

## **Landscape Design Principles for Visually Impaired Schools**

**Prof. Ahmed Samir Kamel**

**Professor of Interior Design Furniture Faculty of Applied Arts, Helwan University**

**Prof. Dina Fekry Gamal**

**Professor of Interior Design Furniture Faculty of Applied Arts, Helwan University**

[dinafekry@hotmail.com](mailto:dinafekry@hotmail.com)

**Researcher. Ayat Ahmed Mohamed**

**Master`s Student- Interior Design and Furniture Department, Helwan University**

[ayatahmed\\_des@yahoo.com](mailto:ayatahmed_des@yahoo.com)

### **Abstract**

The building consists of a series of spaces that interact with each other, forming the school building which contains/ encloses the educational process, as well as a series of activities that control the design of the school spaces. The design of these spaces depends on the nature of its intended activity and the requirements of this activity. The elements, requirements and design of the educational building vary according to the educational need, as well as the type and nature of the disability.

Recent attention to the care and education of visually disabled children and the establishment of specialized educational institutions that provide the best possible services led to the emergence of other roles of the building than education; emphasizing the rehabilitational role. From an educational point of view, the other senses of the visually disabled child play an important role as communication tools with the surrounding environment, helping him/ her to gain the necessary experience and knowledge.

Since existing schools are not suitable for integrating disabled persons with their ordinary colleagues, the architectural and physical space of the schools must be tailored to fit the needs of this group, so that children with disabilities can continue to be educated alongside their ordinary colleagues in order to integrate them into society and reduce their overall dependence on others both within and outside their families.

The subjects directly related to the design of open spaces in schools for the visually disabled have been studied, and the impact of these subjects on the child's behavior and on the improvement of his/her functions as a user has been determined. Furthermore, this research studied the design elements of the open spaces and external location and their relationship with the visually disabled child as a user, the extent to which they affect his/her development, upbringing, interaction awareness of the surrounding place, and the extent to which he/she meets his/her needs.

The research paper deals with the site coordination elements of the visually-impaired schools and the impact on student performance in the educational building. This study relied on the descriptive method/ model for determining the design foundations of the open spaces in the educational building.

### **Keywords:**

Visual Disability - Design considerations– Landscape.

## **Introduction:**

The recent decades have witnessed an increasing interest in the care and education of visually impaired children and the provision of special educational buildings to achieve the best services. Despite this, the role of institutions has been limited to the educational role only without the rehabilitation role, and also with neglect of the external environment of the buildings and attention only to the internal environment, which led to the presence of many dangers and obstacles that children face and hinder their integration with the environment, and the visually impaired child in the early stages of education needs the means and methods of qualifying him and developing his sensory experiences because they are the basis of his ability to learn, move and learn. Integration into the environment around him, by training and developing the other senses functionally.

The coordination of the site has a major role in the integration, interdependence and coordination of the surrounding external environment in a way that serves human requirements and needs and meets the user's desire to approach the natural components of the environment. For the visually impaired, the site coordination aims to create an external environment devoid of risks, and potential risks include slipping or falling, which leads to avoiding some activities due to his fear of dealing with the external environment. This is done by taking into account the design principles of the elements that must be available for the needs of the visually impaired. In this study, an attempt is made to make the external environment and the general location in the school around the child clear and understandable, and from which he can predict the steps he will take and his daily movements and put him in less confusing situations. Without the help of his family and without exposure to risks and harm.

## **Research Problem**

- The research problem arose by observing the insufficiency of designing open spaces for schools for the visually handicapped to many design standards and foundations, which affects the efficiency of the child's performance.

The problem of this research lies in answering the following questions:

- 1- Does the visually impaired child perceive the external location?
- 2- What is the impact of site coordination on visual impairment?

## **Research Importance**

Addressing a real problem from which a marginalized group in Egyptian society suffers.

- Studying the design standards for coordinating external spaces for the visually impaired.

Linking the foundations of site coordination and its impact on achieving the natural comfort of the user in the educational building.

## **Research Aims**

- Studying the foundations of site coordination for schools for the visually impaired in Egypt, to help the visually impaired child interact with the surrounding environment.

- Shedding light on the importance of site coordination, basics and functionality and their impact on the user and his comfort.

**Research Methodology:**

The research methodology can be focused as follows:

The analytical descriptive approach: by describing and analyzing the foundations and criteria for designing and coordinating the site for schools for the visually impaired and the impact of disability on the child's needs in the educational building.

**Results: -**

- Coordination of the site plays an important role in adapting the visually handicapped to the surrounding environment.
- Paying attention to the principles and foundations of site coordination that help achieve functional values that help the visually impaired to interact with the environment around him.
- Different floor textures help the visually impaired move easily and safely.
- The presence of interesting paths in the educational building stimulates a sense of discovery and increases the ability to direct by including an interactive character to enhance teaching, learning and socialization of the visually impaired.

**Recommendations: -**

- Choosing a good and suitable location for the school because of its impact on avoiding problems that may face the architectural and interior designer.
- Redesigning existing schools, and working to find appropriate solutions for each of them separately to overcome the problems in them and to raise the level of service provided within them.
- Involving the local community with the aim of integrating people with disabilities into society and improving their ability to manage themselves in a safe environment.
- Studying new approaches and visions for site coordination and the need for plants to be present in interior design or space

The exterior surrounding the building because of its important role in purifying the air and moderating the temperature.

**References:**

- 1- 'iibrahim , jihan 'ahmadu: "tahdid mustawaa eamil al'amn wal'aman dakhil madaris almueaqiin basariana biaistikhdam alhasib al'ala" - jamieat alqahirat 2007.
- 2- salima, samar hindawiun "madkhal litansiq mawaqie madaris almakfufin wadieaf albasar mae dhikr khasin limahiaat al'iidrak alhasaa" jamieat alqahirat - 2014.
- 3- 'abu daghar, shirin faruq "tansiq almanatiq aldaaeim likhususiat altifl kamustakhdimin" - jamieat alqahirat -2016.
- 4- eabd alghinaa, hudaa jamal "asas tasmim watansiq alfaraghat alkharijiat altaelimiati bialmadaris alaibtidayiyat faa masr" - jamieat alqahirat -2017.
- 6- jamil, hind fuad "duwr eanasir tansiq almawqie faa 'iithra' alqiam aljamaliat walwazifiat lilfaraghat almadinati" - aljamieat al'iislatiati -ghazat -2015.
- 7- saeid , dina eid "al'astuh alkhadra' fi al'iiskan darisat lizarieat 'astuh almabani alqayimat fi almanatiq dhat alkathafat alsukaaniat alealiqati" - jamieat alqahirat -2014.

- 8- alsayidu, eabdalrahman maeruf "dirasat tathir al'ietibarat altasmimiat lidhawaa alaihtiajat alkhasat basariana faa almustashfayati" - jamieat alqahirat - 2016.
- 9- salim, samar hindawi "tawafuq mutatalabat dhawi alaihtiajat alkhasat alkharijati" jamieat alqahirat -2008
- 10- sayid, samah 'ahmad "duwr tansiq almawqie faa tahsin biyat almanatiq alsinaeiat mae dhikr khasin lilmuealajat albiyyat lilmudun alsinaeiat faa masr" -jamieat alqahirat -2017.
- 11- eabd alrahman , 'iikhlal muhamad , ""athar duef alsame waduef albasar ealaa shakhsiat almueawq" - majalat aleulum alnafsiat waltarbawiat - jamieat wudin madani alkhasat , alsuwdan - adhar 2016.
- 12- eabd alkarim , 'ineam eabd alghanii , "asus tansiq almawqie wa'atharuh ealaa nizam alraahat albiyyat liltasmim aldaakhili". - majalat aleimarat walfunun waleulum al'iinsaniat - almujalad alkhamis - aleadad althaalith waleishrun - 2020.
- 13- 'iibrahim hasan 'iibrahim: "eansir tansiq almawqie wadawruh fi rafe kafa'at al'ada' alwazifii lilkhadamat fi alhayi alsakanii" bahath manshur fi majalat jamieat eayn shams - kuliyyat alhandasat - jamieat eayn shams - aleadad 1-38-2003