



Research on the Design of Blind Public Space Based on Maslow's Hierarchy of Needs

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ABSTRACT

Nowadays, with the continuous updating of contemporary emerging design ideas, it is the key to the integration of human warmth and social humanities in contemporary architectural culture by integrating the physiological and psychological needs of special people into the design of public space. The design starts with the special group of blind people, and explores the new ideas of public space design through Maslow's theory of demand hierarchy.

Keywords: Blind people; Activity center; Senses

Introduction

China is the country with the largest number of blind people in the world, with about 14 million [1]. The blind roads that are everywhere from the road are destroyed, the private cars are blocked, the needs of the blind are unhelpful, and so on, all of which show that we are not paying too much attention to

this vulnerable group of the blind. The blind schools that can be seen on the market can only Choosing acupuncture and massage, music and other industries, and most of the blind families in China are unable to face the high tuition fees of studying music and art subjects, which directly leads to almost all blind people, who can only choose a simple industry such as acupuncture or massage. There are only a handful of public spaces available for the blind to communicate and use, and there are also shortcomings such as irregularities and impracticality. To analyze and process environmental information in space, you must use the interaction of other senses. In the design of public space, the reasonable analysis of the perceived behavior of the blind and the effective use of other perceptual abilities provide a basis for the design of

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the public space that satisfies both the function and the emotional needs in the humanized design situation.

Visually impaired people often include both blind and low vision. This study is aimed at the blind population. They live in the dark, relying on other senses and cognitive skills. Although there are differences between different individuals, this group of blind people also has The common physiological characteristics, a clear understanding of the physical characteristics and needs of the blind, can provide reference and basic information for the blind people to use the public space conveniently.

1. Behavioral perception analysis of blind people

Due to the compensation effect, the general blind person has more developed hearing and tactile abilities, and also has a certain sense of adaptation. Feeling is an activity between human psychology and physiology. Since people's understanding of matter begins with feeling, the way of behavior is directly related to feeling. The sensory system of the blind is caused by the senses of hearing and touch, so they have a certain adaptability to the response of these feelings. It is because of these adaptability, subjective feelings and behaviors in public space design. To be able to better adapt to objective environmental information, blind people can feel habits and feel comfortable [2]. For the blind design, they should consider their needs, habits and perception levels. It should not be too complicated, and should not be too difficult to adapt. Through the environment of public space Factor analysis, based on the blind person's perception path, the following survey, as shown in Figure 1, the ground environment, wall interface environment, barrier-free facilities, blind people's tactile needs are the greatest. The environmental atmosphere is more about the hearing needs of the blind.

2. Analysis of the needs of the blind

The activities of the blind in space have great limitations. To break through these limitations and to break through the scope of activities defined by visual loss, we must rely on psychological and physiological aspects to receive different environmental information, relying on our own feelings. Cognition is not enough. The experience in life, the purpose of behavioral activities, and the response to the corresponding stimuli must be matched under certain circumstances to fully constitute the activities of the blind. These qualifications must also be considered in the design of the space environment. The limiting factor that addresses these key constraints is the key to solving the public space design that blind people can use.

2.1 Physical needs of the blind

According to Maslow's hierarchy of needs, physiological needs are the most basic requirement. Blind people, in addition to human needs for hunger and cold, and so on, the unique physiological needs may have "touchable", "audible", "distinguishable taste" and other information perceptions that can be obtained in addition to vision. . In order to obtain rich environmental information, blind people usually have to integrate various feelings to complete their physiological needs. The lack of vision also makes the needs of other senses more important, and the intensity required is much larger than normal. Therefore, the consideration of details and design are to meet the physiological needs of the blind, but also the premise of safety and comfort of the design.

2.2 The psychological needs of the blind

After Maslow's physiological needs in the hierarchy of needs are met, the need for safer needs and social relationships begins with respect for demand and ultimately for self-fulfillment. The psychological needs of the blind reflect that they also want to be

valued, and they also hope to be independent and equal, but also need care and some help. After the lower physiological needs are basically met, the higher level of psychological needs can be stimulated to promote the continuation of other behaviors. The emergence of various needs has also made the blind people have certain requirements for safety, circulation and convenience. They will be willing to integrate into different personalities and accept different environmental information to enrich their needs. For example, when they are communicating with people, they will also notice the sound of the action and the footsteps of walking. In order to adjust their own status and adapt to changing environmental information, they also want to be noticed and have good opportunities for self-expression. They also want to not be embarrassed in the process of communication, more eager to communicate with each other. Platform and good communication. These are the psychological needs in an ideal space design.

3. Perceptual design in the use of blind interior design

The research is mainly to improve the social participation of the blind, enrich the scope of the blind people's activities, and improve the versatility of space design and the concept of barrier-free facilities. At present, there are only a handful of public spaces for the blind in society, and there are still problems of imperfections and imperfections. Many designs for blind people, their development and use have certain defects in the real society, and they cannot be designed. The purpose of the original intention, in the corresponding space design, the relevant spatial information can not be effectively conveyed to the blind people in it.

3.1.Design Principles

3.1.1.Security

The public space of the blind must be secure. For

those who lack vision, they cannot receive external information through visual observation. Therefore, it is necessary to pay more attention to safety considerations. Considering that blind people cannot rely on vision during indoor walking, in the interior design, the ground must be set flat, and With blind lanes and handrails.

3.1.2 Circulation

The circulation of public space is also very important. It is necessary to fully consider that because of the lack of vision, in order to meet the blind people's heart appeal, the air flow, and the design of the road streamline must be done, transparent and convenient.

3.2 design method

For all users of public space, according to the concepts of universal design and barrier-free design, the design of public space should be as fair as possible, flexible in design, and able to obtain corresponding environmental information and convenient experience. After studying the psychological and physiological needs of the blind, the activity center is mainly the design of touch, smell and hearing. The specific environmental information includes temperature, humidity, smell, sound, airflow, spatial scale and texture touch of the wall, soft and hard. The degree is the main idea of design.

3.2.1 Visual design

There are two main types of visually impaired people: one is full blindness and the other is amblyopia (60% lower than normal vision). For these two kinds of people, visual influence is different. For blind people who are completely blind Vision has no effect on them at all, mainly relying on other senses to feel the environment; for people with low vision, they can receive visually stimulating sporadically. For them, strong visual stimuli are needed to make them feel visually pleasing [3]. Therefore, in the design of

the public space, you can use some jumping colors, contrasting the decorative surface design, the colorful surface, and the colorful plants.

3.2.2 Auditory design

Hearing is the way that blind people rely most to obtain information, so in the space, creating a comfortable listening environment is also important. The main sounds can be classified into vocals, wind, rain, insects, water, percussion, and music. In addition to the sound environment, the public space can also be set by rotating a small waterwheel. The flow of water, as well as the planting of aquatic plants, falls on the leaves of plants such as lotus leaves and banana leaves through water droplets to create a poetic space environment. In addition, some trees that attract birds can be planted, and the environment of birds and flowers can be made. The use of simulated sound effects can distinguish different spaces, such as the sound of slaps of water, indicating the toilet, and light music represents the rest area. and many more.

3.2.3 Olfactory design

The natural atmosphere should be the most acceptable taste, so in the design of the public space, the olfactory design is mainly reflected in the plants, the lotus in the water, the rosemary planted in the grass, and the different floral fragrances in the four seasons. Good design element. For public spaces that can be used by the blind, plants with a fresh and natural scent can provide a feeling of soothing comfort for the blind, as well as a good purifying mind. While designing the plant's aroma configuration, it is also necessary to consider the wind direction, the influence of the odor on different places, and whether the odor mixture will be accepted.

3.2.4 Tactile design

Tactile sensation is also an important way for

blind people to perceive information. It is a good tactile design through the treatment of the walls in the space, the texture of the floor, and the planting of different tactile plants. In the tactile design, Considering whether the touch of the design is safe, comfortable, avoiding sharpness as much as possible, and dangerous tactile experience.

4. Conclusion

At this stage, the theory and practice of public space for the blind are not mature. The blind people, as a vulnerable group in the society, lack the humanistic care of the society. Through research and analysis, they can understand the perception conditions of the blind and then design it as a design element. In order to expand the space environment that blind people can use, and to provide more convenient living conditions for the blind, and at the same time, as a starting point, we will design a basis and suggestion for the public space design that is universally feasible and convenient for all members of the society, and hope to promote it in the future. And in the process of perfection, it can strengthen the attention of special groups.

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