

Tourism Driven Rural Public Space Five Senses Experience Design

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Abstract:

In the past few decades, the countryside has been neglected, and the countryside is closely related to the development of Chinese civilization, so the protection and design of rural public space has become an important research topic. Rural public space is of great value to the development of tourism. Through the summary of previous research literatures, it is found that there are more researches on rural public space using qualitative analysis methods, but few using quantitative research methods as research tools. Therefore, this paper attempts to combine qualitative and quantitative research methods. Based on the experience design theory, the author constructs an index framework for the five-sense experience design of rural public space through qualitative analysis, and discusses the index weight relationship of the five-sense experience design of rural public space, with a view to providing references for the tourism development and optimization of rural public space.

Keywords:

Tourism, The Country, Public Space, Five Senses, Experience Design

1. Introduction

With the accelerated process of urbanization, many problems of urbanization have become increasingly prominent, such as environmental pollution, noisy noise, the disappearance of greening, and the continuous acceleration of people's pace of life, etc., forcing many people to try to find a peaceful and comfortable environment with a sense of belonging. The countryside has a leisurely environment, far away from the noisy city, and has a profound regional culture. The countryside became one of the intended places.

At present, rural revitalization is in full swing. Based on the background of rural revitalization, many villages with tourism resources have been developed into tourism villages. Therefore, rural public space has become one of the Spaces most in contact with tourists, and rural public space is also the first space for tourists to enter the countryside. A good five-sense experience can leave a good impression on tourists, and improving the five-sense experience of rural public space can optimize the overall appearance of the countryside. Therefore, it is extremely important to explore a good five-sense experience design of rural public space.

2. Analysis of the Five Senses Experience Design of Rural Public Space

The five senses are a series of sensory reactions made after the experienter perceives the environment and the information from the external environment is transmitted to the brain. Therefore, the five senses play an important role in the overall cognition of people's construction of the environment. The five senses are divided into vision, hearing, taste, smell and touch. The rich perceptual system enables us to obtain multiple experience abilities. Therefore, in the design, controlling people's perceptual system is to grasp the key point of successful design.

Studies have shown that 75% of the external information recognized by people comes from vision. However, most of the existing rural public Spaces pay attention to the creation of vision, while ignoring the remaining 25% of perception sources. However, it is not known that 25% of perception sources are extremely important for auxiliary visual perception, and making up the remaining perception is essential for improving the experience of rural public space. In this way, it can stimulate tourists to have fun in the countryside.

Rural public space driven by tourism should pay more attention to the experience design of five senses. The main target group is tourists. Good sense of five senses will leave a deep impression on tourists and make them leave a good memory in the rural travel experience, which greatly improves the possibility of tourists visiting the countryside twice or introducing the countryside to people around them. This also greatly improves the sustainable development of rural public space.

3. Research Method and Process

3.1. Research method

This study adopts the analytic hierarchy process (AHP) to study the five-sense experience design of rural public space. "AHP is a multi-objective decision-making analysis method that combines qualitative and quantitative analysis methods. The main idea of this method is to analyze complex problems into several levels and factors, compare and judge the importance between the two indicators, and establish a judgment matrix. By calculating the maximum eigenvalue of the judgment matrix and the corresponding eigenvector, the weights of different scheme importance degrees can be obtained, and the basis for the selection of the best scheme can be provided. [1]"

The calculation tool mainly used in this paper is Yaahp10.1 software, which is an auxiliary software based on analytic hierarchy process (AHP). It can check whether the established judgment matrix is reasonable, whether the judgment matrix has passed the consistency test, and make reasonable adjustments to the value of the consistency test, so as to ensure the rationality of the calculation process of the integral weight.

3.2. Research process

3.2.1. Construct the five senses experience design index framework of rural public space

3.2.1.1. Principles for indicator selection

First, following the principle of objectivity, the objectivity of indicators is directly related to the final result of the five senses experience design, and the objective degree of indicators affects the effectiveness of the five senses experience design. Therefore, indicators should reflect the most authentic rural public space. Second, following the principle of systematization, the selected indicators should have internal logical correlation, and each indicator should have its particularity, that is, each indicator can independently reflect the specific characteristics of a certain aspect of the five senses experience design of rural public space, and each indicator should have a certain correlation in reflecting the five senses experience design of rural public space. Thirdly, following the principle of understandability, indicators are easy to read, and the extracted text information of indicators should be concise and clear to reduce the difference in understanding of text information.

3.2.1.2 .Indicator selection and establishment

This paper constructs an index framework of the five-sense experience design of rural public space with multiple levels of "target layer, criterion layer and index layer". First, the target layer is designed for the five senses experience of rural public space; The second is the criterion layer, which draws on the mature five-sense experience for further research [2][3][4]. The relevant indicators of the five-sense experience design of rural public space are as follows: sight, hearing, taste, smell, touch; The last is the index layer, which is to find more index layers under the criterion layer on the basis of the criterion layer, and summarize the secondary indexes of the five indexes of the criterion layer through relevant literature. The index layers of vision are respectively: color, spatial form, spatial scale, light and shadow; The index layers of hearing are natural sound and artificial sound; The index layers of olfaction are natural smell and artificial smell. The indexes of taste were natural taste and artificial taste; Tactile index layers are respectively: tactile texture and tactile warmth (Table 1).

Table 1. Frame of five senses experience design index of rural public space.

Criterion layer	Index level	Index description
X1 sight	Y1 color	It refers to the color matching of rural public space
	Y2 spatial form	It refers to the regional modeling characteristics of rural public space
	Y3 spatial scale	Refers to the scale of rural public space
	Y4 light and shadow	It refers to the changes of light and shadow in rural public space
X2 hearing	Y5 natural sound	Refers to the sound of the natural environment in the rural public space
	Y6 artificial sound	An artificial sound in a rural public space
X3 smell	Y7 natural smell	Refers to the smell of the natural environment in the rural public space
	Y8 artificial smell	It refers to artificial odors in rural public Spaces
X4 taste	Y9 natural taste	It refers to the taste of the natural environment in the rural public space
	Y10 artificial taste	It refers to the artificial taste in the public space in the countryside
X5 touch	Y11 tactile texture	It refers to the material texture of rural public space
	Y12 tactile warmth	It refers to the cold and hot feeling degree of scenery in rural public space

3.2.2. Constructing judgment matrix based on yaahp software

This study adopts the expert scoring principle and uses the scale method of 1-9 to assign values (when the scale is 1, it means that the two factors have the same importance compared with each other; The higher the scale value is, the more important the former is than the latter. The corresponding reciprocal of the scale indicates that the importance of two factors is opposite to the above), and the matrix indicators of the same level are compared between pairwise, and then assigned. This study collected the evaluation values of many experts involved in rural construction, such as designers, college educators, and staff of rural departments. The author input the collected data into yaahp10.1 software for data analysis and discussed with relevant experts again, and finally determined the judgment matrix of each level as follows (Table 2.3.4.5.6.7).

Table 2. First-level index judgment matrix.

Rural public space five senses experience design	X1 sight	X2 hearing	X3 smell	X4 taste	X5 touch
X1 sight	/	7.0000	3.0000	5.0000	5.0000
X2 hearing	/	/	1/3	1/6	1/3
X3 smell	/	/	/	2	4
X4 taste	/	/	/	/	3
X5 touch	/	/	/	/	/

Table 3. Judgement matrix of the second level visual layer.

Sight layer	Y1 color	Y2 spatial form	Y3 spatial scale	Y4 light and shadow
Y1 color	/	2	2	3
Y2 spatial form	/	/	2	4
Y3 spatial scale	/	/	/	2
Y4 light and shadow	/	/	/	/

Table 4. Judgment matrix of the second-level auditory layer.

Hearing layer	Y5 natural sound	Y6 artificial sound
Y5 natural sound	/	8.0000
Y6 artificial sound	/	/

Table 5. Judgment matrix of the second-level olfactory layer.

Smell layer	Y7 natural smell	Y8 artificial smell
Y7 natural smell	/	7.0000
Y8 artificial smell	/	/

Table 6. Judgement matrix of second-level taste layer.

Taste layer	Y9 natural taste	Y10 artificial taste
Y9 natural taste	/	5.0000
Y10 artificial taste	/	/

Table 7. Judgement matrix of tactile layer at the second level.

Touch layer	Y11 tactile texture	Y12 tactile warmth
Y11 tactile texture	/	3.0000
Y12 tactile warmth	/	/

4. Research Results and Discussion

According to the calculation results of yaahp10.1 software mentioned above (Table 8), in the five-sense experience design of rural public space, the weights of first-level

indicators are ranked as follows: X1 sight >X3 smell >X4 taste >X5 touch >X2 hearing. The top five indexes in the total weight ranking are: Y1 color >Y7 natural smell >Y2 spatial form >Y9 natural taste >Y3 spatial scale.

The weight ratio of X1 sight in the primary index is the largest, which proves that X1 sight is the most important in rural public space, and the single ranking weight of Y1 color and Y2 spatial form in its secondary index is high. Therefore, in the experience design of the five senses of rural public space, attention should be paid to the application of Y1 color and Y2 spatial form in rural public space, and Y3 spatial scale should also be well controlled.

X3 smell ranks second in the first-level indicators, and X3 smell has a greater impact on the five senses experience of rural public space. The fresh smell of the space is the first step for people to enter the space, if the other experience design of the rural public space is extremely brilliant, but because the space smells bad, it is difficult to attract tourists to stop, therefore, X3 smell is also crucial to enhance the five senses experience of rural public space.

X4 taste, X5 touch and X2 hearing rank the third, fourth and fifth respectively. Among the secondary indexes of X4 taste, Y9 natural taste has the largest single ranking weight; among the secondary indexes of X2 hearing, Y5 natural sound has the largest single ranking weight; both secondary indexes are derived from natural factors. This indicates that the natural elements of rural public space are particularly important for the experience of the five senses. Among the secondary indexes of X5 touch, the single ranking weight is the highest in Y11 tactile texture.

To sum up, the five senses experience design of rural public space is to make good use of the weight of indicators to maximize the use of resources, and pay attention to the auxiliary role of other indicators.

Table 8. *Weights of indicators at each level*

Primary index	Single sort weight	Secondary index	Single sort weight	Total sort weight	Total sort
X1 sight	0.4873	Y1 color	0.4064	0.1980	1
		Y2 spatial form	0.3111	0.1516	3
		Y3 spatial scale	0.1824	0.0889	5
		Y4 light and shadow	0.1001	0.0488	7
X2 hearing	0.0473	Y5 natural sound	0.8889	0.0420	8
		Y6 artificial sound	0.1111	0.0053	12
X3 smell	0.2119	Y7 natural smell	0.8750	0.1854	2
		Y8 artificial smell	0.1250	0.0265	10
X4 taste	0.1695	Y9 natural taste	0.8333	0.1413	4
		Y10 artificial taste	0.1667	0.0283	9
X5 touch	0.0840	Y11 tactile texture	0.7500	0.0630	6
		Y12 tactile warmth	0.2500	0.0210	11

5. Five Senses Experience Design Strategy of Rural Public Space

5.1. Visual Design

In terms of color, environmental protection pigments in rural areas can be used to avoid pollution caused by modern industrial pigments. Colors can combine the changes of light and shadow to enrich the effect of public space. Different light and shadow can be combined with colors with rural regional characteristics to show the unique visual charm of the countryside. Considering the color changes of plants in the four seasons in the collocation of plants, we can create a variety of rural public space plant landscape in different seasons, and avoid visual fatigue caused by the same landscape in rural public space for a long time. The space form is mainly reflected in the installation art in the visual focus of public space, which uses the regional modeling characteristics of the countryside to design and create a strong visual effect. The public Spaces with different functions are divided into suitable spatial scales, including large, medium and small scale Spaces. The small space is semi-private, and the large space is clustered, which makes the overall scale of the public space in the countryside more hierarchical.

5.2. Auditory Design

The performance of hearing is often ignored in space design, and sound is also one of the main ways to improve space. Good at using the natural sounds of the countryside to design the rural public space, the breeze rustling leaves, the sound of babbling water, the sound of insects and birds can be used in the space design. Artificial design of sound, using the power of nature to create a sense of hearing. For example, the use of bamboo joints suspended for repeated arrangement and combination can not only form a strong visual impact, but also the collision between bamboo joints and bamboo joints can be blown with the wind to produce a crisp sound, forming a visible and audible space that will make people stop to watch and listen.

5.3. Olfactory design

Olfactory perception can stimulate people's brain and awaken people's memory. Therefore, the unique smell of the countryside should be involved in the design of rural public space. For example, the special smell of the countryside includes the smell of rice, fruit, vegetable and wine. The special smell of these villages is used to penetrate the rural public space, and the theme space of wine is set in a specific area. People will automatically identify the route of the space along with the smell of wine, so as to improve people's fun in the rural public space.

5.4. Taste Design

The taste is mainly linked with the characteristic food of the countryside, and the abandoned public space in the countryside can be used to plant farm products for tourists to pick and increase the sense of entertainment interactive experience. For example, to create the public space landscape of farmhouse music, tourists participate in the whole process from picking experience to tasting experience, and tourists make fresh food through their own efforts, which can not only experience the authentic rural food, but also make tourists more sense of accomplishment.

5.5. Haptic design

The tactile feeling given by different materials is ever-changing, and the tactile feeling can be used to enhance the interaction between people and the space and improve the tactile feeling of the space. Understand the characteristics of the material, and use the rules of different material textures to design. For example, in the shallow water area of the brook set up a playing platform, the platform is laid by pebbles, people can feel the tactile stimulation brought by pebbles, but also feel the cool water of the stream, double feelings to enhance the tactile experience.

6. Conclusions

This paper uses qualitative research methods to sort out the index framework of the five-sense experience design of rural public space, and quantitatively studies the index weight of the five-sense experience design of rural public space based on the analytic hierarchy process (AHP), providing reference index basis for the five-sense experience design of rural public space, and summarizes the strategy of five-sense experience design of rural public space through the indicators of five-sense experience design. The results show that among the first-level indicators, the weight of X1 sight is the largest, followed by X3 smell; Among the secondary indexes, the top five ranking weights are Y1 color, Y7 natural smell, Y2 spatial form, Y9 natural taste and Y3 spatial scale. In the future, we can further study the secondary indicators of five-sense experience design, deepen the level of indicators, and make the indicators of five-sense experience design concrete.

Conflicts of Interest

The author declares that there is no conflict of interest regarding the publication of this article.

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