

Designing Urban Learning Places at Secondary Schools

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ABSTRACT:

School environment is important for student's development. Environmental psychology theories suggest that environmental context affects attitudes and social behavior. Research focuses on the relationship between the external physical environment of urban learning spaces at secondary schools and the student's behavior in Egypt. Moreover, the research problem focus on neglecting of the physical area surrounding the schools and its lack of suitability for the different needs of adolescents. Accordingly, the results show that the relationships between the school's physical environment and the student's behavior. The design and planning of the school's external environment should push more attention to creating an enabling learning environment that can promote positive social behavior, especially in urban learning spaces at schools.

KEYWORDS: Urban spaces, student's behavior, Urban Learning Places, students' Practices, Physical environment, Secondary schools.

1. INTRODUCTION

Recently, we have noticed that many international conferences and organizations are focusing on learning environment, School as a learning environment should create conducive urban learning places (ULP), where students could acquire the psychological needs and social skills [1]. The aim of this research is to achieve a meaningful and practical understanding of how spaces can be shaped by the professionals in order to be more successful, provide quality for the psychological needs of students and do not conflict with student's natural responses [2]. "We need to improve the design of urban spaces and, as a consequence, the quality of our learning at schools." So, our urban design solutions of (ULP) should prioritize learning quality, health, safety and an inclusive environment for all.

However, the size, scale, functions and spatial elements of urban spaces affect the behavior of users', based on their choices. External factors such as psychological, physical, cultural and psychological, etc...may have a direct effect as well on the design guidelines [3]. Thus, we need to define determinants for the design of those places.

This research is mainly focusing on the virtual relation between the factors affecting Human behavior as a "dimension" of urban spaces design and the factors affecting the guidelines of the design of (ULP) from the human social behavior point of view as in (Fig. 1) .

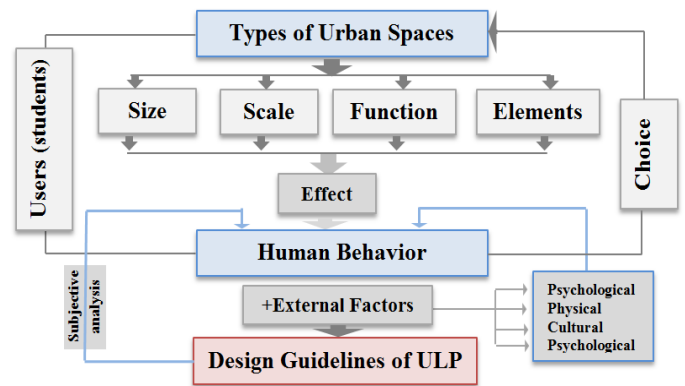


Fig. 1: Research Detailed Scope Source: by researcher

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Therefore, Limited research to assess the effectiveness of the physical environment to promote positive social behavior through the design and planning of the site and the perspective of the natural landscape [4]. The students' social behavior in this research is limited to evaluating the peer interaction and acceptance, sense of belonging, sense of privacy and sense of curiosity. Hence, it is necessary to arrive at a new formulation that proves its effectiveness in designing ULP where the importance lies in the symbolic, psychological and behavioral meanings that it contains. It must be taken care of to have a positive role and suit the needs, activities and practices of adolescents [5].

## 2. Urban Learning places (ULP)

Urban places are educational arenas that enable to interaction with the surrounding environment. ULP implied individual's encounter with content, places, or other students, that leads to personal development, ULP refers to a physical setting for a learning environment[6]. Resulting from that encounter are the student's reflective observations - to themselves inwards, and towards society - that encourage them to create in their own environments which designed according to human behavior.

### 2.1. Humanitarian approach to design Urban Learning place:

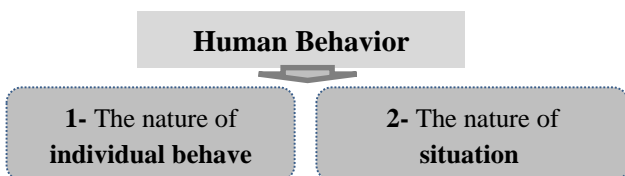
The new educational trends give attention to the development of sensory abilities and skills, taking into consideration the individual differences between students and the student's discovery of his own environment instead of direct indoctrination. [7]So, the aim of the design is to meet the student's needs. In spite of the fact that ULP are made for students, activities carried out in these spaces differ in terms of type, quantity and duration [8].

According to Gehl (1987), outdoor activities are classified into three categories: necessary, optional and social activities.

### 2.2. Human behavior in Urban Learning places

Human behavior is the responses (the actions or reactions) of individuals or groups of humans to internal or external motivation situation. It refers to the array of every physical action and observable emotion associated with individuals.

According to Crowder "**Behavior**" is "any activity which can be observed, recorded and measured, this includes first what human do- that is their movement in space". [9], **Causes of behavior** by two factors: the nature of **individual behave** and the nature of **situation** as shown Figure 2.



**Figure 2. Shown Causes of behavior**  
Source: by researcher

*Note:* The situation is a source of stimulus and is always the human's response to stimulus from environment.

### 2.3. An Approach to the Interpretation of Human Behavior in Urban Learning places

Human Behavior is affected by sociological needs, psychological state, and individual differences. The environment itself also influences human behavior. Both mental and physical stimuli affect behavioral responses.

According to Gifford (2002), **Environmental Psychology** is "the study of transactions between individuals and physical space in which individuals modify the environment and in its turn, behavior and experience are affected by this". [10] So, responses to the environment are complex and best understood in terms of three psychological stages of human behavior. Lewin was one of the first psychologists who adopted ecological concepts and principles in the study of human behavior. He expressed the relationship between human behavior and the environment through equation:

$$B = f(P \times E)$$

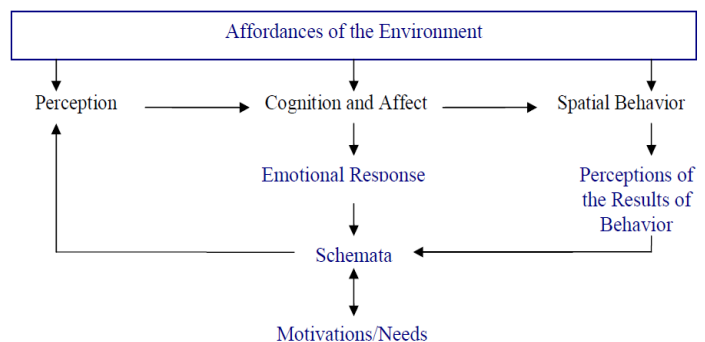
Equation refers to the relationship between human behavior and the environment: Where, B= Behavior, f=Function, P=Person, E=Environment. [10]

The equation refers to the importance of equalizing the two sides on the right side, namely the individuals and the environment in which they are located. The equation shows that the integration between human and the environment is the main factor in finding the left side, which is behavior, according this equation:

- Interaction with the environment is through the individual perceptions of man with reference to the importance of imagination in the composition of these perceptions and therefore the actual characteristics of the environment have an indirect impact on the behavior of individuals[11].

- The human behavior is based on an understanding of human perceptions of environmental influences (Subjective View) rather than their actual characteristics (Objective Environment) [12].

Thus, any environment has potentials which offer for human experiences and behavior. The principle process related with the interface between human and environment according to Jon Lang as shown in the following Figure 3.



**Figure 3. The Fundamental Processes of Human Behavior.**  
Source: Lang, 1987.

## 2.2. Student's needs in Physical form of ULP

ULP are designed to intercept student needs, and social interaction is one of the most important one. There is also a need to participate in meaningful activities that give identity to individuals and groups. Also include the need to move from one place to another with ease and comfort and the need to feel attached to certain people and places [13]. Those include opportunities to walk, to sit outdoors, to stand, to stay, to talk and listen and to play and exercise.

Therefore, the basic student needs are considered to be fundamental influences on human behavior and constitute the basis of their behavior in the spatial environment [14]. Student's needs in Physical form of ULP can be identified in terms of their impact on human behavior as follows:

- **Physiological needs** such as hunger, thirst and rest.
- **Safety needs** include fear reduction and protection from physical damage.
- **The needs of the membership and composition of relations** (feeling that the student as part of the school and the place of education is desirable).
- **The needs of appreciation and respect:** a sense of dignity and respect for others and satisfy these needs are linked to the compensability of the individual on the composition of the special environment by any private entity.
- **The needs of the effectiveness and impact:** for the energies of the individual must feel that he is an active member and has the ability to control and to contribute to the composition of the environment.
- **The needs of a sense of beauty and awareness** of the personal ideas about beauty and the need to recognize it.
- **Physical form of ULP** provides safety, security, accessibility, social interaction, and student entertainment.

## 3. METHOD OF INVESTIGATION:

The methodology adopted for this study includes a technical assessment of the performance of **urban learning places** (ULP) at secondary schools, and relevance to the needs of the students, the study also interested in improving the features and behavior of the users, finally the formulation and design of these places and identify the guidelines designed in the schools of Egypt. In multiple curricula and methods which conducted an assessment of the Built Environment, the main roads are currently used for data collection are: The observations, surveys, interviews and questionnaires. Allow the observations capture the characteristics of the space, or its users; allow surveys mainly analyze the physical properties of the space, and provides preliminary data describing the interviews and questionnaires for identifying and evaluating space in a fast manner, the needs of users and satisfaction.

## 4. Selected Project

For this research, government secondary school in Damietta, Egypt was selected as the multiple-site case study. This school is the most developed state in the country.

It was selected mainly because of its different design of layout. The layout of School is in the form of cluster and enclosed' where the building blocks are all facing towards the center where the assembly field is located, . For this research, **urban spaces for school have been chosen. They are the main entrance, Spaces of sports activities, Spaces of student gatherings and walkways, and Parking spaces & green areas.**

Project phases as shown in Figure 4

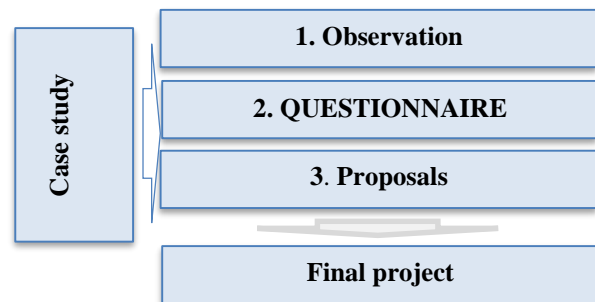


Figure 4: Project phases  
Source: by researcher

### 4.1. Project Problem:

- Neglecting the open spaces at the schools and the neglect of the linkage between the school building and the surrounding environment of layout.
- Making the design decisions on the urban spaces without regard to the social, psychological and behavioral needs of the students, this hinders the achievement of the basic objective of the design of those spaces.
- The behavior of students into the space and the changes that they make the environment inside the index for non-fulfillment to the environment to meet their needs and the lack of flexibility in design allows carrying out these activities.

### 4.2. Project Objectives:

The major objective: the role of the urban space at the secondary school and the features of this space, and that is through:

- 1- Monitoring activities and the various services practice.
- 2- Monitor the student's behavior and find out the reasons behind these behaviors with positive and negative assessment of them.
- 3- Know the attractions and expulsion of ULP.

In light of the determinants and possibilities, the study aims to:

- Analyze the mutual effect (the reciprocal relationship) of behavioral changes of students in the physical environment.
- Access to recommendations for the design of urban spaces through the analysis of user behavior and activities of students.
- Creation of a new formulation of some spaces for new activities those were not present in secondary schools before.



In order to confirm the objectives of the research, the main hypothesis of the research is:

"The interaction between the student and the space creates a more flexible and effective learning environment, and thus the integration of psychological criteria of student with the functional criteria will be an effective vision of the actual performance of these spaces and make them positive spaces benefiting both the school and the community".

In addition, **"Improving the performance of these places in secondary school buildings creates ULP that are appropriate to adolescents needs, encourages interaction between students and each other, and creates a more effective learning environment."**

### 4.3 . Description of case study schools:

**Table 1: Observation Case study**

Damietta College School Designer Bond Office Engineering Consultants
Total current area of the school: 1030 m <sup>2</sup>

<b>Figur.5. site plan of Damietta College School</b>
Total number of students: 1920 students And the current area of yards and open areas: 308 m <sup>2</sup> The current student's share of the open spaces: 2.8 m <sup>2</sup> / student (as students use the yard ,The stadiums at different periods of the day)
– <b>Observation current layout:</b>
• Do not use the space in the spaces between blocks as in Figure 6.

<b>Figure 6. Neglecting open spaces around the building. Source: by researcher</b>

#### - Monitoring student behavior:

- There are no places to sit during the student break as in Figure 7.



**Figure 7. Students gathered during the break around the school building, Source: by researcher**

- Sit in the corridors and prevent movement
- Students also sit on the stairs in front of the classrooms..
- The assembly in front of the stairs and sitting on them, which prevents the performance of activities spaces as in Figure 8.
- Crowding students during exit and entry.



**Figure 8: There are no places for Gathering student, Source: by researcher**

#### Objective of observation

Activities at schools should be complementary to the school and its role and be designed in a way that helps activate the role of the school. This increases the students' involvement in the school and activating their role and benefiting from the energies of the students to increase communication between the community and the school positively.

### 4.4. SURVEY QUESTIONNAIRE

Is the first phase of the final questionnaire, a complementary phase of observation and observation to help us to draw a clear and complete picture of the current situation with its advantages and disadvantages and to arrive at more accurate results in the next stage and to know what points we need to study in depth and detailed in the final questionnaire as shown in Figure 9 .

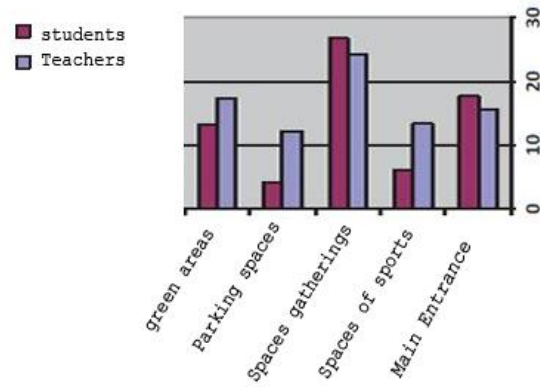


Figure 9: A questionnaire on the efficiency of using spaces for both students and teachers, Source: by researcher

#### 4.5. Proposals

A proposal for the public site of the school and the creation of external learning spaces and spaces gathering and activities for students according to the assessment of student behavior as shown in Figure 10 .



Figure 10: A proposal for the public site of the school, Source: by researcher

## 5. RESULTS

The findings are summarized under three headings. Under the first headings, students' most preferred behavioral setting are reported based on the data collected from the questionnaire, focus group interview and field observation. The results indicate the percentage of students using the outdoor spaces: the school main entrance, the assembly field, the canteen, the school parks, the corridors, and the school fields.

Under the second headings, students' space assessment, is to examine why the characters of the outdoor physical environment of the urban secondary schools influence students' social behavior, the results are based on the data collected through the questionnaires, focus group interview, as well as the field observation.

The same approach is used to analyze the data for the third heading, which is to examine how the characters of the external urban schools environment influenced the students' social behavior.

## 6. Conclusion

School students like to spend their break time at the assembly field and at the school canteen

The assembly field offers larger area for activities such as eating, sitting, talking, resting, and reading. Since the school canteen could not provide enough space for all the students, some of the students choose the assembly field as a place for them to do the activities.

Part of the assembly field is also covered and provided shade for the students.

space preference is influenced by the atmosphere of the place such as spacious, peaceful, comfortable, shaded, and they could gather with friends. Students also choose to spend their time in the sitting area.

Corridors are also a place of preference. students will stand along the corridors, especially the corridors in between the spaces field as the schools provide notice boards along the corridor for students to refer. school did not provide enough space for students to have their privacy. This is true as majority of students will spend their time at the same place.

Anyhow, students could still enjoy looking at others doing their activities as they could sit around while spending their break time.

Application of colours and usage of materials is also important as students do enjoy them. the students enjoy being at the parks as they provide not just seating areas .

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## تصميم الأماكن الحضرية للتعليم في المدارس الثانوية

تعد البيئة المدرسية مهمة لتطوير الطلاب. تقترح نظريات علم النفس البيئي أن السياق البيئي يؤثر على المواقف والسلوك الاجتماعي. لذلك يركز البحث على العلاقة بين البيئة المادية الخارجية لمساحات التعلم الحضرية في المدارس الثانوية وسلوك الطالب في مصر. علاوة على ذلك، تكمن مشكلة البحث في إهمال تصميم المنطقة المادية المحيطة بالمبنى المدرسي وعدم ملاءمتها للاحتياجات المختلفة للطلاب. تبعاً لذلك، تظهر النتائج أن هناك علاقة بين البيئة المادية للمدرسة وتقييم سلوك الطالب. لذلك يجب أن يوجه تصميم وتخطيط بيئة التعلم الحضرية مزيداً من الاهتمام وذلك لخلق بيئة تعليمية تمكينية تعزز السلوك الاجتماعي الإيجابي، خاصة في أماكن التعلم الحضرية في المدارس الثانوية .

**الكلمات الرئيسية:** المساحات الحضرية، سلوك الطلاب، أماكن التعلم في المناطق الحضرية، ممارسات الطلاب، البيئة المادية، المدارس الثانوية.