

The Digitalization of Intangible Tea Culture from the Perspective of Cultural Schema Theory

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Abstract: Tea culture Museum is an important carrier for the external communication of Chinese culture. As an intangible cultural heritage, tea art and all kinds of tea culture need to enhance their own communication power in the era of digital intelligence. With the help of museum, it is necessary to display the unique charm and profound heritage of excellent traditional Chinese culture, bring good aesthetic experience to both Chinese and foreign tea culture audiences, and strive to make it a representative symbol. Based on the cultural schema theory, this paper analyzes the strategies on how to improve the communication power of tea museum and intangible tea culture as well as the existing communication problems, hoping to improve the validity and intensity of tea culture communication and bring some inspiration for the overseas communication and promotion of tea culture.

Keywords: Tea Culture Museum; Cultural Schema Theory; Digitization; Communication Strategy.

1. Cultural Schema Theory

Schema theory is a theory used by cognitive psychologists to explain and understand mental processes. Cognitive psychologist Piaget studied the structure and mechanism of human cognition, and he believed that there are four elements in the cognitive process of human beings: schema, assimilation, adaptation, and balance. Piaget believed that schema is the mode of thinking of cognition of objective things, that is, the cognitive structure of objective things formed in the human brain, which contains multiple information units, and is composed of a large and complex cognitive network composed of multiple main schemas and sub-schemas.[1] The schema theory of cultural cognition is the application and development of schema theory in the field of cultural cognition. This theory emphasizes the role of cultural factors in the cognitive structure and cognitive process of individuals, and believes that people's cognition and behavior are profoundly influenced by the culture to which they belong. A cultural schema is a structure of knowledge shared by members of a particular cultural group that influences how individuals perceive, interpret, and respond to the external world.[2] These schemas include values, beliefs, customs, traditions, and behavioral norms. It can help to understand intercultural communication behaviors and promote effective intercultural communication. Cultural schemas have a wide range of influences on the choice of cultural content, from information screening and attention, information interpretation and understanding, thinking and decision-making to problem-solving and creativity.

Cognitive schema will have a positive impact on museum exhibitions, online museum platforms, interactive interface design of digital museums, and the formation of new forms of smart museums, so as to provide new inspiration and design ideas for the digital display of intangible cultural heritage. For example, based on this cognitive theory and combined with the cognitive needs of users, Chen Guoying et al. constructed a targeted cognitive model, and designed an interactive content schema based on the model. Based on the schema theory of cognitive psychology, Wang et al. analyzed the cognitive psychology of users through schema, which

effectively improved the user experience in interaction design and provided a new display scheme for digital museum design.

In the digital display of the Intangible Cultural Heritage Tea Culture Museum, the construction of cognitive schema as a thinking tool is helpful for users to efficiently grasp new intangible cultural heritage knowledge and improve cognitive efficiency. It should be systematically revealed that the intangible cultural heritage extends from the concrete surface cultural cognition level to the abstract deep cultural cognition level, and the digital display of intangible cultural heritage is used as a medium of information transmission and the entry point of information intervention, and the user subject instinctively invokes the simple cognitive schema of intangible cultural heritage originally formed in his brain when processing the received information, the information received from the outside stimulates the original cognitive schema in the human brain, and the logical information transmitted by the digital display stimulates the user's subjective initiative. On the one hand, it guides users to perceive and understand new cultural information, and on this basis, the information processing of the schema generated in the original human brain is carried out through subjective factors. On the other hand, the new information conveyed by the digital display is integrated into the original schema, the known information is improved and expanded, and the process of information assimilation and adaptation is completed, that is, the unchanged part of the unit schema is assimilated, and the changed part of the unit schema is adapted. External factors and internal factors work together to cope with changes in the external environment, adjust the original schema information unit, or establish and form a new cognitive schema, and obtain a holistic and systematic cognitive schema, so as to establish new connections and achieve a new balance.

2. Application of Cultural Schema Theory in the Digitization of Tea Culture Museums

2.1. Construction and Activation of Cognitive Schema

In the design of the tea culture museum, the construction and activation of cognitive schema is the key strategy to enhance the experience and educational effect of visitors. In order to effectively convey the rich connotations of tea culture, the museum's exhibition layout is carefully divided into multiple functional areas, each of which specifically represents a major dimension of tea culture. The historical exhibition area traces the origin and development of tea culture, the production process exhibition area focuses on the production process of tea, the tea ceremony exhibition area displays the spiritual connotation and ritual process of tea ceremony, and the tea art exhibition area conveys the skills of making tea and tasting tea through tea art performances and interactive experiences.

Each exhibition area is given a clear theme to ensure that visitors can quickly understand and remember the core content of tea culture. In the history exhibition area, a detailed timeline connects the important events of each historical period, providing visitors with a clear historical development context. In the production process exhibition area, flow charts and step descriptions illustrate the whole process from picking to finished products, so that visitors can intuitively understand the science and art of tea making. In the tea ceremony and tea art exhibition area, interactive models and physical operation tables allow visitors to participate in the tea ceremony and tea brewing process, and deepen their understanding of tea culture through practice.

Through these schematic display methods, the visitors' cognitive schemas can be effectively constructed and activated during the visit. Timelines, flow charts, interactive models and other display techniques not only promote the dissemination of tea culture knowledge, but also enhance visitors' recognition of the value of tea culture. This zoning layout and clear theme design strategy not only enhances the experience of visitors, but also provides strong support for the inheritance and education of tea culture.

2.2. Information Screening and Attention

In terms of information screening and attention guidance, the design of the Tea Culture Museum fully considers the cognitive load and attention allocation of visitors. In order to improve the efficiency of information transmission and the learning effect of visitors, the museum has adopted a focused approach in the display strategy. Through a well-curated multimedia exhibition, the museum subtly highlights the uniqueness and importance of tea culture. For example, the storytelling of tea history and celebrity deeds through moving images and sound effects effectively captures the attention of visitors and leaves a lasting impression on the minds of visitors.

In addition, the museum has set up a special interactive experience area, which aims to activate and deepen visitors' understanding of tea culture through participatory learning. In this area, visitors will not only be able to watch tea performances, but also have the opportunity to participate in the process of tea making. This interactive experience is designed not only to provide visitors with a platform to

translate theoretical knowledge into practical skills, but also to utilize the principle of embodied cognition, which is to enhance memory and understanding through physical movements and sensory experiences. Through making and tasting tea, visitors can feel the connotation of tea culture more intuitively, so as to form a richer and more profound tea culture schema at the cognitive level. This interactive experience, which integrates the visual, auditory and tactile senses, not only enhances the sense of participation of visitors, but also effectively promotes the dissemination of tea culture knowledge and cultural inheritance.

2.3. Interpretation and Understanding

In the field of in-depth exploration of information interpretation and understanding, the curation and design of the museum's exhibitions skillfully integrate multi-sensory learning strategies, aiming to provide visitors with a comprehensive and multi-angle cognitive experience of tea culture. In this process, the exhibition makes full use of multi-sensory channels such as sight, hearing, smell and touch to enhance visitors' deep understanding and memory of tea culture. For example, through the delicate visual design, the exhibition shows the color change of tea leaves from fresh leaves to finished tea, as well as the unique appearance characteristics of different tea types; In terms of olfactory experience, through the carefully arranged aroma release device, visitors can smell the aroma of various teas in person, so as to feel the subtle connection between tea aroma and regions and varieties.

The integration of auditory elements, such as the reproduction of sounds in the process of tea making, not only brings visitors an immersive feeling, but also makes the learning of tea culture more vivid and concrete. The tactile experience, such as touching the texture of the tea leaves and feeling the weight and temperature of the tea set, further strengthens the visitors' understanding of the material form of tea culture. This multi-sensory fusion not only promotes the absorption of tea culture knowledge by visitors, but also helps them resonate with tea culture on a psychological and emotional level.

In the dimension of cultural contrast, the exhibition carefully curates a series of contrasting displays, aiming to guide visitors to deeply explore the diversity of tea culture through differentiated cultural elements. By comparing the delicacy of Chinese gongfu tea with the simplicity of Japanese tea ceremony, the elegance of English afternoon tea and the richness of Indian milk tea, the exhibition not only reveals the distinctive characteristics of tea customs in different cultural backgrounds, but also prompts visitors to think about how tea culture reflects and shapes the values, lifestyles and aesthetic tastes of their respective societies. This in-depth cultural comparative analysis not only enriches the visitors' knowledge structure, but also enhances their sensitivity and understanding of cultural differences, so as to realize the important role and far-reaching influence of tea culture in global communication and communication in a broader context.

2.4. Mindset and Decision-making

The museum's exhibition strategy plays a crucial role in in-depth research that explores mindsets and decision-making mechanisms, especially in promoting visitors' awareness and understanding of tea culture. [3] Through a well-designed storytelling, the exhibition skillfully integrates elements such

as the legend of tea and the background of tea poems, which not only provides visitors with a new perspective, but also effectively guides them to adopt the mindset of local culture to explore and appreciate the deep connotation of tea culture. This narrative strategy not only enhances the cultural immersion of the visitors, but also builds a kind of bridge at the cognitive level, enabling the visitors to resonate emotionally and intellectually with the rich history and unique aesthetics of tea culture, thereby promoting the in-depth recognition and evaluation of the value of tea culture.

Furthermore, the museum's educational activities play an indispensable role in deepening visitors' understanding of tea culture. These activities, including but not limited to special lectures, academic seminars, interactive experiences, etc., not only provide systematic knowledge of tea culture, but also stimulate the critical thinking and decision-making ability of visitors. In these activities, experts and scholars guided visitors to explore the origin, development trajectory, social impact and its spread and changes in the context of globalization through in-depth explanations. This in-depth cultural interpretation not only enriches the knowledge structure of visitors, but also enables them to use critical thinking to make independent analyses and judgments when confronted with complex cultural phenomena.

In conclusion, through a combination of storytelling and educational activities, the museum not only provides visitors with a multi-dimensional learning platform, but also plays an important role in cultivating visitors' cultural sensitivity and critical thinking skills. This comprehensive exhibition design strategy not only deepens visitors' understanding and appreciation of tea culture, but also provides strong support for them to form a more comprehensive and in-depth cultural understanding in the exchange and integration of multiple cultures.

2.5. Problem Solving and Creativity

In the academic context of problem-solving and creativity-building, the innovative presentation of museum exhibitions plays a crucial role. Specifically, by employing cutting-edge digital technologies such as virtual reality (VR) and augmented reality (AR), the museum has succeeded in creating an immersive experience that not only greatly enhances visitor engagement, but also effectively stimulates their creativity. With this kind of technical support, visitors can cross the boundaries of time and space, experience the origin and development of tea culture, and feel every detail of the tea ceremony, thus promoting the understanding and perception of the connotation of tea culture at a deep level.[4]

In addition, the designers of the museum's exhibitions cleverly incorporated interactive Q&A sessions, a strategy that not only provides a platform for visitors to express their personal insights and curiosity, but also promotes a deeper understanding and innovative thinking about tea culture by encouraging them to ask questions and actively seek answers. This interactive mode breaks the limitations of traditional one-way knowledge transfer, and instead constructs a two-way interactive learning environment, in which visitors are no longer passive recipients of information, but become active participants in knowledge exploration and problem solving. In this environment, visitors can not only gain knowledge about tea culture, but more importantly, their critical thinking and creative problem-solving skills are effectively exercised and improved. As a result, this exhibition design not only enriches the cultural experience of visitors, but also plays a

significant role in nurturing their problem-solving and creativity.

2.6. Assimilation and Adaptation

Under the framework of the theory of assimilation and adaptation of cognitive development, the design and renewal strategies of museum exhibitions are particularly important. In order to promote visitors' cognitive assimilation and adaptation to the development and changes of tea culture, the museum regularly updates the exhibits and display content to ensure that the exhibition content is kept up with the latest research results and social practices of tea culture. [5] This dynamic and updated exhibition strategy not only helps visitors to establish a cognitive structure that is compatible with the development of tea culture, but also stimulates them to think deeply about cultural changes, so as to realize the transformation from the existing schema to the new schema in cognition.

In addition, in order to further optimize the layout and content of the exhibition and make it more in line with the cognitive needs of visitors, the museum has established an effective feedback mechanism. By collecting visitors' opinions and suggestions, the museum can keep abreast of the changes in visitors' cognitive experience and needs, and then make targeted adjustments to the exhibition design. This visitor-centered feedback loop not only reflects the museum's respect for the subjective status of visitors, but also promotes the effective connection between the exhibition content and the visitors' cognitive structure in the process of continuous iteration, and realizes the dynamic balance of cognitive compliance. Therefore, this strategy not only enhances the educational effect of museum exhibitions, but also plays an active role in promoting the cognitive development of visitors.

3. Design Ideas for Digital Exhibitions of Tea Culture Museums

3.1. Create an Interactive Learning Space to Enhance the Interaction of the Audience

In the Tea Culture Museum, the creation of an interactive learning space plays a key role in increasing the audience's engagement and deepening the learning experience. The purpose of this space is to allow visitors to grasp the connotation of tea culture more comprehensively through participation and experience. In these specialized areas, through a variety of interactive installations and activities, visitors are transformed into mere receivers of information and become active participants in the learning process. For example, experiential learning stations have been set up, such as tea variety identification area, tea art practice area, tea roasting interactive area, etc., which allow visitors to experience the characteristics and production process of different teas by themselves, and then deepen their understanding of tea culture.

At the same time, the use of digital technology to provide interactive educational content is also an effective strategy. With the help of touch screens, interactive software or augmented reality, visitors can explore the evolution of tea, varieties, production techniques and more in a more vivid way. The application of these technologies not only enriches the level of information delivery, but also makes the presentation of content more engaging, especially for young audiences, and this technological intervention greatly increases their enthusiasm for participation.

When planning an interactive educational event, it's crucial to pay attention to the audience's feedback and experience. Collecting visitors' views and suggestions through questionnaires, feedback areas or interactive discussion forums not only helps the museum improve the interactive educational content, but also enhances the sense of participation and satisfaction of visitors. It is also necessary to provide customized interactive educational content for audiences of different ages and backgrounds. For example, learning modules are designed to be more fun and playful for children, while more in-depth and professional content is designed for adults.

In addition, regular events or lectures on the theme of tea culture are also an important complement to the interactive education strategy. These activities can cover multiple dimensions of tea culture, such as planting, history, art, science, etc., and invite industry experts or artists to share knowledge and exchange ideas, providing visitors with a wider range of learning and interaction opportunities. Through such activities, visitors can not only gain valuable knowledge from experts, but also share experiences with other tea culture lovers, and jointly build a community for tea culture learning and exchange.

3.2. Digital Innovation is Applied to the Tea Museum to Reshape the Audience's Cognition and Interactive Experience

With the help of modern technology, the exhibition design of the Tea Museum cleverly integrates the theory of "schema" to promote the audience's cognitive construction and activation of tea culture knowledge. Through 3D digital animation, virtual reality (VR) and augmented reality (AR) technology, the Tea Museum reproduces tea culture-related artifacts, such as 3D tea ware models, digitized ancient tea tree murals, and virtual tea ceremony performance spaces, which not only provide the audience with an immersive experience, but also deepen the audience's understanding of the history and traditions of tea culture through the construction of visual and spatial schemas.

In recent years, the Tea Museum has used schema theory to design interactive experiences to cater to the preferences of the younger generation. For example, the Hunan Provincial Tea Museum transforms the tea culture exhibition hall into a "game scene", allowing visitors to activate their cognitive schema through role-playing and clue puzzle solving, and achieve an all-round immersive experience. This innovative interactive way not only conveys the cultural heritage behind the tea relics, but also strengthens the audience's cognitive schema of tea history through practice and experience.

In addition, the Shaanxi Tea Culture Museum has arranged a variety of interactive installations in the exhibition hall, which are designed to fully consider the audience's cognitive schema. In the interactive process of touching ancient tea set specimens, trying tea art matching, and experiencing screen rubbing, tourists not only enhance the ornamental value of tea cultural relics, but also promote the construction of tea culture knowledge schema through sensory experience and operation practice. These interactive installations not only reborn tea cultural relics in the original historical scene, but also played an important role in promoting the wide dissemination of tea culture, making the transmission of tea culture more rapid, convenient and deeply rooted in the hearts of the people.

3.3. Innovative Application of Digital Means to Social Media

Guided by schema theory, the Tea Museum's social media marketing strategy has shown unique innovation and effectiveness. Through well-designed social media campaigns, the Tea Museum not only activates the public's cognitive schema of tea culture, but also successfully integrates traditional culture with modern life. Taking Weibo and WeChat as an example, the Tea Museum has launched a series of creative tea culture emojis, such as the ancient tea utensils and made into interesting emojis, which quickly attracted the attention of young people and spread widely on the Internet, making tea culture rejuvenate among the younger generation.

In particular, it is worth mentioning that the Tea Museum borrowed the underglaze color technique of the porcelain master Zeng Longsheng to transform a "Contemplative Arhat" tea set into a "Tea Tasting Arhat" emoji, an innovative measure that sparked heated discussions and forwards on the Internet, effectively broadening the spread of tea culture. In addition, the Tea Museum has also launched a series of short videos of "1-Minute Fun Reading Tea Cultural Relics", which brings the audience an in-depth interpretation experience of tea culture through concise content and unique titles, such as "The 'Tea Ware Treasure Book' of the Ancients" and "The Millennial Story of Tea Fragrance", etc., and further constructs the modern meaning schema of tea culture.

On the Douyin platform, the Tea Museum and other cultural and museum institutions jointly launched the H5 work "Tea Fragrance Overflowing: Cultural Relics Drama Essence Conference", using online expressions that are close to the language habits of young people, such as "Tea fragrance is not afraid of deep alleys", "It's time to show the real tea-making technology", etc., combined with popular dance moves, so that ancient tea relics can be "resurrected into essence" on social media, showing off tea art. This youthful way of expression not only instantly caught the attention of the audience, but also made people smile and have a deeper sense of identity with tea culture. In the end, these creative contents and expressions formed a strong "ripple effect" on the Internet, which greatly improved the communication effect of the tea museum and allowed the charm of tea culture to bloom on modern social media platforms. Through these innovative measures, the Tea Museum has not only enhanced its brand image, but also opened up a new path for the inheritance and development of traditional culture.

4. Conclusion

From the perspective of cultural schema theory, this paper discusses the strategies and methods of digital display of tea culture museums, aiming to improve its communication power and show the unique charm and profound heritage of traditional Chinese tea culture to audiences at home and abroad.

The digital display has brought new opportunities and challenges to the Tea Culture Museum. Digital technology can create immersive experiences, enhance audience interaction, and expand the spread of tea culture, but it also needs to pay attention to the quality and depth of content, avoid mere formality, and at the same time consider the cognitive differences of audiences from different cultural backgrounds to avoid cultural misinterpretation.

In the future, the digital display of the Tea Culture Museum

can further explore the directions of personalized customization, cross-platform integration, artificial intelligence application and international cooperation, making it an important window for disseminating China's excellent traditional culture, so that more people can understand and fall in love with Chinese tea culture.

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