

CHILDREN'S IMAGE OF SCHOOL BUILDINGS

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1. ABSTRACT

This study is based on a paper and pencil method of over one hundred illustrations drawn by children to represent the image of their own schools. The method is borrowed from the work of Lynch (1960) examining the imageability of central Boston, Jersey City, and Los Angeles where nodes, edges, paths, districts, and landmarks were found to be the illustrative elements in people's mind. However, the children's drawings may express not merely perception of the physical setting but also activity patterns and values. The displayed values and experiences that are not related to the physical environment were filtered by verbal communication with children. A comparison between children's drawings of distinctive school designs aims to enrich our knowledge about children's perception of architectural components, and help understand their experiences in relation to the *affordances* of the physical setting.

2. INTRODUCTION

As I remember myself in the primary stage of school, anyone bears feelings towards the school buildings or its components. The gate, the court, the principal's office were all connected to certain feelings or images. As many schools are built on tiny lands or inserted in modified residential buildings, this paper highlights the relationship between the real world of the school buildings and the way a child perceives it.

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"*Mental maps*" or "*cognitive maps*" were the outcome idea of the early research of relating the individual's image of the physical environment with certain clues. At first, psychologists were looking for systems that the people use of navigation which allows them to move from point to point². Lynch's "*Image of the City*" (1960) was a significant contribution to the study of cognitive mapping. It revealed a concern with the practical of imagery findings to urban design. His study about central Boston founded new methodologies for both eliciting images from people's mind and describing them. Applications of mental mapping could serve in many planning fields of work like personal mobility in the city, mastering the public transportation system, orientation and path finding, legibility of subway maps, ...,etc.

It is commonly accepted that individuals perceive same images differently, according to the past experiences. Other factors such as physiology, socioeconomic status, value system, sex, age were found to be of great importance too. Although this paper investigates individual imageries, it presupposes that there is a public image within a group of children of a certain age which is the overlap of many individual images. This assembled image represents a perceived environment that may be entirely different from adults' images (which includes the group of architects and school managers.)

This paper tries in the first place to adopt Lynch's techniques to elicit images from young children's mind in the architectural domain. Lynch, however, was mainly concerned with identifying known image elements, rather than attempting to discover why they were known³. However, imagery in this study will help provide input information to design school buildings that are compatible with children's perception in a more extensive scope of awareness. Lynch asked respondents to draw a quick map of central Boston. The elicited maps, then, reflected cognitive geographic elements. We would rather extract emotional experiences about the physical environment in addition to designed items legibility.

According to a number of studies that have focused specifically on the relationship between image and activities⁴, this study assumes some degree of congruence between a child's image of his school and his activity space. On the one hand, the children have accumulated various experiences in relation with every part of the school. On the other hand, we can not ignore the role of the régime that settled regulations for the use of spaces in a set of obligatory activities.

² Interest in mental mapping began as early as the work of Gulliver (1908) and Towbridge (1913). The latter proposed a domicentric approach where space is structured in relationship to the home base. Trowbridge pointed out the frequent loss of compass orientation among soldiers on battlefields or when travelling for long distances.

³ J. Douglas Porteous: *Environment and Behavior, Planning and Everyday Urban life*. Addison-Wesley Publishing Company, Inc. Philippines. 1977. p. 120.

⁴ Donald Appleyard conducted a search for the reasons why buildings are imageable in a study of Ciudad Guyana, Venezuela (1969). Using the Lynchian techniques, analyses of the environmental knowledge of 300 respondents about 200 buildings in the city revealed a weight for *use and significance attributes* in addition to *visibility attributes* and *form attributes*.

3- THE METHODOLOGY

It was important to select the physical settings of the study to be distinctive in either concerning their architectural forms or the spaces between buildings to generate an effective comparison. Students of fourth grade in each school were asked in the drawing class to express their schools from a personal view. A number of revealed drawings showed some incomprehensible items. Therefore, it was necessary to interpret the children's perception through a verbal communication as a complementary method. Moreover, the flexible unstructured interviews enlightened the children's feelings towards the architectural components.

4- DESCRIPTION OF THE PHYSICAL SETTINGS

The author determined five schools for this study:

- 1- Baby Home School, an English language primary school in Zamalek.
- 2- College De La Salle, an all stage French school that was founded by the of Christian missions from more than 150 years and was extended in the beginning of this century.
- 3- El Ertekaa, recognized as Om EL Soltan, a historic school built since 1328 as a part of Om El Soltan Shaaban mosque.
- 4- El Sheikh Saleh, an old private house rented by the Ministry of Education who transformed it into a small primary school.
- 5- Khaled Ebnel Walid, a typical governory primary school in EL Darb el Ahmar district.

The five schools are located in Cairo. However, they are enormously distinctive in their size, building forms, spaciousness, and the children socioeconomic status. The first, "Baby Home" school, is a private language school located in Zamalek, one of the wealthy districts of Cairo. The school has been settled in an old prestigious house where its administration occupied a part of it. The contemporary main class building has been built on the expense of its garden space leaving a small paved courtyard for recreational breaks.

The second school, "College De La Salle," is a huge one. It consists of divisions for different stages of education from kindergarten to high school. Each division occupies an independent building with an inspector's office, forming together a multistory complex. A big theater over which a tremendous church intermediates the school buildings in a unique building form. The church serves as a mark of the school that can be seen when approaching the entrance. The design has been integrated by spacious spaces that provide play fields for different divisions. Good lighting is an important characteristic of classes because of the wideness of spaces. The side walls' large glass windows in the classrooms assist such a good lighting.

The third school is " El Ertekaa." The buildings have not been changed since they were built more than six hundred years ago. Because of the cohesion of the mosque and the knowledge of Quoran and Islamic topics in the Mamelouks times,

schools were used to be a part of the mosque. Although Om El Soltan was initially built as a school for Shafei and Hanafei Islamic routines, it is transformed nowadays into a mosque.⁵ The actual school is merged with the *kottab*⁶ in the upper floor, and kept the main doorway as an entrance. The three classes in the second floor were abandoned and left messy lately. The nine class school is separated from the main hall of the actual mosque by a locked doorway. The vaulted classes suffered from a lack of natural lighting because of the dusty narrow openings in thick walls. A little space between classes is used as a recreational playground.

"El Sheikh Saleh", the fourth school in this study, is located in Bab El Wazir too. The school is initially a single story house which was transformed into a school a long time ago. The school and other three houses are grouped on a common space that is related to the main street by an arch. The school is a compound of a number of rooms that are either used as classrooms or administrative rooms. The main entrance of the school leads directly to the poorly paved intermediate court. A part of the court is semi- shaded by a climbing tree. Another unpaved court is behind two of the classes and bordered by the high neighbors' walls.

Finally, "Khaled Ebnel Walid" is a school that represents the public typical primary school buildings spread everywhere in the country in the sixties. The school is composed of just one multistory building for classes, a sandy courtyard and a number of toilets to serve the children in the break time. The school has a fence wall that protects its privacy from the street. A narrow space between the fence and the class building is planted and shaded with the only tree that exists in the school and a flower bed that should be planted by students.

5- RESULTS AND DISCUSSION

5-1 Results

The drawings revealed a number of items repeatedly. According to what interested the subjects, their images were scored for:

1. Buildings of any use.
2. The entrance gate
3. Vegetation.
4. Class activities
5. Outdoor activities
6. Flag salute.
7. Teachers or administrators.
8. The Egyptian flag.

The items were scored basing upon how often the drawings included them (table-1). Therefore, the higher these measures is for an item, the greater its significance is for children. However, an item could be accentuated either by its proportion enlargement compared to the entire image, or by drawing it with expanded

⁵ Aly Basha Moubarak: (in Arabic) " *Al -Khetat Al -Tawfikia Al-Jadida Lemisr Al-Cahira,*" Part 4 "*Jawame' Al-Cahira.*" The General Egyptian Book Institute - Second Edition,1980. First Published by Boulak 1305 Hijri. P.126

⁶El kottab is a place where young children learn Quoran

details. For instance, the Egyptian flag in the drawings of College De La Salle (drawn only in 16 % of drawings) is noticeably small compared to the flags in other schools (92 % of their drawings). Similarly, buildings of the same school (96 % of drawings) are large and highly detailed compared to other schools where buildings (64 % of drawings) have no significant details .

Buildings in general have the higher score of significance (79 % of total drawings.) The Egyptian flag as an important feature in schools is the second important item in children's perception of schools. The outdoor activities are important too (46 % of drawings.) The less important item was found to be the class interior or its furniture.

	El Ertekaa	Khaled Ebn El Walid	Sheikh Saleh	Baby Home	College De La Salle	%
Total No.	26	8	14	14	51	100
Buildings	15	7	6	12	49	79
Gate	15	7	9	7	5	38
Vegetation	2	7	10	7	6	28
Class actv.	11	-	-	-	3	12
Outdoor act.	18	4	-	8	23	46
Flag Salute	6	4	13	6	-	26
Teachers	10	6	9	4	3	28
Flag	22	7	14	8	8	52

Table- 1

5-2 Discussion

The recent results appear to reveal a great significance of both architectural school buildings and the playground space for children's perception. In fact, the three first schools' children in the above table can be classified in a lower socioeconomic class than those of the two last schools, and thus, should have different backgrounds and values. Therefore, it is difficult to ignore the differences of expectations of *affordances* of the physical environment in each setting. For instance, the children in College De La Salle who are used to sit in a clean wooden desk will be certainly shocked by the furniture of an unmaintained school. According to Lynch, the mental image has gained identity and organization through long familiarity and which is completely distinct from the real object. He argued that one may find objects easily on what seems to anyone else to be totally disordered work table.⁷ The comparison study of different school contexts allowed to clarify a number of psychological facts concerning the scored items.

⁷Kevin Lynch: "The Image of the City," The MIT Press, England, 1960. Twentieth Printing, 1990. P.6-7.

5-2-1 The Buildings:

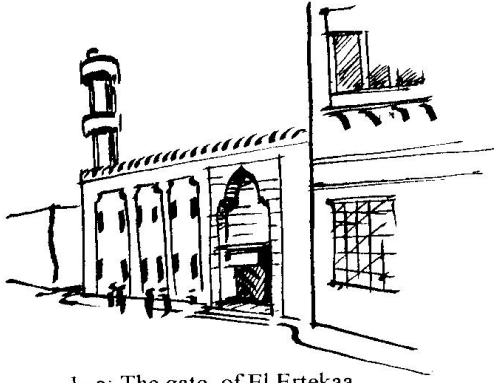
The form and shape of buildings are more imageable when they have a distinctive architectural form and well maintained. In addition, the school parts with a long and repetitive visibility are the most memorable in a subject's mind. Many students have drawn the most visible part of the school from their class and rather than the building where they are sitting in. The spaciousness of the playground in College De La Salle allowed the children a complete facade of the fronting building of the secondary division. On the contrary, the multistory entourage of El Sheikh Saleh School had a stronger visual effect than the classrooms had. Visibility is of great influence, but we argue that other senses emphasize the perception as well. In that school, one can easily smell a neighbor's cooking or listen to his slightly loud television set. Therefore, because of losing identity, the school buildings would have a minimized significance in the children's drawings.

An additional point is that a number of students in El Ertekaa and El Sheikh Saleh were noticeably shy to represent their school buildings. The inferiority feeling concerning the school is contiguously spread even between the teachers and the administration members who refused photographing the school. Stone bricks which were included in most of El Ertekaa drawings reflects an awareness of children of being in an *old* building rather than a *historic* building. A student who freely displayed some cracks in the walls of his class has been blamed by a girl in the same class. In fact, the school in reality is conflicting the image they carry for schools. On the contrary, students of College De La Salle showed their proudness about their school buildings in 96% of drawings.

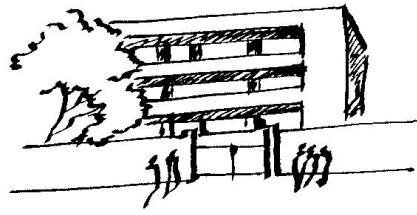
5-2-2 The school's Gate:

The gate has been shown to be extremely important in a school's image. Regardless to other variables, the gate worked as a title for many children's drawings, and even, for some of them, was the only item drawn to exhibit the whole school. On the one hand, the gate can not be separate from the architectural composition, especially when it is physically close to the main buildings or when it is highly visible from the inner spaces. On the other hand, it contributes to cast a psychological structure or a pattern relation of the entire school and to the rest of the world. It represents the border between different attitudes or ways of life, and sometimes a transition of authority from home to teachers and vice versa. The gate of Baby Home School, for example, is not mere a spatial means of safety (which is not really perceived by the children), it is a device of indicating entrance and departure time that should be respected even by the parents (seen by their children as powerful) .

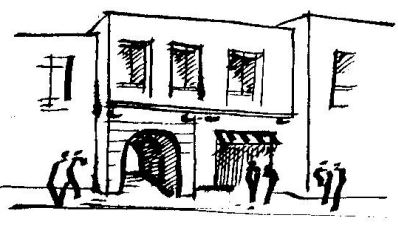
Because El Sheikh Saleh's School was initially built as a house, it shared a main gate that served a group of attached houses. Therefore, the gate was designed with a character of just a private residential doorway. Unpredictably, the majority of the subjects did not ignore the gate that they do not like (64%), but instead they included a redesigned gate which is closer to the image of a more familiar school's gate.



1- a: The gate of El Ertekaa



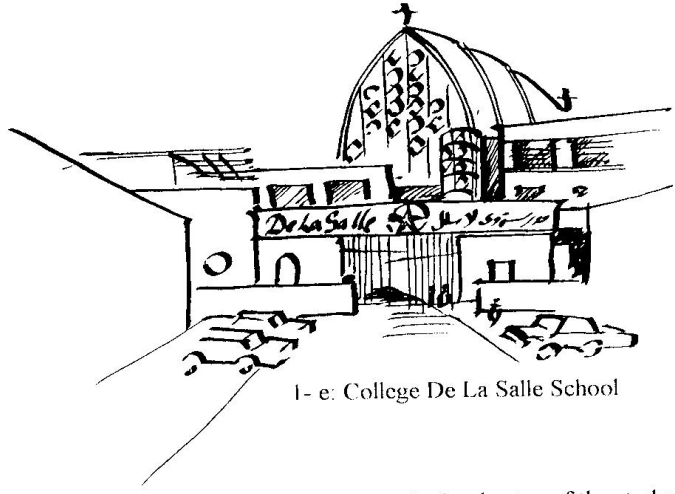
1- b: The gate of Khaled Ebnel Walid



1- c: The gate of EL Sheikh Saleh



1- d: Baby Home School



1- e: College De La Salle School

"fig. 1" Views of school gates of the study

5-2-3 Vegetation:

Vegetation is very limited because of a general inadequacy of school areas. It is presented in the schools of this study by one or a limited number of trees. Although this item is not really considerable in reality, it is presented in 28 % of the total drawings. It is mostly represented by the children of Khaled Ebnel Walid's school (87%.) This is because the planting process of a limited area in the entrance of the school is the students' duty. Thus, planting occupied extensive areas in Khaled Ebnel Walid children's drawings. In fact, vegetation is appreciated by children when exists in a school. A single climbing tree in El Sheikh Saleh's School is presented by 71% of its drawings. In El Ertekaa, there is no plants but just two flowered small pots in the entrance which are still presented by 8% of the children.

5-2-4 Class Activities:

The interior of classes is exceptionally presented in the drawings of El Ertekaa School (42 %). Most of the other schools' children (97 %) did not see their schools as indoor activities. Although the students spend more than six hours in classes and only about 30 minutes in recreational breaks, the playground is much more imageable. In fact, the building forms and facades build most of the image when expressing a general view of schools. In other words, the indoor activities tied to the enclosed interior of classes, even if it represent the main objective of being at school, had a little imageability.

5-2-5 Outdoor Activities:

The playground is most often expressed by the activities that occur in it rather than its shape. However, in College De La Salle the playground is often presented by the soccer, volley ball, or basket ball fields which exist in reality. The spaciousness of latter school allowed a display of more dynamic activities in the drawings (sport games, running,..., etc.) More over a number of students presented the whole school as just a soccer game. On the contrary, the outdoor activities in other schools were presented in very static situations. In Khaled Ebnel Walid, half of the children expressed planting flowers as the only outdoor activity. Socialization can be a pattern of activity that takes place in the playground as well.

5-2-6 The Egyptian Flag:

The flag is a common item in the children's drawings. It is included in more than 87% of the drawings of Khaled Ebnel Walid School, and the proportion reached 100% of the drawings of El Sheikh Saleh School. A number of children expressed the importance of the flag by drawing the act of salute in the morning. On the one hand, it is a way to express the playground space. On the other hand, the flag is a feature which is specially related to schools more than any public building in the Egyptian contexts. Thus, it plays a role of a symbol of the school. In College De La Salle, nor the flag nor the fidelity star (the real symbol of the school) could play the role of the symbol. But the clock in the secondary building or the giant church with the cross on its top could considerably be symbols instead.

6-CONCLUSION

Considering the children's image of a school as only the architect's responsibility is not fair. The image of a school is a product of a complicated combination of physical factors (architecture, and landscape) and human factors (students, school's administration, and teachers). The architect, when understands the children's perception, can only initiate the tools of providing a better lovely school image. In this paper, the school image can be analyzed into two components:

- places for performing physical activities.
- structures that fulfill psychological needs.

Places, can not be apart from activities taking place in them. The most important activities can define places in a school are the following:

- Study work, which takes place in the classrooms.
- Play and outdoor activities, that occur in the playgrounds.
- Socialization, which mainly takes place in the playgrounds too.

The playground is found to be the most important place in accordance to the activities seen by the children. It is the physical environment where the children play, talk, stand in lines, and salute the flag. The classroom interior had a less importance in children's image of the school.

The psychological part, as the second component of the school's image, is based upon two elements: the teachers and administrative persons, and the physical environment composing the school identity. The human factor is expressed in a number of children's drawings, but as we are concerned with the physical environment, we can focus on the following items:

- The architecture of the school.
- The school's gate.
- The symbolic features.

First, the architecture presented in the buildings' facades and internal views is a source of proudness and self satisfaction for children, and consequently loving the place. Secondly, the school's gate extremely determines how respectful the school is. Its toughness, scale, or even the standing security men are all parts of the gate. Finally, the symbolic features play a role in identifying the image of the school. A feature can be an unusual building, a flag pole, a clock, or may be a unique tree.

One final point should be emphasized is that of the visibility and credibility of the physical setting. An image, when not derived from the perception process may be self-generated by the subject (for example, by imagination). Either the places where activities occur or the symbolic features should be visible by children to be retained in mind as the architect wished. For example, the visibility point of a child may be too low to allow him to see all the school parts of a facade that an adult can see. The facade then, for him, will be definitely different than what we expect. It can be just a fence and a gate.

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