly important for physical, mental, and social development and which are associated with educational buildings, increase the efficiency of learning by enabling students to rest, join social interactions and experience the outdoors. Factors such as green areas, playgrounds and sports fields promote active movement among students, helping develop their motor skills and positively contributing to their physical health. Moreover, during the periods of spending time in urban outdoor areas such as natural places, students can have more conscious relationships with the nature through raised environmental awareness, explorations and observations.

Experiencing and practicing within the spaces they are present, students can form a sense of belonging to the buildings in which they learn. Spatial experiences that help them develop this sense also enhance their imagination and provide them with free learning environments where they can boost their productivity. Accordingly, open urban spaces which are parts of educational buildings are not merely places for leisure activities; they are also the integral and reinforcing components of education. Therefore, the planning of open areas around educational buildings is valuable not only for meeting physical needs but also for contributing significantly to students' pedagogical and psychosocial development.

Study Area: Main Entrance of Erzurum Sabancı Primary School

In this research, the study area is located in the front schoolyard of an educational building in Erzurum, a Turkish city with a cold and continental climate characterized by long and harsh weather conditions. The shading structure, which is a semi-open spatial element located at the main entrance of the primary school building, was selected as the observation point. Erzurum Sabancı Primary School, the sample area of this study, is located within the campus of Atatürk University, which is present at a central and significant position in the city (Image 1).

Image 1.

The location of Erzurum Sabancı Primary School within the campus

Sabancı Education Campus within Atatürk University Campus Housing Area in Erzurum consists of three buildings separated with two courtyards, while featuring a primary school and a secondary school (Image 2).

Image 2.

Schoolyard of Erzurum Sabancı Primary School

Although this educational building offers sufficient schoolyard space to students, it has a frontal urban space remaining passive during the winter season and containing generally inactive areas within its overall urban design, signifying the need for further improvement and development in this regard (Image 3). Accordingly, the building serves as a highly appropriate example allowing for the clear observation of cold-climate effects on the use of open spaces.

Image 3.

Study area

The shaded area located at the main entrance of the building is a place frequently used by primary school students entering or exiting the building during breaks or in physical education classes. This semi-open space is a small, square element designed for short-term use, measuring approximately 2x2 meters, with a total area figure of 4 m². Positioned at the main entrance, the aforenoted shaded area is designed to provide protection from direct sunlight and rain, as well as to prevent snow and ice falling from the roof and creating slippery conditions on the ground as the city experiences a heavy snowfall. This area features three fully open sides, one closed side, and a door that grants access to the building entrance. Its semi-open design allows visual unity between the interior and exterior areas through its permeability, while also enabling obstacle-free transitions. The spatial components and elements forming this semi-open shaded area can be summarized as follows.

Roof (Upper Cover)

The upper element of the shaded area is made of galvanized sheet metal and is designed as a sloped hip roof to enable drainage of rainwater, to support the weight of the fallen snow, and to safely land it. While the roof serves essentially to protect against rain, sun and snow, it also functions as a visually complementing element for the structure. Additionally, the presence of the institution's name on the roof provides accessibility within the urban space and directs people to the public building.

Load-Bearing System

The shaded area features a steel frame load bearing system consisting of four metal square plates, each measuring approximate-

ly 4x4 centimeters and coated to resist corrosion. These components raise the roof to a height of approximately 2.5 meters, while protecting the spatial element against the wind loads. The load bearing system also serves to define the semi-open space.

Ground

The ground of the shaded area is covered with concrete paving resistant to icing and moisture. The paving distinguishes the waiting area from its surroundings through different materials and elevation, while offering a clean and dry surface for short-term use owing to the upper cover. The ground is also slightly sloped to prevent water accumulation during rainfall.

Methods

The methodology of this research involves examining the behavioral patterns of students in the semi-open shaded area in front of Erzurum Sabancı Primary School while utilizing a random observation technique. In this study, the behavioral pattern of standing was specifically examined, and photographs taken by the researchers were used as the primary data source. Observations were performed through photographs taken at different times and on different days to identify the most frequently displayed behavioral patterns.

Ethics committee approval was received for this study from the ethics committee of Karadeniz Technical University (Date: 05.11.2025, Number: E-82554930-050.01.04-119542). Before the interviews, the consent form was prepared and signed to the participants.

Results

It was observed that the shaded space, which is designed to protect against and decrease the adverse effects of climatic events such as sunlight, wind, rain, snow and ice, performed various functions within students' school life. In this shaded area, the behavioral patterns observed based on the number of users present are presented below.

When assessing the behavioral patterns of students when they were alone, it was generally observed that they tended to be present at the corners of the space. Student behaviors included leaning against a column, interacting with a column, moving around a column, and using it as an object for play. While interacting with the column, students checked their surroundings or peers and took breaks from play to rest in this area (Image 4a and 4b).

Image 4a.

Behavioral patterns of students when they were alone

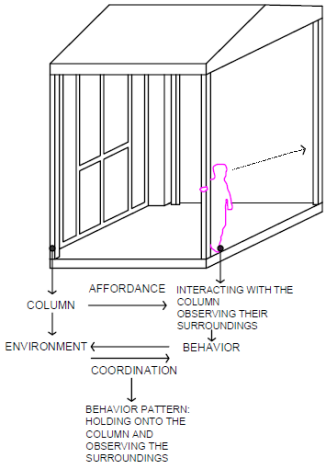
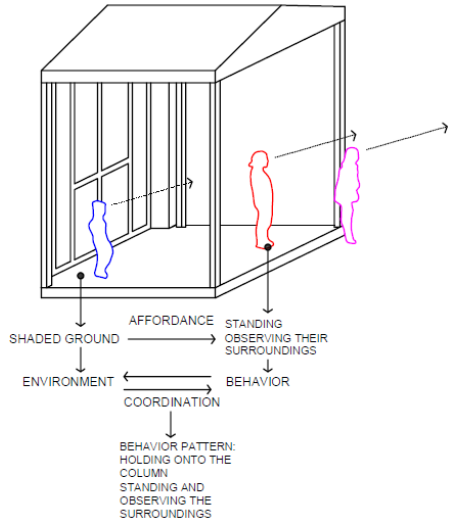


Image 4b.

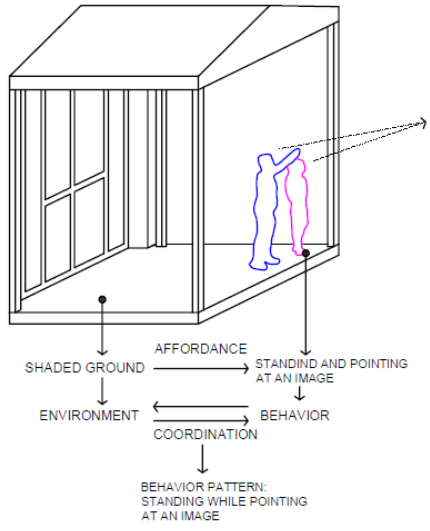
Behavioral patterns of students when they were alone



When analyzing the behavioral patterns of students in pairs, it was observed that they generally directed their body movements toward their peers, engaging in conversations and establishing eye contact. While talking, orientations such as individually interacting with a column, leaning against it and standing at the corners of the space while chatting were also observed. Furthermore, when an object or event in the environment drew their attention, they shared the information with one another and examined it together, which can be considered another behavioral pattern within the space (Image 5a and 5b).

Image 5a.

Behavioral patterns of students when they were alone



When analyzing the behavioral patterns of students in groups, it was observed that they tended to engage themselves in ways that enabled greater interaction with one another when they were present collectively in the shaded area. This orientation was visible through body movements and behavioral patterns including leaning toward peers and attempting to establish eye contact with them. It was also observed that students in groups almost entirely isolated themselves from the activity around them, directing their attention intensively on their group (Image 6a and 6b).

Image 5b.

Behavioral patterns of students when they were in pairs

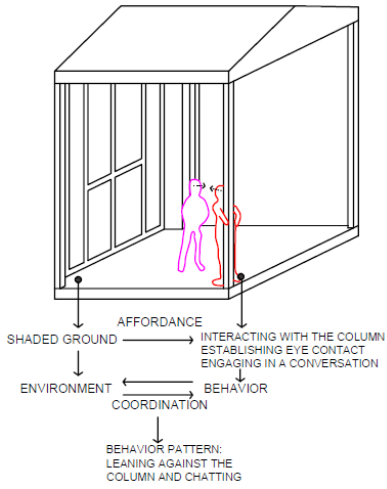


Image 6a.

Behavioral patterns of students when they were in pairs

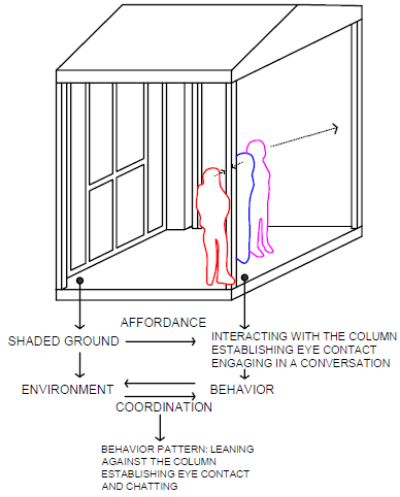
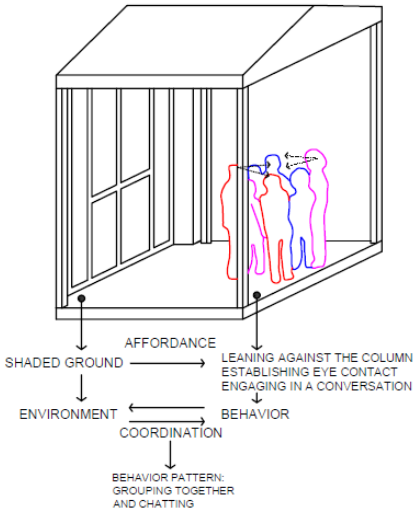


Image 6b.

Behavioral patterns of students in groups



An assessment of the photographs taken in the semi-open shaded area indicates the behavioral patterns of students when alone, in pairs and in groups, as displayed in Image 7.

Image 7.

Behavioral patterns identified in the semi-open shaded area

The usage manners and behavioral patterns formed by the components and elements within this shaded space were evaluated in the context of negative spatial aspects, and the proposed recommendations are presented in Table 1.

Table 1:

Analysis of shaded space components and elements

Spatial Components and Elements	Assessment	Recommendation
Roof (Upper cover)	The roof element shows signs of discoloration, aging, and material corrosion. Moreover, the canopy width is insufficient to protect students from negative weather conditions.	Durable and aesthetically appealing composite or aluminum materials can be preferred for that purpose.
Load-Bearing System (Columns)	The metals show signs of discoloration. The use of metal columns is not ideal for cold climates. Moreover, the hard and sharp edges of the columns may mean safety risks.	Columns can be covered with soft, rubber-like materials that do not conduct cold.
Ground	The concrete shows signs of wear and is prone to slipping. Moreover, the surface reached with a single step does not comply with universal accessibility plan.	The material can be renewed with a non-slip, colored and soft floor covering, and the level difference can be decreased, or a ramp can be used in place.
Connection to indoors (Entrance Door)	The main entrance is too narrow for the circulation intensity.	The passage area can be widened to reduce the risk of collisions among students.
Width	There is no ideal width enabling students to have more comfort in the area.	A wider semi-open area can be formed by increasing the lateral openings.

Based on the analyses, a set of solutions targeting potential negative spatial issues students may encounter in this area is presented in Table 2.

Table 2:

Proposals for improvement of the shaded space

Recommended Component	Explanation
Illumination	LED illumination can be integrated into the area for students' late dismissal periods and for the times of low sunlight.
Urban Furniture	Ergonomic and flexible/modular wooden urban furniture, such as cushions, benches or circular seating areas, can be added to the corners and around the columns for students to spend time when they take breaks from play or gather in groups.
Facade Designs	The ground, columns or roof surfaces can be painted with designs to draw students' attention, or painting activities can be organized in a way they can actively participate in the space. Moreover, materials such as small white boards or portable shelves can be placed within the area.
Objects of Play	Various open-access thematic objects of play or educational panels that can contribute to students' development can be placed in the area.
Interaction with Nature	Plants, pots or portable vertical gardens can be placed around the area. Moreover, pot workshops where students can actively engage in the maintenance efforts can be built to achieve student-nature bond.

Conclusion and Recommendations

In this study examining the behavioral patterns of students standing in a primary school building, the components and elements of a semi-open area selected as the observation site were assessed, and evaluations of the individual–space interaction were provided. In the study where behaviors were observed at specific intervals, photographs were used to identify the distinct behavioral patterns of students when they were alone, in pairs, and in groups.

Students being alone in the area generally tended to be at the corners of the space, showing behaviors such as checking their surroundings, leaning against a column to rest or using a column as a play object. When accompanied by a peer, they still tended to be at the corners, but their body movements were typically directed at one another, making eye contact, engaging in a conversation or examining an object together. In groups, students largely isolated themselves from their surroundings and kept their interactions within the group. Although behavioral patterns varied based on the number of users, certain patterns such as standing at corners and leaning, playing, or holding onto columns while checking the surroundings remained similar. This result indicates that the design of the components and elements within the space significantly affects and guides user behaviors. The observation of similar behaviors from different users also shows the strong relationship between spatial design and human behavior. Educational buildings within public areas have open and semi-open urban spaces that significantly affect student behaviors. Therefore, the design and planning of these open areas must be fulfilled within this context. It is argued that planning these spaces with a flexible, innovative, and coherent design approach can enhance students' effectiveness by supporting their physical, cognitive, and social development.

Having been conducted at Erzurum Sabancı Primary School, this study aims to develop integrated, climate-responsive, sustainable, and student-focused approaches for the design of open spaces within educational buildings located in cold-climate cities. Based on the results, design concept plans that not only adapt to the cold climate but also target user needs within the urban space were proposed. It is suggested that the design proposals mentioned through this study can guide the efforts of enhancing semi-open areas of educational buildings in other cities with similar harsh continental climates.

Peer-review: Externally peer-reviewed.
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Informed Consent: Before the interviews, the consent form was prepared and signed to the participants.
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Image References

Image 1.

Prepared using Google Earth https://earth.google.com/web/

Image 2.

Authors' archive

Image 3.

Prepared by authors

Image 4a, 4b, 5a, 5b, 6a, 6b.

Prepared by authors

Image 7.

Prepared by authors

Yapılandırılmış Özet

Yapıların ayrılmaz bir parçası olan kentsel açık alanlar mekâna özgü tasarlandığı sürece, yılın her zamanı sosyal etkinlikleri içinde barındıracak nitelikte başarılı kentsel mekânlara dönüşürler. Kullanıcıların kentsel açık alanları farklı zamanlarda deneyimlemesine olanak tanıyan doğru tasarım yaklaşımları, açık mekânlarda iklimin olumsuz etkilerinin önüne geçilebilen, mekânsal esneklik ve konfor sağlayan alanlar oluşturur. Bu sayede kentsel mekânların sürekli bir akış ve sirkülasyon alanı haline gelmesi sağlanırken mekânsal sürdürülebilirlik de desteklenir.

Soğuk iklimin hâkim olduğu kentlerde açık mekânların tasarım yaklaşımları, iklimsel açıdan dikkate alınması gereken alanlardan biridir. Çünkü soğuk iklimlerde yaşayan kullanıcılar yılın büyük bir kısmını iç mekânlarda geçirmek zorunda kalırlar. Bu durum kentsel açık alanların havanın soğuk olduğu zamanlarda atıl kalmasına neden olurken aynı zamanda kentlilerin psikolojik refahını da olumsuz yönde etkiler. Açık alan deneyimleri sınırlanan kullanıcıların, kendilerini kentten soyutlanmış hissetmesine veya sosyal etkileşimlerin azalmasına neden olabilir. Yılın soğuk zamanlarında mekânsal monotonluk yaşayan kentlilerin yalıtılmış hislerini en aza indirgemek ve psikolojik iyi oluş halini sağlamak için kentsel açık alanların yere özel tasarlanmaları ve bu tasarım önerilerinin geliştirilmesi oldukça önemlidir.

Kentsel mekânda bulunan bir eğitim yapısıyla ilgili olan bu araştırmada, yapının çevresinde oluşan fiziksel alanların öğrencilerin davranışlarını nasıl etkilediği incelenmektedir. Öğrencilerin kamusal alanda çevreyle ilk etkileşim kurdukları ve kimlik kazandıkları eğitim yapılarının doğru tasarlanması, onların mekânlarda daha konforlu zaman geçirmelerine olanak sağlar. Bu bağlamda araştırma, soğuk iklim kenti içerisinde yer alan bir eğitim yapısındaki yarı açık alanda öğrenci davranışlarını gözlemleyerek mekânla olan ilişkisini değerlendirmektedir.

Kapalı, açık veya yarı açık kentsel mekânlarda kullanıcı davranışları ve ortam arasında kurulan ilişki sonucunda ortaya çıkan örüntü ve dinamikler davranış konumu/davranış kalıbı olarak ifade edilmektedir. Bu bağlamda, davranış ve mekân parçaları birbirleriyle ilintilidir ve birbirlerini karşılıklı olarak etkilerler. Mekânın örüntüsünün/tasarımının değişmesi, kullanıcıların davranış kalıplarını da buna bağlı olarak değiştirmektedir. Her bir bireyin ortamda düzenlenen örüntü parçalarını, kendisine göre yorumlayarak kalıp ve konum oluşturduğu bu davranışsal dinamiklerin her biri olanaklılık için ön koşul niteliğindedir.

Eğitim yapılarıyla ilişkili olan kentsel açık alanlar; öğrencilerin dinlenmesine, sosyal etkileşimlere katılmasına ve açık havayı deneyimlemesine imkân sağlayarak öğrenme verimliliğini artırır. Yeşil alanlar, oyun alanları ve spor sahaları gibi unsurlar, öğrencilerin aktif hareketlerini sağlayarak motor becerilerini geliştirmelerine yardımcı olur ve bu durum fiziksel sağlık durumlarını da olumlu yönde etkiler. Ayrıca kentsel açık alanlarda ve doğayla iç içe geçirilen zamanlarda, öğrencilerin çevresel farkındalıklarının artması ve keşfetme/gözlem yapma yoluyla doğa ile daha bilinçli ilişki kurmaları sağlanmaktadır.

Bu araştırmada çalışma alanı, uzun ve sert iklim koşulları altında bulunan ve karasal iklime sahip bir soğuk iklim kenti olan Erzurum'da yer alan bir eğitim yapısının ön bahçesinde yer almaktadır. İlkokul yapısının ana girişinde bulunan ve bir yarı açık mekân öğesi olan gölgelik eleman, gözlem yapılacak konum olarak seçilmiştir. Örneklem alanı olarak seçilen Erzurum Sabancı İlkokulu, kentte önemli bir yere sahip olan merkezi bir bölgede bulunan Atatürk Üniversitesi kampüsü içerisinde bulunmaktadır. Erzurum ili, Atatürk Üniversitesi Kampüs Lojmanları içerisinde bulunan Sabancı Eğitim Kampüsü, içerisinde ilkokul ve ortaokul bulunmak üzere iki ayrı bahçeyle ayrılmış üç yapıdan oluşmaktadır. Bu eğitim yapısı, öğrenciler için yeterli bahçe alanına sahip olmasına rağmen, kış mevsiminde kullanımı oldukça sınırlı kalan ve kentsel tasarımında da genel anlamda atıl alanların bulunduğu, geliştirilmesi gereken bir yapı önü kentsel mekânına sahiptir.

Bu araştırmanın yöntemi, Erzurum Sabancı İlkokulu'nun önünde bulunan yarı açık gölgelik alanda öğrencilerin gösterdiği davranış kalıplarının rastlantısal gözlem tekniğiyle incelenmesinden oluşmaktadır. Davranış kalıpları içerisinde ayakta durma davranış konumunun incelendiği bu araştırmada, kayıt aracı olarak araştırmacılar tarafından çekilen fotoğraflardan yararlanılmıştır. Farklı gün ve saatlerde fotoğraf çekme yoluyla gerçekleştirilen gözlem çalışmalarıyla en çok gözlenen davranış kalıpları belirlenmeye çalışılmıştır.

Öğrenciler alanda tek kişi olduklarında, genellikle mekânın köşesinde bulunma eğilimi göstererek etrafı izleme, kolona yaslanıp dinlenme ya da kolonu oyun öğesi olarak kullanma davranışı sergilemişlerdir. Öğrencilerin yanlarında bir arkadaşları olduğunda yine mekânın köşesinde bulunarak, genellikle beden hareketleri birbirlerine dönük, göz teması kurarak, sohbet etme veya birlikte bir imgeyi inceleme eğilimi gösterdikleri belirlenmiştir. Öğrenciler gölgelik mekânda toplu halde bulunduklarında ise etraftan büyük çoğunlukla ilgilerini keserek, kendi aralarında etkileşim kurdukları gözlemlenmiştir. Araştırma sırasındaki gözlemlerde, öğrencilerin kullanıcı sayılarına göre gösterdikleri davranış kalıpları değişse de, ortam içerisinde mekânın köşelerinde bulunma eğilimi ve alanda bulunan kolona yaslanma, kolonla oyun oynama ya da kolona tutunarak etrafı izleme gibi davranış kalıplarının benzerlik gösterdiği belirlenmiştir. Bu durum, mekânda bulunan bileşen ve öğe tasarımlarının, kullanıcıların davranışlarına etki ettiğini ve onların davranış kalıplarını çoğunlukla yönlendirdiğini göstermektedir. Kullanıcılar değişse bile aynı mekânda benzer davranışların gözlenmesi, mekân ve davranışın birbiriyle ilişkili olduğunu ortaya çıkarmaktadır. Eğitim yapılarının açık alanlarının esnek, yenilikçi ve yere uyumlu tasarım yaklaşımıyla planlanmasının, öğrencilerin fiziksel, zihinsel ve sosyal gelişimleri açısından verimliliği artıracağı düşünülmektedir. Araştırma sonuçlarından hareketle, soğuk iklime uyum sağlarken aynı zamanda kentsel mekânda kullanıcı isteklerini karşılayacak olan tasarım konsepti planlamaları önerilmiştir. Bu bağlamda geliştirilen tasarım önerilerinin, benzer sert karasal iklime sahip olan kentlerde bulunan eğitim yapılarının yarı açık alanlarının iyileştirilmesi için yol gösterici olacağı düşünülmektedir.