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## Analysis of Interior and Exterior Environment Construction of Library Building and Rationalization Proposal

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### Abstract

With increasingly fierce social competition, people need to constantly acquire knowledge to keep pace with the times. Thus, more and more people to resort to the library for learning, which is bound to have a huge impact on the construction and development of the library. To better reflect the function of the library, and make library provide more services, it is needed to systematically research the construction of interior and exterior environment of the library building in both reconstruction and expansion projects in the library. In this paper, the three major principles which should be followed in the construction of interior and exterior environment of the library building, namely perfect combination of applicability and artistry, giving prominence to culture and atmosphere, and green design and sustainable development. Secondly, countermeasures for problems (lack of parking space, design of the rest room, and so on) in the process of interior and exterior environment construction of a library building are put forward. Besides, deep discussions on measures for interior and exterior environment construction of a library building also are made. Thus, this paper is of certain reference value.

**Key words:** Library building; Indoor and outdoor environment; Construction

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### INTRODUCTION

With increasingly fierce social competition, people need to constantly acquire knowledge to keep pace with the times. Thus, more and more people to resort to the library for learning, which is bound to have a huge impact on the construction and development of the library. To better reflect the function of the library, and make library provide more services, it is needed to systematically research the construction of interior and exterior environment of the library building in both reconstruction and expansion projects in the library. The purpose of rationally creating interior and exterior environment of the library building is to provide a library building with a more flexible function layout and a more humanized space design, provide more library resources, a more comfortable environment and more attentive services. In new libraries, dynamic-static separation is followed. Those who love to read quietly can enjoy a quiet space, and those who love surfing the internet don't have to disturb others; space and equipment for group discussion, teaching and training, and academic communication also are offered. For those who are unwilling to leave the library even at the closing hour, a "long-time learning space" is available, where you can experience staying up in the library. Of course, our life is not limited to the present, we have the future and poetic life. Young people who love culture and arts, music lovers, speech lovers, and creativity adherents all can find a space specially designed for them, and you can even hold an exhibition in library. Getting tired, you can be seated on the sofa in front of the French windows and look into the distance; being hungry, you can go to the coffee room to have some snacks. This paper is intended to analyze the construction of interior and exterior environment of the library building and rationalization proposal thereon.

## 1. PRINCIPLES OF INTERIOR AND EXTERIOR ENVIRONMENT CONSTRUCTION OF LIBRARY BUILDING

### 1.1 Perfect Combination of Applicability and Artistry

It is known that the primary function of the library is to meet the reading needs of people. Therefore, the most primary principle to be followed is applicability. Based on applicability, library is also required to be of artistry, for which the design point is to perfectly reflect artistry. Designers are required to highlight the characteristics of the library by various means, and constantly improve library's social quality, spiritual quality and material quality. Only after perfectly combining the applicability and artistry, the interior and exterior characteristics and uniqueness of library building can be highlighted.

### 1.2 Giving Prominence to Culture and Atmosphere

It is required to emphasize both the theme and characteristics in library building design. Characteristics are to distinguish from others, and the theme is to reflect the conception of the library. Both are for creating a refreshing culture and atmosphere.

In the process of creating interior and exterior environment of the library building, designers should see to highlight the idea of green design. Green design is the latest development direction of building design, and the future development trend of the construction industry. In every link of interior and exterior environment construction of library building, it is supposed to reflect the design ideas of "healthy", "environmentally-friendly", and "green", and rationally allocate and efficiently utilize resources, to maximize the value of resources. In the link of decoration of the library building, it is best to select environmentally-friendly and green materials unharmed to human health, rather than have a blind pursuit of top-grade and luxury materials. Meanwhile, prominence should be given to "pragmatism" in spatial decoration design should, and certain artistic means should be taken as and when necessary, to finally realize green and sustainable development.

## 2. PROBLEMS IN THE PROCESS OF INTERIOR AND EXTERIOR ENVIRONMENT CONSTRUCTION OF LIBRARY BUILDING AND COUNTERMEASURES THEREFOR

### 2.1 Lack of Parking Space

As the number of visitor flow rises and more and more readers drive to library, the lack of parking space becomes more and more prominent. For most libraries, the original

parking space design is relatively unsatisfactory, so that there lacks parking space. Many readers driving to library find it difficult to park. Under the circumstances, the readers coming later have to either resort to illegal parking or leave.

Considering this situation, high attention should be paid to increasing the capacity of the parking space in the process of expansion or transformation of library, for which estimation should be made of the maximum visitor flow in the following ten years, and the parking space should be expanded on this basis. Secondly, it is suggested to charge parking fee in a scientific way (such as making a price floating with the time), to adjust the spatial and temporal distribution of traffic flow and readers' trip mode, and perish readers' intention of driving to library. At last, measures should be made to encourage the enterprises and public institutions nearby to open their parking space, so as to raise the utilization rate and turnover rate of the available public parking space.

### 2.2 Design of Rest Room

Comparing with ordinary buildings, the depth of the library building is much larger, which poses more challenges for ventilation and lighting, especially of the rest room. Generally speaking, the rest room in the library is designed to be in the innermost position. Thus, three problems may occur. Firstly, the rest room is too remote, and appears to be gruesome at night, so that some timid female readers dare not to go to the rest room alone. Secondly, the rest room is poorly ventilated, so that it smells odorous. Thirdly, the location is too concealed to be located. In view of this situation, I suggest that the rest room can be set beside each reading room, and the number of rest room should depend on the maximum average daily visitor flow of library, to avoid a run on the rest room.

### 2.3 Design of Reading Room

Reading room is the key department of a library, and also the key of library building design. As more and more readers step into the library out of desire for knowledge, the crowdedness of reading room becomes more and more prominent. Thus, to create a good interior environment of library, it needs to expand and transform reading room of the library as necessary. Why does the crowdedness of reading room become more and more prominent? On one hand, the number of readers rises. On the other hand, many reading rooms have similar defects, including low sense of belonging, irrational spatial planning, and unitary function. Considering this situation, it is supposed to classify reading room and make rational planning in combination with the actual situation of library, to hold more readers as far as possible. For this, the experience of Vennesla Library and Culture House (designed by: Helen & Hard Architectural Firm) can be referred to. The specific solutions include: Making full use of the characteristic of low storey height

of stack room to select bookshelf of interlayer structure, to further enrich the spatial level; zoning interior reading space in combination with the actual situation of library. For lengthwise reading space, it is feasible to adopt vertical partition with several boards (about 120cm to 150cm high), and equip different zones with desks and chairs in different colors and of different styles, to enhance the belonging of space and overall sense of rhythm of reading space of library. It's worth noting that we should see to ensure lighting and ventilation of reading room. This is mainly because reading room is a place where readers read, look up literatures, and learn knowledge and the visitor flow is large.

Besides, occupying seats with objects is another reason for the crowdedness of reading room of the library, especially in college library. This doesn't only greatly impact the order of reading room of library, but also impair others' rights. I think this problem can be solved from two aspects. Firstly, library management should clear the objects for occupying seats from time to time. The library management should organize staff to clear the objects (such as sundries, self-provided desks or chairs, and so on) for occupying seats, and require readers to observe the rules of library. Secondly, librarians should clean out the objects for occupying seats regularly, put on record of those who occupy seats with objects, and impose punishment on those who occupy seats with objects more than twice, say, suspending their borrowing right and asking the unit to which they belong to coordinate in handling.

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### **3. MEASURES FOR INTERIOR ENVIRONMENT CONSTRUCTION OF LIBRARY BUILDING**

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#### **3.1 Creating a Good Interior Environment via Interior Furnishings**

For interior environment construction of library building, it often needs to consider creating a good interior environment via interior furnishings. The color, form and style of furnishings should be taken into account. For example, the theme of Wuhan University library is Chu culture. Thus, the texture, color and shape of furnishings should be associated with this theme. For this, wooden lying deer with multicolor painted horns, double-cup, and such lacquerwares are selected. Meanwhile, a series of means of artistic expression including balance, variation and unification are adopted for the display mode and position of furnishings, greatly enhancing the artistic appeal and thematic culture of the interior environment of Wuhan University library.

#### **3.2 Creating a Good Interior Environment via Lighting**

Light is an important element of interior environmental design of the library building, and the creation of the

interior environment of the library building also is realized by rationally applying light to a certain extent. Thus, we should see to ensure proper match of vignette and real light and sufficient lighting indoors. By rationally making use of the language of light art can the interior environment of specific library building be depicted. Designers can create an emotional environmental atmosphere via light shape, color, layer and tone, to highlight the cultural characteristics of the library. Usually, both artificial lighting and natural lighting can create different thematic cultures of library.

In the process of interior environment construction of library building, it should be supposed to coordinate artificial lighting and natural lighting according to the actual situation of space. For seats near windows, natural lighting should be made rational use of, to further enhance the interaction between the outdoor environment and the indoor environment and improve readers' experience. In natural lighting, readers can enjoy the comfort and coziness of sunshine while reading. Of course, in the afternoon when the sunshine is too intense, librarians can draw a curtain, when the sunshine streaming through the curtain will give a different feeling to readers.

For areas where the light is insufficient, or by evening, artificial lighting is needed to create a comfortable and cozy atmosphere for readers. It is feasible to control the light shape, temperature difference and intensity to make the space lighting and space become cozy and romantic, make the aisles become antiquated, and make the reading zone become natural and unsophisticated. For example, warm light is mainly adopted in Sichuan University library, which, together with the characteristic ceiling, white walls, wooden desks and chairs, and antique paintings, has created a special interior environment for readers.

#### **3.3 Creating a Good Interior Environment via Decoration Elements**

Decoration elements mainly relate to texture, pattern and color. The rational application of decorative elements plays an important role in interior environment construction of library building. Different textures, different patterns and different colors always bring different experiences and feelings to readers. Take the example of color. If the world were colorless, the whole world will become bitter, insensible, gloomy, and deadly silent. The art tendency and theme of the interior environment of the library build are subject to the influence of color to a large extent, which can make people confused and angry, but also bring novelty, comfort, joy and coziness to people. Besides, the application of texture also has a huge impact on the process of interior environment construction of library building. Decorative materials of different textures tend to bring different visual perceptions and aesthetic perceptions to people, which should depend on the attributes of interior environment of the library building.

Take the example of Wuhan University library. Decoration elements are widely applied in the process of interior environment construction of Wuhan University library. By color, since the theme of Wuhan University library is Chu culture, in which black and red usually are the dominant colors, with the five colors as the background. By texture, wooden structure building dominates. Besides, its colors are harmonious on the whole, which can have an intense visual impact. Therefore, warm colors are mainly used in the interior environment of Wuhan University library, supplemented by red and black, making the whole library in color harmony and unity, romantic, cozy, plain and natural. Meanwhile, by pattern, the traditional patterns of Chu culture are mainly adopted. Most traditional patterns of Chu culture are associated with nature, including astronomical patterns, plant shape patterns, animal ornament patterns. The most common patterns of Chu culture are about phoenix. For the design of Wuhan University library, elements of these traditional patterns are extracted and applied to the lamp, walls, partitions, ceiling and ground, making readers experience Chu culture at any time and anywhere. By texture, different materials are used for different zones in Wuhan University library. For example, decorative materials for reading room are wood. Wood feels plain and natural, and if carved, shows artistic appeal. Surface materials mainly include finishing coat, stone and wood, supplemented by uneven cement surface, looking rough, antique and

primitive. The combination of different materials can fully reflect the charm of Chu culture of “coexistence of plainness, nature, romanticism, and emotional appeal”.

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## CONCLUSION

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In a word, modern library is mainly for serving readers. To this end, various resources should be utilized to create a pleasant interior and exterior environment that meet the needs of readers for relaxation, life and learning, to become their “secondary living room”. Thus, modern library must be an open place meeting human body scale space, with characteristics and suitable for readers with relaxation and communication. There must be a pleasant atmosphere, fresh air and cozy and tasteful furnishings. In a modern library, young people who love culture and arts, music lovers, speech lovers, and creativity adherents all can find a space specially designed for them, and you can even hold an exhibition. Let’s love the library and our life!

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