

## **An Explanation on the Perception and Learning Skills of Architectural Design for the Blind; Case Study: The Blind Students of Basir Art Cultural Institute of Tabriz**

### **Abstract**

Human skill is considered as an effective factor in the growth and development of individual and social life, which can play a significant role in his relationship with the surroundings of mankind. Finally, self-restraint training leads to the improvement of the quality of life and provides ideas for better living. The discussion of architectural and urban space design is one of the ancient and primary problems of mankind, which until today has created diverse thoughts and views in philosophy, art and architecture. The sense of sight is considered as the most powerful sense and plays a significant role in understanding and deliberating the other senses. The importance of the level of skill training of the blind and the mechanisms related to them, as well as the participation of this group in the research process for intervention and plans to improve the quality of life of the blind should be taken into account. In the present article, in the direction and in the form of an experimental activity, this category has been addressed via a descriptive and analytical method and based on quantitative and qualitative data. First, by relying on the method of comparative analysis of the tests before and after the training courses, and then to check the normality of the distribution of the variables using the Shaypro-Wilk test and in order to check the skill level of the blind in the pre- and post-training courses, the "Khidu" test was applied, finally to conclude and determine the significance level of the courses, the sign test was used and analyzed. The results of these investigations expressed that using the methods of preliminary education of architecture and urban planning in this matter can have a significant effect on improving the quality and quantity of architectural and urban space design for the blind. Also, these results proved that the quality of life of the blind can be improved by using appropriate educational methods.

### **Research aims:**

1. Increasing the level of perception of urban space and architecture for the blind.
2. Investigating the function of education on the level of perception and skill learning of the blind.

**Research questions:**

1. How to improve the quality of architectural and urban spaces for the blind?
2. Can the skill training of blind people in architectural and urban space design improve the quality of life of this group?

**Keywords:** Blind education, skill training, perception, Urban architectural space.

**Introduction**

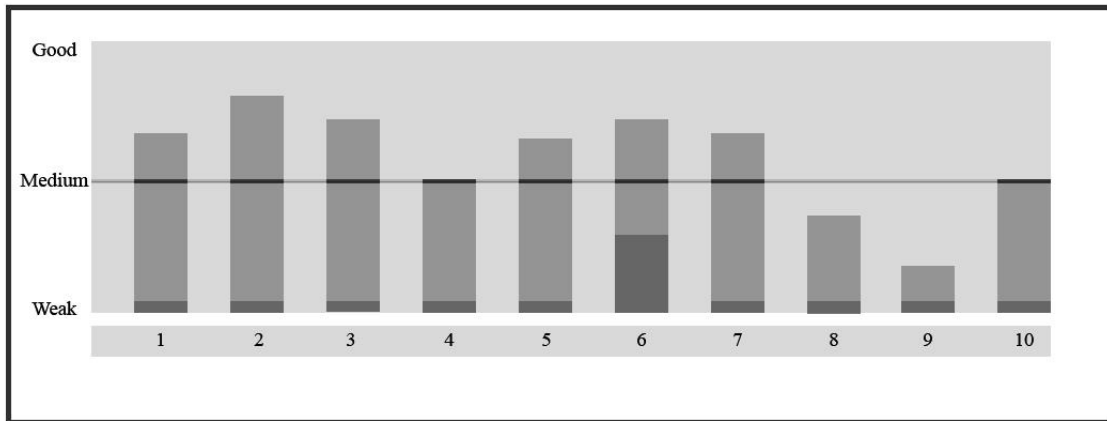
Perception is a biological and psychological process of acquiring information from the environment. Environmental perception factors have been classified in various means by different groups of psychology and architecture; Edward Hall divides the perception of space into intermediate receptors including eyes, ears, nose, and indirect receptors consisting of skin and muscles. In summary, perception can be considered as a process during which a person receives information from the surrounding environment through his/her senses and then received data is analyzed and evaluated through the brain. The environment is a source of information. In the interaction between humans and the environment, the first question that arises is where can a human being gain information and the primary answer for this inquiry is from the surrounding environment. A person's feelings convey information about the nearby environment; consequently, one can review the information that emotions have presented. The detection ranges of sensory organs, individual abilities along with other factors that play an important and decisive role regarding feelings and perceptions. Also, according to special conditions, some senses are more important than others; among these conditions, the disability of people in a sense or presence is different in various cultures. The global changes and developments move society in a direction that requires people to acquire knowledge and skills to deal with the challenges ahead, and this requires paying attention to people's learning since it is believed that most of today's developments are the result of knowledge and skills and the basis of acquiring knowledge and skills requires education. Based on the mental model governing the learning process, the learner receives a wide range of visual information by experience and through his/her senses, among which the sense of sight plays a major role. All these received information are recorded in the sensory memory. At this stage, the learner or in other words the observer pays attention to a part of this image. Blind

students prefer scientific, reflective and organized learning styles. Since blind people at all times, in their minds, have a picture of the environment and what they want to do, they think before they take action and act according to the little organizations they have created in their minds. Nonetheless, another question raised by the upcoming research is the relationship between education and the ability to improve the skills of the blind in architectural and urban design, and how education can play a role in this regard?

Regarding the topic of the current research, there has been no independent work in the field of this research. However, some works have investigated architecture for the blind. Farzin (2009) in an article titled: "Perception of blind people regarding architecture and design criteria and patterns" investigated how to design for the blind for concerned architects. In an article entitled "Explaining the Process of Architecture Perception for the Blind" by Etminan Rafsanjani and Rashidi (2016) they investigated the effective indicators in the process of perception for the blind. In the aforementioned works, the topic of this paper has not been discussed with the exact statistical population. Therefore, the current research examines this issue in a quantitative and qualitative way.

## **Conclusion**

Examining the test scores before and after the training and analyzing the comparison chart below shows that preliminary training has a significant effect on the skill of designing architectural and urban space for the blind. This result proves that blind people have a high potential to enter the employment market or skill training. This problem can indicate that with preliminary planning and training, the skill level of blind people who have the same rights as other citizens of our country can be improved, and in the direction of providing solutions for the design of architectural and urban spaces and solving the economic and social problems of this group can be improved.



From a theoretical and functional point of view, and with regard to the goal of improving the quality of architectural and urban spaces in the society, it is possible, in the first step and on the basis of efforts, based on appropriate and necessary skills training from the environment and what is happening around and from the abilities of people; to contribute to proper design and create a reliable and unique space for those in need. The quantitative and qualitative results of the research conclude with the formulation of methods that can be expressed in a better understanding of the universe and the creation of suitable architectural spaces for all segments of society formulated in the form of new and evolving laws and standards that can be cited in this direction.

The suggestions presented based on the results of the research can be analyzed from several different dimensions, which are explained below:

Social dimension: the presence and effective role of the blind in society and a better understanding of the universe and the creation of suitable and social spaces for all sections of society.

Psychological dimension: building self-confidence and using people's abilities to contribute to proper design and creation to achieve comfort and well-being in life.

Human dimension: improving the quality of life of blind people in society.

Economic dimension: Teaching the skills of designing architectural and urban spaces to the blind can not only affect their spatial perception and lead to their participation in the process of designing architectural and urban spaces; but economically, can also create employment and improve the quality of life of this group.

Also, based on this research, the following results can be explained as part of the results obtained directly or indirectly from the research:

1. The results of the tests before and after the training, both through the examination of the average scores given by the professors (qualitative) and in terms of examination by the t-test (quantitative), show that teaching the blind increases their skills learning process.
2. Training by considering physical conditions can lead a person to a new skill; a skill that in many ways can improve living conditions and reduce problems.

As a general result, it can be stated that without the effective presence of the blind in society and the role of this group in the process of designing architectural and urban spaces, it is not possible to reach a comprehensive answer in relation to solving the problems and needs of this group; Therefore, correct skill training in the direction of architectural and urban space design can develop the high potential of the blind class to solve society's problems and use their talents in the best possible way. Also, by learning skills and entering the employment market of this group, potential improving the living conditions of this group is conceivable.

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