

Research on the Application of Guided Design in Office Space

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ABSTRACT

Guided design has a significant impact on people's psychology and behavior in office space. Based on human behavior psychology and cognitive psychology, combined with the basic characteristics of office space, the application of guided design in office space is expounded in this paper. The summary of the application elements of the guided design is helpful to understand the guided design method and carry out the design practice. In practice, it is converted into the environment design language, so as to further understand the relationship between people and guided design in office space.

Keywords: Guided design, Office space, Behavioral psychology, Spatial cognition.

1. INTRODUCTION

The booming development of economy highlights the flaws of guided design in humanization and integrity of office space, such as the lack of humanization, scientific and reasonable guided design of space. Research on the application of guided design in office space helps to make guided design a design language, improve the sense of cognition and direction between different areas in office space, so as to generate behavioral resonance. In this way, the design can be consistent with the public aesthetic and create a modern guided space with cultural connotations and symbols of external expression. [1]

2. GUIDED DESIGN

2.1 Definition of Guided Design

Guided design, or "guiding direction," helps people find their way quickly. Guided design drives the development of things with the help of some means or methods. Common guided methods, including text, pattern symbols, colors and so on, can be employed to express the regional characteristics of space and the routing of people. Due to the requirements and attributes of space, different design methods can be applied to express the guiding content.

2.2 Research Content of Guided Design

2.2.1 Environmental Cognition

Environmental cognition is a fundamental and active field. In a broad sense, it refers to the process of people's storage, processing, understanding and recombination of environmental stimuli, so as to identify and understand the environment. In other words, environmental cognition basically includes various reactions of cognitive, emotional, understanding and evaluation. A certain degree of psychological processing of spatial information in the environment is to carry out environmental cognition. It tends to think about the relationship between people and the environment from the perspective of their interaction. Specifically, environmental cognition refers to the encoding, storage, recall and use of spatial information such as direction, distance, location and spatial structure. It involves the solving process of a series of spatial problems such as spatial orientation, pathfinding and forming cognitive map.

2.2.2 Behavior Psychology

Different behaviors taken by people to adapt to environmental changes will lead to different psychological feelings. [2] Human behavior is not just influenced by one sense, but by the integration of all information. After thinking, the psychological

reaction can be produced, which leads the person to do a certain behavior. Guided design makes use of its behavioral psychology to design the space environment, and causes people's psychological changes through different design methods, so as to produce behavioral guidance.

3. CHARACTERISTICS OF OFFICE SPACE

3.1 Formal Characteristics of Office Space

According to the layout form and use function, the office space is mainly divided into independent office space, combined office space, apartment office space, open office space, and landscape office space. [3]

3.2 Functional Characteristics of Office Space

Office space refers to the physical and psychological division of the layout, pattern and space in the office place. According to different office needs, different spaces are divided, so as to meet the use functions, such as work, life and rest. In addition to practicality, office space should also be beautiful, with a certain artistic aesthetic function to meet spiritual needs.

3.3 Color Characteristics of Office Space

Color can convey the most intuitive visual experience, having the most direct effect to life. The three elements of color are hue, purity and lightness, and color directly affects the human brain through the interaction of these three elements. [4] Colors are directional, which can be used to create different spatial atmospheres, thus causing different psychology. [5] For example, yellow tends to remind people of the sun, giving people a warm and upward psychological feeling. Therefore, the different characteristics of the three elements of color can be applied to the design to enrich the spatial attributes. In the design of office space, color can directly affect the visual environment and people's psychological mood. In addition, it can give people a sense of lightness and pleasure.

3.4 Humanized Characteristics of Office Space

Humanized design should be consistent with ergonomics. In short, the design of space should take into account people's physical, psychological and

emotional needs. The satisfaction of humanized requirements is the premise of "high efficiency" work. Therefore, the human-oriented design should be advocated to reflect the rationality of the office space. Ergonomics provides a reference for the application and practice of design. Correct understanding of human physiology and psychology is helpful to meet the needs of human behavior and improve the quality of indoor environment by means of design.

4. APPLICATION OF GUIDED DESIGN IN OFFICE SPACE

4.1 The Guided Design of the Ground

The ground is the most direct embodiment of the guided space. The easiest way to guide space and streamline organization is to put signs on the ground so that people can easily judge the direction. This is explicit guidance. The implicit guidance method is to transform design into language to produce effects on people's physiology. This is a guidance method that can arouse sensory resonance. For example, simple changes in color and direction of tiles can be used to guide the direction. In addition, it is also feasible to use different ground heights to divide the space, so as to control the streamline direction of the space. It is also a good way to set light sources on the ground to conduct space guided design.

4.2 The Guided Design of the Wall

The wall itself is a means of guidance. For example, when a fire breaks out in a strange and small space, people fleeing can search clockwise or counterclockwise, which is the guiding function of the wall itself. In addition to the wall itself, the form design on the wall can also provide guidance. The wall material, color, text and pattern symbols, the contrast of different material textures and wall lighting can all be used as guidance.

4.3 The Guided Design of the Ceiling

Ceiling, as the top surface of the space, mainly uses the orderly arrangement of lights to guide the direction. Its height can affect the psychological feeling of the person directly. The space with a low ceiling can make a person feel depressed, while the space with a high ceiling can give a person an open psychological feeling. Therefore, this factor should be fully considered in the design. The space with low height is unfavorable to do condole top or local decoration, and should adopt open ceiling, with the artistic expression of pipeline to guide the direction.

Ceiling layers and light sources can also be used to create different effects to guide the space.

5. PROJECT PRACTICE OF GUIDED DESIGN IN OFFICE SPACE

5.1 Project Overview

HBI's brands include Lea and Margres. Fiordo from Italy's Panaria Group and Kutahyahbi from Turkey. HBI is a collection brand of high-end tiles around the world, creating an operation platform for high-end building materials products. They take the

route of high-end luxury and elegance, and their enterprise spirit is high-end, quality and health.

The office space design project of "HBI" ceramic tile brand is located in Zhengzhou, Henan. The total decoration area is 880m² and the original wall is retained (as shown in "Figure 1"). The office faces south with favorable light. The company has about 46 employees, including a general manager, two vice presidents (operations and marketing), three to four department managers (financial department, general management department, human resources department, sales department) and ordinary employees.

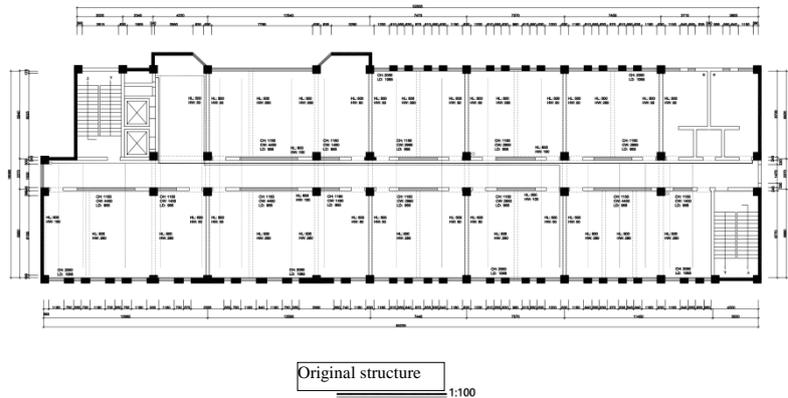


Figure 1 Original structural drawing of "HBI" project. Size: 2000*1000, drawn by the author.

After fully understanding the background and personnel allocation of "HBI", the communication with the brand was launched, and the design theme was set as "David". David is one of the main series of "HBI". Italy is the origin of HBI high-end ceramic tile, and also the place where the sculpture of David was created. Like the sculpture of David, HBI European high-end tiles present a sense of power and beauty. The colour and texture of cement bricks, one of HBI's main products, can be used to design. The cement brick that represents force can be applied extensively on ceiling, ground, and wall. The simple geometry is interwoven with soft yellow to integrate power and passion and further highlight the direction of the space area.

requirements of different customers, so that customers can feel the charm of the brand in details. As for the design of internal office space, the use requirements of departments are taken as the basis to set up open office space and single-room office space, so as to highlight the humanized characteristics of the space and meet the different needs of employees.

5.2 Layout of Space Division

First of all, communications between departments should be taken into account. The original structure should also be referenced so that the overall spatial flow is mainly horizontal ("Figure 2"). The reception hall, exhibition hall, waiting area and other crowded space areas are set near the entrance. In addition to the regular meeting room, some relatively casual and private meeting rooms are also designed to meet the

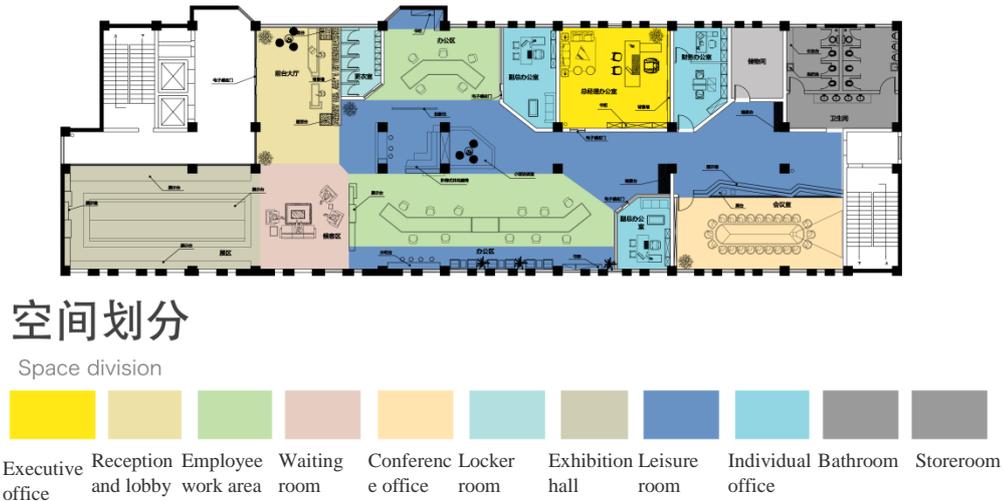


Figure 2 Space division of "HBI" project. Size: 2000*1000, drawn by the author.

5.3 Spatial Applications of Guided Design

5.3.1 Guided Design of Reception and Lobby

Lobby, as the transition space that people enters from the outside, decides the first impression of people, can express the spiritual culture connotation and artistic image of interior space directly. The image wall in the center of thereception presents an arrangement of gray blocks of different thicknesses and shapes, which will produce a rich variety of light and shadow. The black corporate LOGO is embedded

in the flat wall, producing a visual effect, but also reflects the connotation of the brand spirit.

The reception consists of a simple volume. The material contrast between grey cement, shiny brass, and transparent glass can be used to guide direction. As to the light of lobby, besides irregular lamplight illumination, different light sources are set on the ceiling interface according to the streamline trend and gathering behavior of people, including downlight and dim light, in order to increase variety. It can satisfy the humanized design and arouse people's sense of spatial cognition, so as to guide people's spatial streamline. ("Figure 3")



Figure 3 A rendering of the lobby of the "HBI" project. Size: 1200*800 drawn by the author.

5.3.2 Guided Design of Hallway and Corridor

The hallway is a horizontal traffic space. In general, the lobby is located at the focal point of

internal public space, with different emphases at different locations. In the hallway, yellow light are used to decorate the ceiling ("Figure 4"). In the hallway, pillars painted with white latex paint contrast with the lime-coloured floor to highlight the

visual centre. Text descriptions are also used to guide direction ("Figure 5").



Figure 4 A rendering of the hallway of the "HBI" project. Size: 1200*800 drawn by the author.



Figure 5 A rendering of the hallway details of the "HBI" project. Size: 600*60, drawn by the author.

Corridor, as the main transverse traffic space in the space, is very important in guiding direction. The corridor acts like a link connecting each space, including a zigzagged corridor, L-shaped corridor, T-shaped corridor and irregular zigzags. Considering the actual situation of the project, the irregular zigzag corridor design is adopted. The ceiling of the corridor is also decorated with LOGO composed of lamps, and the light and shade play a certain guiding role. ("Figure 6")



Figure 6 A rendering of the corridor of the "HBI" project. Size: 1200*800, drawn by the author.

5.3.3 The Guided Design of Office Space

Based on the nature of the department and the characteristics of the office, this design mainly focuses on the open office space, emphasizing the equal and free working environment ("Figure 7"). And the entrance and exit is the main guide, and the main area connected with the outside world. Therefore, on the ceiling of the space, the lamps with the corporate LOGO are used to guide the direction. As for furniture, the desk breaks through the limitation of traditional office, allowing people to work standing up in addition to sitting, in order to increase the attributes of space guidance.

Single room office space that is relatively private requires less on space, so there is no need to emphasize the guided design. A glass partition can be adopted to guide the space, while elevating the ground to enhance the spatial area. ("Figure 8")



Figure 7 A rendering of the open office of the "HBI" project. Size: 1200*800, drawn by the author.



Figure 8 A rendering of the single room office of the "HBI" project. Size: 1200*800, drawn by the author.

6. CONCLUSION

The design of office space enjoys a richer way of expression because of the diversity of brand culture and users. The basic requirements of the guided design should be followed to meet the requirements of users and realize the harmony between people, space and environment. Guided design is a design based on people's psychological characteristics of spatial cognition and behavior habits. [6] Based on the summary and analysis, the entry point is found to further explore the application of guided design in office space, and to realize the life guided by design in a deeper level by combining with practical projects.

AUTHORS' CONTRIBUTIONS

Xueying Ma wrote the manuscript and editing, Hao Ying provided guidance and modification opinions.

REFERENCES

- [1] Li Zhen. Directed Study Application Design in Office Space [D]. Jilin University of Architecture, 2013. (in Chinese)
- [2] Liu Qiwen. Guidance Design Method in Innovation Design [D]. Beijing Institute of Technology, 2015. (in Chinese)
- [3] Bai Yang Lingzi. Application Research of Space Guided Design in Urban Leisure Sports Square [D]. Shandong Jianzhu University, 2019. (in Chinese)
- [4] Zou Jinjuan. Office Space Form and Human Behavior Research [D]. Hubei University of Technology, 2012. (in Chinese)
- [5] Sun Xiaohong, Bai Yang Lingzi, Zhang Xiaodi. Research on the Application of Guiding Design

in Dynamic Landscape [A]. "Building Technology and Management" Organizing Committee. Proceedings of the Academic Exchange Conference on Building Technology and Management in April 2019 [C]. "Building Technology and Management" Organizing Committee: Beijing Hengsheng Boya International Cultural Exchange Center, 2019: 2.

- [6] Arnheim Rudolf. Art and Visual Perception [M]. University of California Press: 1974-12-31.