

Research on the Interactive Narrative Design of Jiangnan Sizhu Based on the Perception of Cultural Symbols

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Abstract. The inheritance and dissemination of folk culture in the context of new media has become a key research topic in the current academic community. This article summarizes the relationship between the perception of folk cultural symbols, audience attitudes, and interactive narrative design. By collecting relevant data and establishing hypothesis models, it explores the role and influence of interactive narrative design between the perception of folk cultural symbols and audience attitudes. Based on this, an interactive narrative model for the perception of Jiangnan Sizhu cultural symbols is constructed from the perspectives of text structure, formal structure, and interactive structure. To exploring the ways and methods of interactive narrative design to better promote the dynamic inheritance and dissemination of Jiangnan Sizhu, so as to present characteristics that are in line with the cultural ecology of the new era and reflect its dynamic value. The research results show that as a representative of intangible cultural heritage and folk customs in the performing arts category, the inheritance and development of Jiangnan Sizhu inevitably need to keep up with the times. Interactive narrative can be an effective means to enable the audience to achieve a conscious experience of aesthetic culture and value identification through its cultural imagery, endowing Jiangnan Sizhu with more cultural connotations, value space, and dissemination channels. At the same time, it provides reference directions and paths for interactive narrative design in the inheritance of other intangible cultural heritage customs.

Keywords. Symbol Perception; Cultural Imagery; Interactive Narrative Design. Jiangnan Sizhu

1. Introduction

The perception of cultural symbols from a sociological perspective views culture as a diverse synthesis. The basic starting point of the Tartu school's research on "cultural memory" is to view culture as a symbolic system, creating, and forgetting information in cultural memory, elucidate the characteristics of different types of cultural memory, and search for the most suitable symbol elements to assume the responsibility of cultural memory [1]. The perception of cultural symbols from the perspective of design studies focuses on the characteristics and meanings of cultural symbols, studying how to construct multiple meanings of cultural symbols through design and continuously acquire new meanings in order to be better perceived by people [2]. Among them, how

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to transform intangible, vague, and abstract cultural symbols into perceptible experience models through design has become a research difficulty. The process of transforming abstract symbols into artistic symbols emphasizes the intentionality of symbol expression and people's perception of symbols [3]. Therefore, symbols can be used to express people's emotions and thoughts and are also important elements in cultural construction. Modern hermeneutics believes that the emotional centered meaning contained, metaphorical, and symbolic in a text constitutes the meaning of cultural symbols [4]. From this, the design and construction of cultural symbols can be based on "form" and generate multiple connotation systems with infinite meaning.

Folk customs are not only one of social ideologies, but also a cultural heritage with a long history [5]. From the perspective of musicology, research on Jiangnan Sizhu mostly focuses on repertoire, musical forms, instruments, and music systems; From the perspective of folklore, it focuses on inheritors, improvement of musical instruments, and innovation in performance forms [6]. Therefore, the study of Jiangnan Sizhu has interdisciplinary and diverse characteristics. This study using interactive narrative design to excavate its deep cultural symbols through the artistic representation of Jiangnan Sizhu, promote group cognition, and promote the inheritance and dissemination of Jiangnan Sizhu.

2. Literature review

2.1. Sign Theory and Cultural Sign Perception

Modern semiotics regards symbols as meaningful media that convey certain information in a certain context. Chiyoshihiko believes that the meaning of symbols changes with cultural and social contexts [7]. Saussure believed that symbols are composed of the signifier and the signified [8]. Peirce believed that symbols are composed of representative items, symbolic media, and explanatory items, and their relationship determines the essence of the process of symbolization. Through the analysis of the process of symbolic meaning can be contextualized to generate infinite meaning. Susan Langer believing that art is a symbol that objectifies human emotional activities and needs to be studied from an aesthetic perspective [9]. People's perception of cultural symbols is related to human experience. Therefore, the symbolic meaning of cultural symbols needs to be jointly recognized by a group to have universal significance.

2.2 Narrative Theory and Interactive Narrative Design

Interactive narrative through interaction and explores immersive experiences from different perspectives of narrative. Foreign research mainly focuses on game design, film and television animation, computer technology, literary and artistic research, and other fields. Galylean and Tinsley Azariah extended the research field of interactive narrative to the field of video production[10]; Stacey Hand and Duane Varan validated through experimental data that incorporating interactive elements in game design can continuously improve the audience's emotional experience[11]; Marie Laure Ryan believes that through interaction, narrative experiences can be continued[12]; Chris Crawford believes that interactive narrative can achieve different sensory experiences by selecting different narrative plots[13]. Domestic research mainly focuses on new media narrative, virtual interaction technology, user experience design, and other fields. Hong.W. and Suren.L. believe that interactive narrative integrated with culture can

deepen the audience experience [14]; Vrettakis, E. proposed the design method and implementation approach of interactive narrative from the perspective of cognitive psychology [15]; Dzedzickis, A. studied user emotional needs in interactive narratives from a new media perspective, and explored design methods for interactive narratives[16].

2.3 Jiangnan Sizhu and Its Contemporary Development Issues

Jiangnan Sizhu has a long history and profound traditions. The performers cooperate with each other according to the repertoire and improvise, fully leveraging their subjective initiative and teamwork[17]. From the perspective of Intangible Cultural Heritage Inheritance, although the government's guidance to the public and cultural infiltration have played a positive role in the inheritance of Jiangnan Sizhu, Jiangnan Sizhu lacks its own social ecology and cultural form of inheritance, and the audience's recognition of Jiangnan Sizhu is not high, coupled with the impact of global cultural convergence, which makes it face more severe development challenges. The fundamental reason lies in the artistic form and language construction of Jiangnan Sizhu, and then there is a deviation in the propagation path.

2.4 research hypothesis

After clarifying the relevant concepts and their relationships, this study proposes five hypotheses, namely (Figure 1):

Hypothesis 1: There are three levels of perception of folk culture: folk cultural imagery, symbolic cultural imagery, and connotative cultural imagery;

Hypothesis 2: Three levels of audience attitude: audience cognition, audience emotions, and audience behavior;

Hypothesis 3: The relationship between the three levels of audience attitude;

Hypothesis 4: The perception of folk culture and the attitude of the audience interact through interactive narrative design.

Hypothesis 5: The relationship between folk cultural perception and audience attitudes.

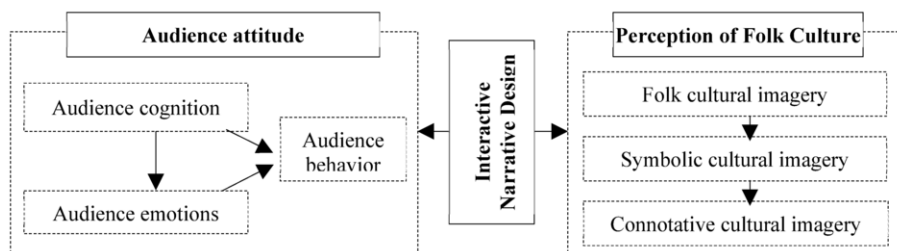


Figure 1. Hypothesis Model(This study)

3. Research Design

3.1. Research Method

This study is based on the "cultural image theory". Image is interpreted as a state of mind in the field of psychology. It is the intermediary of thinking activities and the basis of

psychological activities [18]. Cultural images form connotative cultural symbols through inherent and unique cultural meanings, reflecting historical culture, social consciousness, national spirit, as well as people's impression, cognition and emotion of perceptible cultural entities [19]. This study takes Jiangnan Sizhu as the research object, analyzes its atmosphere folk custom image, symbol image and connotation image according to the cultural image theory, and constructs the relationship model among Jiangnan Sizhu cultural perception, interactive narrative design and audience attitude [20].

An analysis of the folk cultural image of Jiangnan Sizhu (Figure 2): Jiangnan Sizhu is an indispensable folk form in Jiangnan region, such as festivals and wedding customs, and is the product of emotional cognition, aesthetic context and value standards [21].

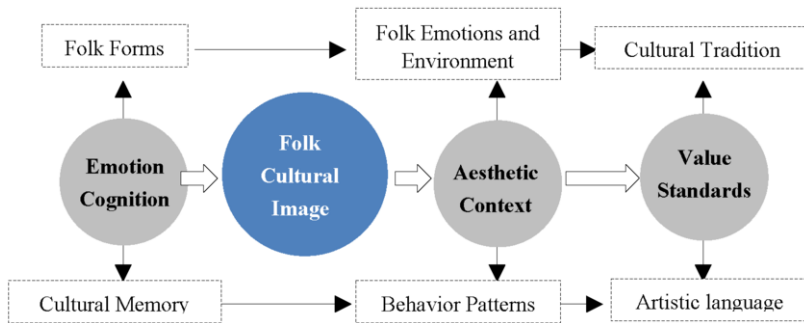


Figure 2. Folk cultural image of Jiangnan Sizhu(This study)

Analysis of the symbolic cultural image of Jiangnan Sizhu(Figure 3): Jiangnan Sizhu is a complex of cultural symbols such as musical instrument shape culture, performance form culture, and skill culture. As a medium, symbols reflect people's subjective consciousness and play the role of cognition, communication, and dissemination[22].

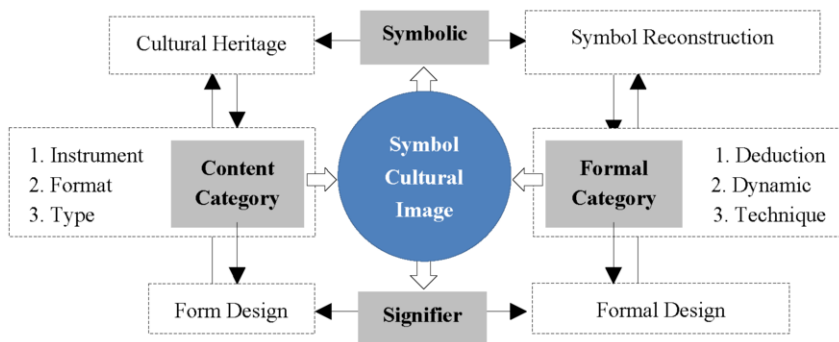


Figure 3. Symbol cultural image of Jiangnan Sizhu(This study)

An analysis of the connotative cultural image of Jiangnan Sizhu(Figure 4): the taste of Jiangnan Sizhu is all between the harmonious tunes, which coincides with the connotation of Chinese traditional Confucian culture[23]. The Confucian thought of the unity of heaven and man is the highest realm of the golden mean [24].

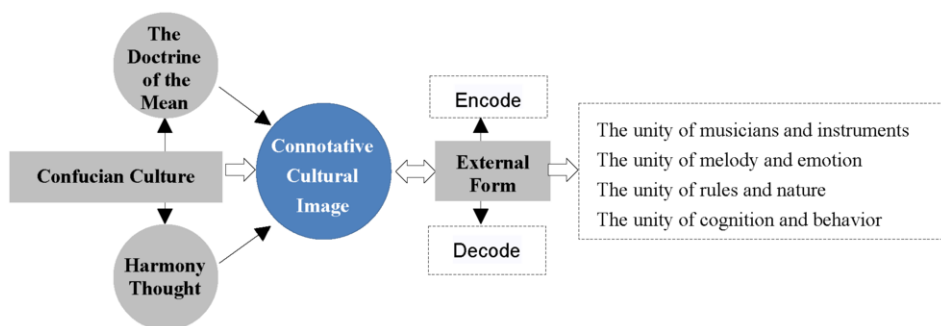


Figure 4. Connotation cultural image of Jiangnan Sizhu(This study)

3.2. Scale design

Taking "the perception of cultural symbols of silk and bamboo in the south of the Yangtze River" as the research object, the questionnaire is designed based on some existing questionnaires, including three parts: the first part is the research introduction, which explains the basic situation of silk and bamboo in the south of the Yangtze River; The second part is the basic information of the respondents; The third part quantifies the cultural symbols of southern silk and bamboo, and collects and sorts out the indicators of concern through semi-structured interviews. This study summarizes some evaluation indicators on the basis of the existing ones. In the pre survey stage, through the analysis of the data, part of the data that has no obvious correlation with the potential variables to be measured is deleted, and the sentences of the items are modified according to the feedback of the investigators, forming the final questionnaire.

According to the scale, according to the three levels of folk culture perception set above, six measurement items are designed, and the items refer to Mithrabian & Epstein (1972); According to the three levels of the audience's attitude, six measurement items are designed. The items refer to LeVygotsky (1930); According to the relationship between the perception of folk culture and the audience's attitude, three measurement items are designed, and the items refer to Westbrook (1980). And it is refined according to the visual, perceptual and memory of interactive narrative experience. The likert 5 subscale is used for the measurement scale, "1" means very disagree, "2" means disagree, "3" means average, "4" means agree, "5" means very agree.

3.3. Data collection

The questionnaire selected some people in southern Jiangsu, Shanghai, Zhejiang and other regions, as well as tourists as the research object, and collected research data through questionnaire stars, wechat circle of friends, interviews and other forms. After 2-3 weeks of intensive collection and interviews, 248 questionnaires were collected. After deleting the invalid questionnaires, 213 questionnaires were finally counted, with an effective rate of 86%. According to the statistical data analysis, the respondents' attitudes towards the interactive narrative experience of the folk culture of silk and bamboo in the south of the Yangtze River are visual (62.3%), perceptual (41.8%), and perceptual (32.2%).

3.4. Reliability and validity analysis

Reliability analysis: according to Cronbach's α Coefficient test, the scale data results are stored in SPSS to analyze its reliability, and the α The coefficient values were 0.855, 0.876 and 0.921, which were all above 0.8, indicating that the sample data had high reliability. The measurement indicators of each item met the conditions of factor analysis, and the scale had good internal consistency and stability, which could be used for further analysis.

Validity analysis: the convergence validity of the recovered data was tested according to the AVE (0.806; 0.881; 0.9921) and CR (0.573; 0.615; 0.669) of each index. The test results showed that each index reflected the same construct and connotation index, indicating that the convergence validity index of the scale data met the requirements; the standard load system of the scale was obtained through data detection. Except that F1, F2 and F4 items were greater than 0.6 and less than 0.7, the rest items were greater than 0.7. The reason was that the respondents were affected by the description clarity and experience degree of interactive narrative design. The mean variance extracted AVE value and combined reliability CR index were verified again, and the test results showed that the scale data had good aggregate validity. See Table 1 for detailed data.

Table 1. Reliability and Validity

Dimension	Index	Standard load	T value	AVE	CR	Alpha
Perception of Folk Culture	F1: I have gained a basic understanding of Jiangnan Sizhu through explanation	0.63		0.806	0.573	0.855
	F2 : Gain a deeper understanding of Jiangnan Sizhu through video media	0.65	13.074			
	F3: The interactive form made me actively understand the Jiangnan Sizhu culture	0.72	12.426			
	F4 : The narrative technique made me empathize with Jiangnan Sizhu	0.67	11.708			
	F5: Virtual experience is more conducive to the dissemination of folk culture	0.70	12.149			
	F6 : Folk culture is an important component of traditional Chinese culture	0.82	16.879			
Audience attitude	A1: Jiangnan Sizhu reminds me of the regional characteristics of Jiangnan	0.82		0.881	0.615	0.876
	A2: Jiangnan Sizhu reminds me of special people and things	0.83	17.076			
	A3: Jiangnan Sizhu have aroused my interest in folk culture	0.81	16.889			
	A4 : I am willing to recommend Jiangnan Sizhu Culture to my family and friends	0.75	14.148			
	A5: I am willing to participate in the experience in specific scenarios	0.83	16.912			
	A6: Jiangnan Sizhu make me feel the charm of Chinese folk music	0.86	18.325			
	D1: Interactive Narration Makes Jiangnan Sizhu Easy to Understand	0.81		0.921	0.669	0.921

Interactive Narrative Design	D2: Interactive narration is beneficial for the popularization and inheritance of Jiangnan Sizhu	0.82	19.854
	D3: Interactive narrative design benefits cultural identity of Jiangnan Sizhu	0.77	17.774

3.5 Hypothesis model validation

The model was estimated, and the test showed that the main fitting indexes under the hypothetical conditions were greater than 0.9, indicating that the fitting indexes were good, and the overall hypothetical model was up to standard. Hypothesis model validation results show that interactive narrative design has a significant impact on the perception of folk cultural symbols of silk and bamboo in the south of the Yangtze River; Interactive narrative design has a significant positive impact on the audience's attitude; Audience cognition has a significant positive impact on audience emotion; Audience cognition and audience emotion have significant positive effects on audience behavior (see Table 2).

Tab.2 Results of supposed test

Assumption Path	Beta value	T value	P value	Inspection results
Interactive Narrative Design → Perception of Jiangnan Sizhu Folk Culture Symbols	0.195	2.116	*	establish
Interactive Narrative Design → Audience Attitude	0.687	8.825	***	establish
Audience cognition → Audience emotions	0.145	3.676	***	establish
Audience cognition → Audience behavior	0.134	2.566	*	establish
Audience emotions → Audience behavior	0.164	2.633	**	establish

Note: * * * indicates $P < 0.001$ and is significantly correlated.

4. Architecture of Interactive Narrative Design Model for Jiangnan Sizhu

4.1. A study of narrative generation

First, the space-time generation of narration. The modern narrative discourse of Jiangnan Sizhu is constructed by time. The multiple narrative dimensions of Jiangnan Sizhu are constructed in space. Second, the scene generation of narrative. Through the field, the narrative generation has a formal meaning, so that the experiencer has more ways to interpret Jiangnan Sizhu[25]. Establish the communication between the audience and the perception of Jiangnan Sizhu cultural symbols through the situation, so as to achieve the unity of things and me. Third, the media generation of narrative. Through the interleaving of words and images, it is easy for the audience to understand and accept. At the same time, the continuous updating of narrative media has brought more plasticity to the communication form of Jiangnan Sizhu. The design method of narration can transform the cultural information of Jiangnan Sizhu into a language that can be recognized. (Figure 5).

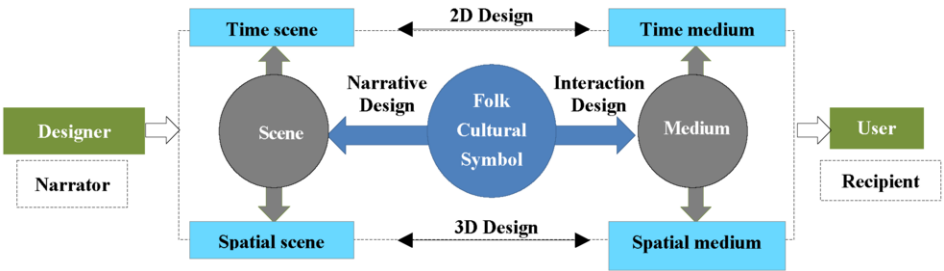


Figure 5. Interactive narrative generation structure of cultural images in Jiangnan Sizhu(This study)

4.2. A study of Interactive narrative architecture

From the above data, it can be seen that interactive narrative can be used as an effective research way to put the folk image, symbol image and connotation image of Jiangnan Sizhu in the narrative system, so that the audience can reconstruct the historical and cultural memory and emotional experience, and realize the conscious experience of aesthetic culture and value identification(Figure 6).

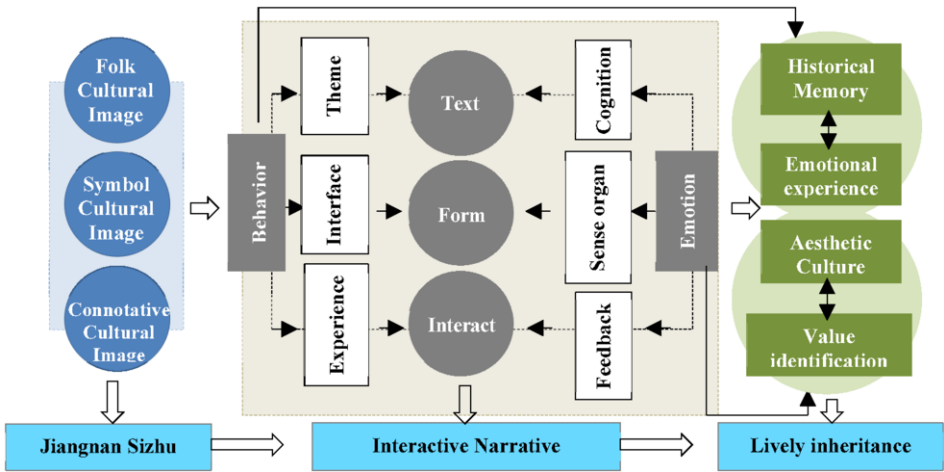


Figure 6. Design model structure of cultural images in Jiangnan sizhu(This study)

5. Conclusion

The results show that interactive narrative design has a significant impact on the perception of folk cultural symbols of silk and bamboo in the south of the Yangtze River; Interactive narrative design has a significant positive impact on the audience's attitude; Audience cognition has a significant positive impact on audience emotion; Audience cognition and audience emotion have significant positive effects on audience behavior. This provides important enlightenment for the design of folk culture inheritance and dissemination. Based on the theory of cultural image, this paper analyzes the folk cultural image, symbolic cultural image and connotative cultural image of Jiangnan Sizhu, and puts forward four elements of the narrative generation of Jiangnan Sizhu cultural image, on which the design content and ideas of interactive narrative of Jiangnan Sizhu cultural

symbol perception are constructed. Interactive narrative can enhance the value expression of Jiangnan Sizhu in the context of the new era through diversified, multi-channel and multi-path design. At the same time, the research of interactive narrative design has a richer innovation path worthy of further exploration. Through the design model and analysis of this study, the effectiveness of interactive narrative design in the field of folk cultural symbol perception and communication is verified. Whether the model is reliable in the inheritance and dissemination of folk culture in other countries and regions needs further verification.

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