Towards a Universal Design for Public Schools.
“Al-Orouba Schools Complex in Aswan City as a Case Study”

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Abstract:
In recent years, the Egyptian state has paid special attention to education and establish schools and the direction of special-needs integration into schools and society, as 2018 was declared as the year of disabled persons, based on that; a law of the rights of disabled persons was enacted in early 2018, whereby preparing the educational facilities to receive all users and provide them various services. And given the obstacles and problems, the users of public schools suffer from it, to integrate different groups in schools that the school community accept all kinds of disabilities such as (physical, psychological, and mental) and to strengthen self-concept in addition to human, legal, educational, and economical considerations. Welfare and attention should also be provided so they can spend educational and entertaining time without depending on others or the need of a private companion so that they can’t feel different from other students and therefor moving easily and freely in complete independence without any physical obstacles in the internal environment of school. And that’s what the universal design seeks throughout creating universally designed products that can be accessed by persons who have a wide range of capacities, disabilities and other characteristics, and the outreach to necessary information effectively regardless the circumstances surrounding or the sensory capacities of the user. Moreover, make the products more usable for all users, not only the disabled persons.

Statement of the problem

• The increasing number of the disabled and people with special needs comparing to the existing establishments especially the educational ones owing to the demographic changes that occurred, resulting in more elder population and with more disabilities.
• The architectural designer during design process focuses on the healthy users and neglects people with special needs, that group which could be students, teachers, administrators, or visitors. That’s why it can’t be marginalized or ignored.
• The architects and construction engineers in the world generally and in the Arab world specifically do not give the universal design the adequate attention due to the lack of precise legislations include all the blanks of schools and educational facilities, besides ignoring and the lack of proper training, moreover, because of the non-inclusion of the principles and applications of universal design in the architectural and engineering education.

Objectives of the study

The main purpose of the study is to assess schools in the light of the concept and principles of universal design, in order to do that the study addressed the following sub-objectives:
• Examine the design bases and criteria of the educational institutions in Egypt.
• Discuss education in Egypt, its stages and types.
• Investigate the current status of the internal blanks of public schools in Aswan governorate and compare them to the principles of universal design by using the checklist.
• Determine the deficiencies in the public educational buildings in Aswan in keeping with needs of disabled and elderly persons and people with special needs of administrators, teachers, students, and visitors.
• Provide a summary of the procedures which could increase and improve accessibility for disabled people and others.
• Present practical recommendations about increasing focus of universal design and circulate it in all areas.
• Educate a large group of people about the concept and importance of universal design and what features that make a design more flexible. That group is represented in: architectures, teachers, designers, administrators, and investors.
• Achieve a facilitating physical and educational environment universally designed to accommodate all school users and encouraging and stimulate them to learn, participate, and evolve, moreover, to use the various educational tools and different technology by all users.

Methodology of the study

The study is based on more than one approach such as descriptive analytical approach and inductive approach throughout analyzing and identifying the shortcomings in the design of “Al-orouba public school complex” in Aswan as a case study. The study is consisted of two parts; the first one addressed the theoretical framework through which a checklist of school-assessment from the perspective of universal design has been achieved. The second part was “applied analytical framework” in which the information were gathered and some photos were taken as factual samples of the study, with utilizing the horizontal plan diagrams from the general authority for educational buildings in Aswan and then apply the
checklist on the case study building.

**Conclusions**

As a conclusion to the above, it turned out through surveying the three main elements of the school that Al-orouba school complex achieved inclusion by 53% percentage; this indicates moderate availability of the universal design approach of the internal environment of public schools, which calls for paying more attention to public schools in Aswan and make proposals to resolve the problems of the complex in the case study. It also indicates to the importance of conducting analytic survey studies include other schools inside the governorate to determine the main obstacles that face users and trying to avoid them in the next designs. With consideration for rehabilitation of the existing school buildings accordingly with the requirements and criteria of universal design, and also awareness-raising of the designers, architects, and engineers to pay more attention to apply the universal design approach in all operations and design phases in order to fit everyone, taking into consideration future changes while designing and establishing the different types of educational buildings.

**References:**


**Keywords:**

Universal Design, design for all, Accessibility, Public Schools