

STUDY ON THE DESIGN OF CHILDREN'S SHARK HOUSE IN MARINE ENVIRONMENTAL PROTECTION

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ABSTRACT

The importance of marine environmental protection due to the worsening pollution of the marine environment. As a result, children are becoming more aware of the need to protect nature. The study focuses on the relationship between shark conservation and artistic design, particularly in the context of creating a Children's Shark Aquarium. The objective is to explore how the design of the aquarium can raise awareness of marine environmental protection, with a specific emphasis on shark conservation. The study will examine existing cases and literature to understand the challenges faced by sharks and how artistic design can effectively raise public awareness. It also aims to utilize the Children's Shark Aquarium as a means of education and popular science to promote marine environmental awareness, especially among children. The study will be divided into three parts: introducing the ecological environment and conservation significance of sharks, analyzing the characteristics and design principles of children's shark pavilions, and proposing improvement plans based on current limitations. Finally, the study will design and create artistic works for evaluation, assessing their effectiveness and significance in shark conservation. The research has important practical value, as it can enhance children's awareness and cognitive abilities regarding marine environmental protection, contribute to shark conservation efforts, and promote sustainable development in marine environmental protection.

Keywords: Shark Aquarium, Marine Environment Protection, Children's Education

INTRODUCTION

The study focuses on the significance of marine environmental protection, particularly in educating children. Sharks, as captivating marine creatures, often suffer from misconceptions. The design of a Children's Shark Pavilion, employing a naturalistic style, aims to create an educational environment that promotes understanding and appreciation of sharks, while highlighting the importance of marine conservation and sustainable development. By restoring the natural environment through the use of natural materials, lighting, and landscapes, the pavilion provides an immersive experience that enhances children's environmental awareness. The study seeks to foster curiosity and cultivate environmental consciousness among children by exploring the application of the naturalistic style in the design of the shark pavilion. Ultimately, the goal is to raise children's attention to marine environmental protection, correct misconceptions about sharks, instill a sense of environmental responsibility, and contribute to the preservation and sustainability of marine ecosystems.

RESEARCH OBJECTIVES

This study aims to explore how the design of children's sharks can stimulate children's interest in marine environmental protection and encourage their active participation in related activities. It focuses on the theoretical foundations and practical applications of children's shark design, providing innovative solutions for children's education and marine environmental protection. The significance of this study lies in the provision of a novel educational resource and tool for schools, communities, and public education venues through the innovative design of children's sharks. Additionally, the design fosters children's creativity, observation skills, and spirit of cooperation, offering a broader space for their future growth and development.

METHODOLOGY

In Marine environmental protection, the design of children's shark pavilion can play a positive role in promotion, thus enhancing the public's awareness and participation in Marine environmental protection. Therefore, the experiment aims to study the feasibility of the children's shark house and explore its effects in practical applications.

(1) Questionnaire survey method. Through market research, the results show that the market demand for children's shark pavilion is large, and the popularity of the public for the project is also relatively high. According to the market demand and the characteristics of children's cognitive psychology, the shark pavilion is designed to meet the visual characteristics of children, attract their attention and enhance participation. The laboratory will be designed differently according to the specific venue to meet the needs of children of different ages.

(2) Research analysis. Site selection and design. Considering the important factors such as the exhibition area, traffic flow line, traffic service and safety of the children's Shark Hall, Shark Bay on the northwest coast of Western Australia with dense passenger flow and suitable environment was selected for targeted design. After the design, the environment of the shark pavilion has been fully improved and protected, in line with the purpose of Marine environmental protection, and provides a good educational experience platform for children.

(3) Field experiments and research. The results show that the children's shark Pavilion has been welcomed by children and parents, through the museum display and staff explanation, children's cognition and understanding of sharks have been improved, more importantly, children's awareness of Marine environmental protection has been further improved, which will help to form a good social atmosphere to protect the Marine environment.

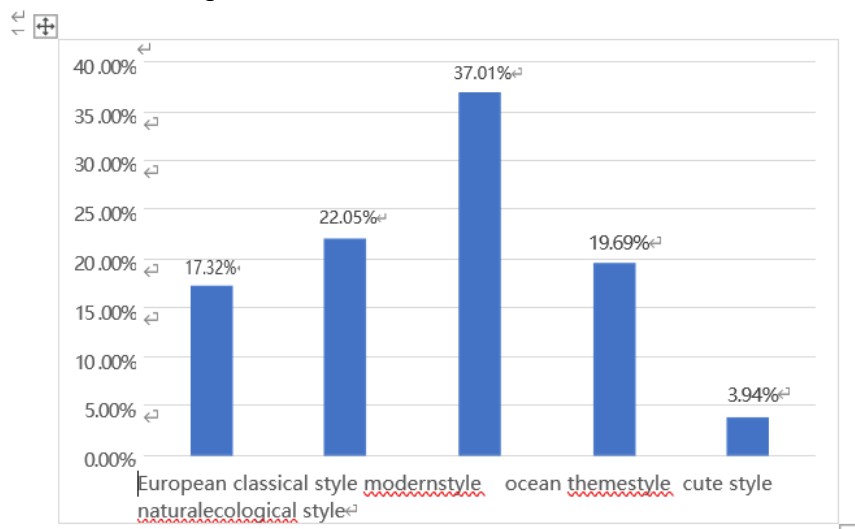
To sum up, the children's shark House is not only a feasible means of Marine environmental protection publicity and education, but also a promising commercial project. We will further study the optimization of the program so that more children and families can benefit from it.

Table 1 Overview of demographic characteristics of the sample

名称	选项	频数	百分比(%)	累积百分比(%)
性别	男性	47	37.01	37.01
	女性	80	62.99	100.00
年龄	18 岁以下	5	3.94	3.94
	18-25 岁	37	29.13	33.07
	26-35 岁	44	34.65	67.72
	36-45 岁	32	25.20	92.91
	46 岁以上	9	7.09	100.00
学历	初中	9	7.09	7.09
	高中/职业学校	28	22.05	29.13
	本科	82	64.57	93.70
	硕士及以上	8	6.30	100.00
身份	家长/监护人	37	29.13	29.13
	学生	30	23.62	52.76
	教育工作者	45	35.43	88.19
	海洋馆员工	15	11.81	100.00
	合计	127	100.0	100.0

As can be seen from Table 1: From the perspective of gender distribution, the number of females in the sample is most, accounting for 62.99%, and that of males is 37.01%. There are more females in the overall gender distribution. From the point of view of age, the age is mainly concentrated in the 26-35 years old, accounting for 34.65%. From the perspective of educational background, undergraduate degree accounts for the highest proportion, accounting for more than half of 64.57%. From the perspective of personal identity, the highest proportion is educators, accounting for 35.43%, followed by parents, accounting for 29.13%. From the perspective of distribution of population characteristics, it can be seen that the overall distribution is relatively balanced, which can be analyzed in the next step.

Table 2 style of children's aquarium



As can be seen from Figure 6, the majority of respondents prefer the children's oceanarium with Marine theme style, accounting for 37.0%.

RESEARCH PROGRAM DESIGN

The aim of this paper is to explore the feasibility of the construction of children's aquarium. The main consumer groups of Children's aquarium are parents and children, so the selected samples are biased towards parents, educators and students. In addition, this paper mainly adopts multi-stage sampling method to obtain diversified audience groups. Use random sampling to select different age groups of consumers. In addition, this paper mainly uses the questionnaire survey method, based on the questionnaire star platform for data collection.

This questionnaire is divided into three parts: the first part is personal information, the second part is the survey of respondents' preferences for the facilities designed by children's aquarium, and the third part is consumers' consumption demand for children's aquarium.

A total of 140 respondents were selected to conduct a questionnaire survey. Questionnaires were distributed mainly online, mainly through the questionnaire star platform. A total of 140 questionnaires were distributed. Excluding the people whose answers were the same and the questionnaire duration was less than 60 seconds, a total of 13 questionnaires were distributed. 127 valid questionnaires were recovered, and the effective rate of questionnaire recovery was 90.71%. The number of surveys collected was sufficient to reflect the relevant factors influencing the design of children's oceanarium.

DATA ANALYSIS

Based on the above findings, we recommend that educational and entertainment needs should be fully considered in the design of the children's aquarium, providing educational exhibits and activities while incorporating entertainment elements to create a pleasant visiting experience. In addition, attention should be paid to creating children's perceived usefulness to the aquarium, for example, through the introduction of interactive exhibits, multimedia technology, etc., so that children can feel the value of visiting the aquarium for their education and entertainment.

Table 3 Results of correlation analysis

表 4 相关分析结果

	参观意愿	教育需求	娱乐需求	感知有用性
参观意愿	1			
教育需求	0.690**	1		
娱乐需求	0.760**	0.719**	1	
感知有用性	0.741**	0.726**	0.753**	1

* $p < 0.05$ ** $p < 0.01$

Finally, we hope that the results of this study can provide useful references for the design and improvement of children's aquarium, so that it can better meet the educational and entertainment needs of children, improve the willingness to visit, and bring children a pleasant and meaningful visit experience.

CONCLUSION AND DISCUSSION

In summary, when designing children's aquarium, perceived usefulness plays an important mediating role between teaching demand and visiting intention. Designers should focus on creating a visit experience that is useful and valuable to children, providing useful educational content, and increasing children's willingness to visit by changing their beliefs, attitudes and intentions to enhance their perceived usefulness to the visit. The perceived usefulness has a positive mediating effect between teaching demand, entertainment demand and children's intention to visit the aquarium.

RESULT ANALYSIS

The feasibility study found that children's willingness to visit the aquarium is driven by their educational and entertainment needs. The aquarium serves as a desirable destination for children, as it offers both learning opportunities and enjoyable experiences. Perceived usefulness acts as a mediator, as children's assessment of the educational and recreational value provided by the aquarium influences their willingness to visit. When children perceive the aquarium as meeting their educational and entertainment needs, they are more inclined to visit.

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