

Analysis of Museum Study Sheet from the View of Design

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Keywords: Design, Museum, Study Sheet.

Abstract. Design is a bridge connecting spiritual culture and material culture, through which the mankind hopes to improve their living environment.^[1] In this paper, the author starts with the study sheet of a wide range of official website of domestic and foreign museums, mainly analyzing and summarizing the elements, methods and forms of the design, and further illustrates how to maximize the role public education play according to museums areas of design. It is concluded that museums should develop multiple sensory and interactive study sheets, to give the audience more control over informal learning in museums and to actively and effectively promote audience's self-guided study.

1. Sample Analysis of Museum Study Sheet Design

1.1 China Science and Technology Museum^[2]

The design method of the study sheet "Light Reflection" and "Light and Shadow" in this museum are presented by the direct presentation. It is divided into three parts: guide in advance, in-the-process guide and guide afterwards. The color of the page is dominated by the cold hue; as for the line, it is mainly linear; in the aspect of form, the theme of the museum is similar to the examination paper.

1.2 National Palace Museum^[3]

As the writer Gorky once said: "Exaggeration is the basic principle of creation." The study sheet strengthens the artistic effect by emphasizing the characteristics of the cultural relics in the exhibition hall and injecting a child-friendly element. In design form, this study sheet strengthens the wholeness of the layout, but each page is different: its change of variety breaks though the monotony of the whole page, there have straight lines and curve lines. The arrangement is dominated by changing columns, and the color of the page is mainly warm tone, so this study sheet form is vivid and lifesome. The theme of "National Treasure Mobilization" is composed of a series of study sheets, contains "Original Present Chapter", "Revelation of Seeking People" and "The Artifact Alive". The three small game tasks are combined to develop the study of this theme exhibition. The main content of "Original Present Chapter" is the detailed information about the articles displayed in the museum. "The Artifact Alive" includes the museum's topographic map, route plan and clue index, with the initial set of tasks on the first page. The content of "Revelation of Seeking People" is mainly question-answer form, and the type of subject is only painting. Since the study sheet designed specifically for the younger generation, all three small tasks are simple but fun to complete, in order to better arouse the curiosity and enthusiasm of the visitor effectively. The sixth image "My Other Half", shows that the designer did not provide a complete picture, but the museums showroom has shown that the purpose of this design is to make the visitor recall the cultural relics that he or she has seen today, and to deepen the memory, as a role of consolidating knowledge.

1.3 The Metropolitan Museum of Art, USA^[4]

The design method of "family map" study sheet adopts direct display method. The overall first impression of the overall design of the layout for Bang color orange blue complementary, strong

visual form impact is attractive. The page design is refined, within 5 pages, the first page being the cover, Pages 2 and 3 is a comprehensive map of the terrain map, page 4, the back cover, highlighting the final page of all exhibits in a cartoon version of the family photo. The page 5 covers the respective position of each exhibition in the museum, including a total of thousands of exhibitions in all exhibition halls. The design of the study sheet not only satisfies the functionality of museum public education, but also uses formal language to express theme, which can effectively guide the visitors to explore.

2. Analysis of Design Forms of Study Sheet

As far as form perfection is concerned, the concept of design was developed as an art criticism term in the Renaissance. The term of artistic criticism refers to the visual elements of rational arrangement of art and the basic principles of such reasonable arrangement. These visual elements include lines, shapes, colors, textures, light and space, and a reasonable arrangement refers to composition or layout.

After searching a wide range of museums, the author finds that the study sheet of the museums also belongs to the category of layout design, which can be analyzed from the angle of layout design.

In terms of the form of knowledge, there are three types of study sheet: thematic knowledge study sheet, map-guide study sheet and activity communication study sheet, all of which have their own characteristics in design style. In the case of knowledge-based project study sheet, characterized by a great variety of quantities and forms, it covers the themes of human history, sculpture, western oil painting, fine arts, Chinese ink painting and so on. The three lists also do not have a clear line of absoluteness, sometimes it might cover, it's a bias difference. The concept of continuum hypothesis proposed by Cantor in 1874 can be adopted here,^[5] put the topic knowledge study sheet, map guide study sheet and activity communication study sheet on the continuum to understand, they are not the existence of one or the other.

3. Process Elements of Study Sheet Design

There is no consensus on uniform design guidelines for the study sheet. Based on the different types of previous sheets, after detailed analysis in different countries, then combined with domestic and foreign scholars, such as Meng Qingjin and Bao Xianqing, with a summary of the study sheet process of design museum, the theoretical steps are as follows.

First, pre-design preparation, mainly for the study sheet before the preparation of a series of work, determines the design site. The questions include the types of museum, hall and exhibits displayed in the exhibition hall which are used to develop a learning target.

Second, the design object should be made sure by considering the different ages, different genders, and different pre-knowledge, with the use of different types of study sheet. For the young age visitors, illustrations can easily attract youngster's attention, the design should not be too complex.

Third, in order to establish the study goal and data collection. After establishing the study place and study object, the study object can be further targetedly established. The study content can be designed according to the specific knowledge content of museum official website, by consulting network or library materials, which is convenient for the next step to the specific study sheet design.

Fourth, the establishment of the above content, the determination of the design types, design style and design content design, it's time to start design study sheet. The new page in the creation of grid, use the golden section method can determine the basic paper size and achieve the balance of design. For example, use auxiliary grid with continuous Fibonacci sequence to form three different page size areas. The ratio of smaller to larger values to the golden ratio (1.61804) are equal to two consecutive values from a series of Fibonacci sequences. The use of symmetrical grid-assisted lines is a well-considered tool to help designers arrange the elements of a page quickly and accurately to ensure the accuracy of the actual measurement and page space ratio.

4. Summary

The study sheet is a medium between the objects displayed in museums and the audience that can be directly and effectively linked, and the question is how to best make its public education function work through better design. The elements contained in the study sheet have no fixed requirements and should be handled appropriately according to the circumstances, but the main purpose of the study form design is: site, museum introduction, exhibition hall introduction, exhibition area introduction, map, exhibition information description, research issues, knowledge background, research object, activity catalogue, activity introduction, learning goal, activity analysis, and additional information such as summary and outlook.

Acknowledgement

This research was financially supported by the National Social Science Foundation of China (Grant NO. 16BMZ081).

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