

Exhibition Space Design and Scene Creation: Creating Engaging Exhibition Experiences

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Abstract

The spatial design and scene creation of exhibition displays are crucial for creating engaging exhibition experiences. A well-planned spatial layout and effective signage can guide the flow of visitors and ensure smooth transitions between different exhibition areas. Creating dramatic and immersive scenes through lighting, sound effects, and installation art can immerse visitors in the stories depicted by the exhibits. The use of interactive technologies and virtual reality enhances visitor engagement and experiential immersion. Through careful planning and innovative design, exhibitions can stimulate curiosity and imagination, allowing visitors to gain a deeper understanding and appreciation of the exhibition content.

Keywords

Exhibition display; Space design; Scene creation; Exhibition experience.

1. Introduction

On August 24, 2022, the International Council of Museums adopted the latest definition of museums at the Prague conference through a voting process: "A museum is a non-profit, permanent institution in the service of society and its development, open to the public, which acquires, conserves, researches, communicates, and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study, and enjoyment. Museums play an important role in the cultural landscape by contributing to human enrichment and the creation of mutual understanding, tolerance, and peace among peoples." Therefore, a modern museum is a non-formal educational institution that serves the public by collecting, organizing, preserving, researching, and exhibiting the material and intangible heritage of humanity and its environment, ultimately facilitating the dissemination of knowledge. The exhibition display in museums is the most important medium through which this function is realized. The exhibition display in museums is often different from that of trade fairs and exhibitions. Trade fairs and exhibitions emphasize convenience and efficiency. On the other hand, the exhibition display in museums has a specific definition, as provided by Shan Jixiang, President of the Chinese Society of Cultural Relics: "The most distinctive feature of museum exhibitions is the focus on artifacts, informing the audience about what they are and having a certain educational and enlightening effect. Museums are important places for disseminating historical and cultural knowledge and inspiring people's hearts. Exhibition displays are primarily a visual expression of art and a concrete manifestation of spatial art." In this article, the term "space design" refers to the specific means and methods of spatial art as mentioned in this definition.

With the advent of the Internet era, the public can acquire knowledge about anything they want to know without leaving their homes through the Internet. Museums need to attract the public to visit their exhibition displays by enhancing various aspects. This poses higher requirements for our exhibition displays. In terms of exhibition displays, a reasonable spatial layout, smooth exhibition routes, and interesting sensory experiences can better connect the "objects" in

museums with the "people" who visit museums, making an exhibition more engaging. Huang Chen, from the Shenzhen Museum, once mentioned, "Regarding how to make museums interesting, it is a subjective question for different museums based on their characteristics. However, the basic principle is that museums should not be rigid teachers preaching to the audience, nor should they be boring textbooks that are forgotten after reading. An interesting museum should be able to meet the various needs of the audience, evoke their emotions, provoke thoughts, and leave a lasting impression." Museum exhibition displays are generally divided into permanent and temporary displays. Permanent displays are usually designed and completed when the museum building is constructed, while temporary displays are designed and produced based on different exhibition themes. In comparison, the spatial design and landscape creation of long-term displays will remain unchanged for a certain period of time. Temporary displays, on the other hand, often require redesign for each exhibition due to factors such as funding and design cycles. Temporary displays are also influenced by the limitations of the exhibition halls, such as ceiling height, lighting, and flooring.

2. Exhibition Space Design

The spatial design of exhibition displays is a comprehensive art form and a highly systematic work process. It involves considering and creating the spatial layout based on the exhibition outline, existing exhibition space, multimedia auxiliary displays, color theory, lighting, and other factors. For example, the Sichuan Museum's current thematic historical exhibition hall, focusing on the Qin, Han, and Three Kingdoms periods, showcases the splendid stone carving culture of the Han Dynasty in the Chengdu region. The exhibition is divided into units based on different types of art, such as stone carving and pottery sculpture. Within each unit, there are different groups based on themes and artistic styles. Through artistic scenes, lighting, replicas, and other elements, the exhibition highlights the latest research findings on various aspects of Han Dynasty society, including social life, production capabilities, spiritual beliefs, and moral concepts, presenting a vivid picture of life in ancient Sichuan.

Temporary exhibitions, on the other hand, have varying requirements for spatial design due to different exhibition themes. In domestic museums, there are generally two modes. One mode involves redesigning and subdividing the spatial layout of temporary exhibition halls for large-scale exhibitions. The other mode maintains the basic spatial layout while redesigning and constructing entrance and exit areas and specific scenes. This is primarily achieved through cabinet and layout design. The latter approach is relatively more economical and suitable for small and medium-sized museums. In summary, if the spatial design of museum exhibitions is well-planned, it can provide visitors with a better viewing experience and effectively convey the exhibition's theme. The exhibition space serves as the medium for all these multimedia elements. The mastery of exhibition space layout should take into account the following aspects:

2.1. Understanding the patterns of visitor behavior

The process of visitors exploring an exhibition is a complex psychological process, and each visitor has different motivations. The psychological activities of visitors have the most significant impact on their exhibition experience. The effectiveness of the exhibition largely depends on whether it aligns with the psychological patterns and individual characteristics of the visitors. This process includes various cognitive stages such as perception, memory, thinking, and imagination, as well as the emotional state, temperament, abilities, and personalities of visitors. Therefore, the creation of exhibition space should consider the visitors' behavior patterns and characteristics, and it should guide their thoughts, emotions, and cognitive processes. From the perspective of creating exhibition spaces, it is essential to create an atmosphere that corresponds to the exhibition content, allowing visitors to feel fully

immersed and naturally excited. Space designers should start from the levels, structures, and rhythm of the space, fully showcasing the thematic content of the exhibition.

2.2. Effective use of spatial division techniques

Different museum exhibition spaces have their unique characteristics, which are predetermined during the construction of the museum building. In the utilization of existing spaces, the rhythmic arrangement should be given priority. The rhythm of the exhibition space is often determined by the content of the exhibition outline. The exhibition outline is divided into different units, with distinctions between primary and secondary sections, as well as focal points and non-focal points. Therefore, from the perspective of spatial division, important chapters often require larger spaces to accommodate them, occupying prominent positions in terms of width and height within the overall space. To highlight key units, various auxiliary display methods such as dioramas, paintings, and multimedia presentations are often used, requiring ample space to accommodate them. Within a specific unit, the core exhibits are often displayed in a relatively independent and centralized space. Displaying them through central showcases can emphasize their importance. Transitions between units often need to be represented through specific means. Exhibition displays typically follow a three-part structure: prologue, main display, and conclusion. This structure is similar to the structure of many artistic works: beginning, development, climax, and ending. Therefore, it is necessary to use this exhibition structure to arrange the spatial relationships effectively.

2.3. The integration of Exhibition's safety

"Exhibition display is not randomly arranged; it needs to be implemented based on the provided conditions and following certain principles." This mainly focuses on the safety of the exhibition, the environmental atmosphere, and practical functionality. When it comes to exhibition work in museums, the safety of cultural relics is the primary concern. Any exhibition design should prioritize the safety of cultural relics. For example, when designing the display inside a cultural relic cabinet, the load-bearing capacity of the relic block platform and the ease of fixing the relics need to be considered. As for the glass of display cabinets, the National Cultural Heritage Administration has issued a notice emphasizing the gradual replacement of tempered glass display cabinets with laminated glass display cabinets that meet safety requirements. This sets higher requirements for exhibition design from the perspective of cultural relic safety. Currently, low-reflective glass is gradually becoming mainstream for better display effects.

Furthermore, in the selection of materials for exhibition hall construction, flammable materials such as plywood are often used, so fire hazards must be taken into account during the construction process. Fire prevention measures in concealed works, such as applying fire-resistant coatings and using PVC pipes for wiring, are also necessary to prevent accidents. Additionally, when planning the exhibition hall space, factors such as safety passages, safety signage, and potential risks associated with visitor flow need to be considered. In summary, safety hazards exist throughout the entire process of exhibition construction and display. As exhibition designers and managers, it is important to always prioritize safety.

2.4. The fourth aspect is the integration of display space and public space

The display space can be divided into the main space, public space, and auxiliary space. The main space primarily showcases the theme of the exhibition and is a crucial part for conveying exhibition information. The public space is an area for visitors' use and activities, while the auxiliary space serves various functions within the exhibition space, such as storage space. An exhibition's display space can consist of entrance design, prelude hall, display space, and concluding hall. It may also include interactive spaces and multimedia playback spaces. The public space mainly includes transitional spaces, passageways, and resting areas. In the initial

planning stage of museum exhibition halls, transitional spaces should be considered between exhibition halls. These transitional spaces can include features such as floor-to-ceiling glass or exquisite small landscapes. This can alleviate visitors' fatigue after spending a long time in the exhibition hall. For example, in the general history display of Chengdu Museum, the functionality of glass transparency was considered during the transitions between different exhibition halls, allowing visitors to see the distant square outside the exhibition hall, which adds a unique touch. Similarly, in the transitional areas of the Luoyang Museum's general history display, artificial landscapes were created to facilitate the transition. When planning and designing a single exhibition hall, the organic integration of the main space, public space, and auxiliary space should be considered. This is especially important for historical and cultural exhibitions, which often have a rhythm of unit chapters, and the transitions between units are often achieved through transitional spaces. Additionally, to enhance the exhibition's impact, exhibition halls usually consider interactive and multimedia displays. Therefore, it is necessary to plan and reserve space in advance, typically not along the main exhibition route. For example, spaces for multimedia displays are often located in corner areas or at the end of the route to effectively avoid interfering with the viewing experience of other visitors. The storage space among auxiliary spaces is very useful for exhibition staff, as different exhibition setups often require various display cabinets and relic bases. To facilitate reuse, having a space to store these items within the exhibition hall is essential.

2.5. The preliminary analysis and rational utilization of existing spatial conditions

Each museum's exhibition hall has different conditions. Therefore, as exhibition designers for each museum, it is important to be familiar with the exhibition space of their own museum. Only by understanding the strengths and weaknesses of the exhibition hall can its unique characteristics be fully utilized. For example, some exhibition halls may have excessive load-bearing columns, low ceiling heights, or insufficient circulation for visitors. These unfavorable factors will inevitably have inherent negative impacts on spatial design. As designers, we should adhere to the principles of spatial design mentioned above and reasonably avoid these unfavorable factors. For example, when there are too many load-bearing columns, they can be concealed within the walls. When the ceiling height is low, the height of display cabinets can be lowered, and miniature models can be used to eliminate the sense of oppression for visitors. However, sometimes this sense of oppression can be utilized in certain thematic exhibitions, such as war-themed exhibitions, where the sense of oppression can be effectively conveyed by the disadvantage of low ceilings.

3. The Reasonable Application of Landscape Sculpting in Exhibition Displays

Today, museum exhibition designers often employ various means such as scene restoration, models, sculptures, sand tables, touch screens, e-books, charts, high-definition holographic projections, etc., to highlight the presentation of key content. This allows for a more profound and vivid revelation of the exhibition's connotations, enhancing the expressive power of the content and the visual impact, enriching the artistic language of the display, and attracting audience participation. Scene simulation is the most important method of auxiliary display. Scene simulation must be based on solid historical facts and should not be arbitrarily fabricated, as it may mislead the audience. The application of any modern scientific technology must be supported by physical cultural relics and relevant materials. The use of new technologies strengthens the ideological, academic, and educational aspects of the exhibition. Any virtual display should respect history and strictly adhere to the design and presentation of the exhibition's theme and content. Only cultural relics are the protagonists of the exhibition, while

modern scientific technology can only serve as an auxiliary means in museum displays, aiming to make the exhibition more fluent in narration, more intuitive in effects, more diverse in form, and ultimately achieve the goal of promoting museum culture.

Landscape sculpting is a commonly used auxiliary display method in exhibition displays. Museum exhibition displays often convey a cultural theme and connotation through cultural relics. Sometimes this method of conveying may not fully express the theme's connotations, thus requiring different supplementary display methods for explanation and presentation. Examples include signage, multimedia, videos, scenes, and landscape sculpting. Under the influence of high-tech, the selection of auxiliary display methods in museums is increasingly diverse. For example, the widespread use of AR and VR technologies nowadays has increased the visibility of exhibitions. Landscape sculpting is an important display method that exhibition designers have been using, and in an era where high-tech display methods are becoming more common, landscape sculpting remains the best auxiliary display method. The purpose of constructing landscapes and scenery in an exhibition is to complement the exhibition's thematic needs and enhance the immersive atmosphere. The importance of landscape sculpting is evident. However, it should not be overused or excessively employed because landscape sculpting is ultimately just an auxiliary display method. The main focus of an exhibition is still the exhibits. Therefore, landscape sculpting also needs to follow certain rules.

3.1. The first rule is the relevance to the exhibition theme

As an important means of auxiliary display, landscape sculpting should be closely related to the exhibition's theme. The creation of landscapes is a supplementary explanation for a specific display unit or group of exhibits. For example, in the Zhang Daqian Hall of the Sichuan Museum, when displaying the content of Zhang Daqian's copying of Dunhuang murals, a scene was created depicting Zhang Daqian copying the murals in a cave with a kerosene lamp. Currently, there is a phenomenon of excessive scene design, which not only confuses the main and secondary aspects of the exhibition but also results in material waste.

3.2. The second rule is to emphasize the artistic nature of the scenes

As one of the means of auxiliary display, landscape sculpting's main function is to complement the exhibition's main ideas. At the same time, exhibition displays are also a form of artistic expression. Therefore, scenes should have artistic qualities. This requires attention to elements such as materials, shapes, colors, and mechanisms. Landscape sculpting often combines methods such as fiberglass sculptures, semi-landscape paintings, and restorations, and multiple methods are used together. For example, in the Tea Horse Ancient Road Exhibition at the Sichuan Museum, to reflect the core content of the exhibition, the state of tea porters carrying tea, fiberglass relief sculptures of tea porters and simulated mountain paths were used. The background of the scene used the semi-landscape painting method, with an old photo of a mountain scene on the background wall, and a road extending from it. The two tea porters stood on both sides of the road. To enhance the sense of immersion, we included the mountain songs sung by the tea porters in the scene, and the spotlight was mainly focused on the two tea porters. The entire background was weakened into the dark part of the exhibition hall, creating a profound feeling. Another example is when we created the "Red Chamber Exhibition," we seized the well-known concept of the Grand View Garden and deliberately created a miniature garden and corridor, making the audience feel as if they were in the backyard of the Grand View Garden, creating a strong sense of immersion. This ultimately achieved a perfect combination of the concrete and the abstract.

3.3. The third is the necessity of existence

The so-called necessity refers to the need to assess whether it is necessary at the beginning of landscape creation. This requires designers to first be familiar with the overall structure and

content of the exhibition. The theme of the exhibition should be clearly defined. In my opinion, having too many scene designs may not necessarily make a good exhibition. The use of scenes should be moderate, as having too many scenes may overshadow the main focus. On the other hand, having too few scenes may prevent the full expression of the exhibition's connotation. Generally speaking, the entrance hall is where landscape design is most presented because it is the starting point and the place where the exhibition's artistic summary is often presented. The entrance hall usually does not have display cases, so designers make good use of the space in the entrance hall to express the theme and meaning of the exhibition through highly artistic landscape creation. In each exhibition unit, scenes can be designed based on key cultural relics or key sections. Generally, historical and cultural exhibitions have more landscape creations because the historical and cultural connotations can only be expressed through cultural relics, which are limited. Therefore, landscape scenes are needed to create an atmosphere and allow the audience to have a better understanding. In art exhibitions, there are fewer landscape creations because the artistic value of the exhibits is already sufficient and doesn't require additional assistance. It is enough to adjust the display environment of the exhibits, such as display cabinets and lighting, to the optimal viewing state. For archaeological exhibitions, landscape creations often assist in the restoration of excavation sites. For example, in the 2016 Fu Hao Tomb exhibition held at the Capital Museum, the designers recreated the excavation site of Fu Hao Tomb through scene design and used VR technology to present the tomb to the audience.

3.4. The fourth is the application of modern technology

With the development of science and technology, more and more advanced technologies are being used in exhibition art. Previous projection and touch technologies are gradually being replaced by VR and AR technologies. As designers, we should keep up with the times and use modern technologies in landscape design and creation to enhance the depth and viewing experience of the scenes. At the same time, when using modern technology, the maintenance and updating costs should also be considered to achieve cost-effectiveness. Generally speaking, VR focuses more on individual visual experiences, while exhibitions are often designed for multiple viewers. Therefore, AR technology has a larger audience in museums. In addition, the unearthed cultural relics in museums are often ancient and severely damaged, with few complete artifacts, usually limited to stone, pottery, jade, and other non-perishable objects of ordinary quality. Due to the limitations of the development level of social productivity, their aesthetic value and artistic value are relatively weak. Although these cultural relics have precious academic research value, their important significance is not easily understood by ordinary viewers, and some cultural contents they imply may even be controversial. Therefore, exhibition designs must rely on first-hand information from field archaeological excavation reports, carefully interpret the dry archaeological excavation reports, summarize the content, and provide detailed cultural information such as the origin, classification, excavation site, collection time, and historical background of the cultural relics.

4. The Relationship Between Spatial Design and Landscape Shaping

When planning the spatial layout and visitor routes, the planners should consider the landscape design. First, as a designer, it is necessary to be familiar with the content of the exhibition and maintain close contact and communication with the text creators or outline writers. This can help understand the structure of the outline and establish key units and key sections. Landscape creation is either to highlight the content that needs to be emphasized or to supplement the lack of physical support for the narrative. This is mainly reflected in the exhibition route. In addition, the beginning and end of an exhibition (referred to as the entrance hall and the ending hall) are also important considerations for landscape design. Overall, landscape and spatial

layout complement each other. Planners should consider landscape design at the early stage of spatial layout and design it together with the exhibition route and spatial planning. Secondly, landscape design should be integrated into the spatial layout naturally. It should be a node that combines spaces or a manifestation of important environmental elements within the space. Thirdly, landscape design can also run through the spatial layout, and the continuity of landscape design is an important way of expression.

5. Conclusion

The spatial design and scene shaping of an exhibition are key factors in providing visitors with a unique, rich, and captivating exhibition experience. Through proper spatial layout and guiding signage, visitors can browse the exhibits in an orderly manner and smoothly transition between different display areas. At the same time, by creating dramatic and immersive scenes, such as lighting, sound effects, and installation art, exhibitions can immerse visitors in imaginative and emotional environments. The use of interactive technology and virtual reality enhances the sense of participation and experiential immersion for visitors. Through careful planning and innovative design, exhibitions can stimulate curiosity and imagination, deepening visitors' understanding and appreciation of the exhibition theme. Therefore, emphasizing spatial design and scene shaping in exhibition display will create an unforgettable journey for visitors.

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