

A Study on the Pathways of Integrating Fishing Boat Patterns into the Teaching of Public Art Courses in Environmental Design from a Semiotic Perspective

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Abstract: This study, grounded in semiotic theory, focuses on the fishing boat patterns in Zhoushan fisherman paintings. It traces the visual evolution of these patterns since the 1980s, from the "Dragon Eye" wooden sailing boats to steel fishing vessels and contemporary variant symbols, elucidating the logic behind the evolution of their forms, colors, and cultural symbolism. Addressing the current lack of local cultural vocabulary in environmental design education, this research aims to explore an effective pathway for transforming intangible cultural heritage resources into systematic teaching content. At the core of this paper is the construction of a four-stage teaching model: "cultural decoding—symbolic translation—spatial construction—tangible realization." The study elaborates on the specific implementation strategies of this model in key courses such as public art, interior design, and landscape design. This research not only infuses environmental design curricula with profound regional cultural elements but also provides a practical paradigm for the "living" inheritance of intangible cultural heritage and innovative teaching practices.

1. Symbolic Changes of Fishing Boat Patterns

Zhoushan Fishermen's Paintings emerged in the 1980s, at the beginning of the reform and opening-up. At that time, traditional technologies had not been completely abolished, and the products of scientific and technological progress were constantly expanding their influence. At this historical juncture, fishermen's paintings took root in traditional soil and sprouted in the new era of reform and opening-up [1]. As a representative intangible cultural heritage painting in the region, its themes are confined to marine folk life, and the fishing boat symbol, like an anchor, shows the changes of regional development and social life.

Chi Shahong believes that fishermen's paintings "possess both primitive tension and retain humanistic spirituality and aesthetic modernity"[2], their primitive tension originates from the primitive art, folk culture and customs accumulated and inherited in the Zhoushan sea area for thousands of years. Thus, Zhoushan Fishermen's Paintings have formed a folk aesthetic and

developed into a folk art. From the perspective of folk art studies, fishermen's paintings are different from pure art forms such as traditional Chinese painting and oil painting, with inherent primordiality and utilitarianism, which brings natural convenience for fishermen's paintings to reflect regional human settlements and life. The themes and contents expressed are closely combined with the life of fishermen, containing aspirations for the vision of life in the times. This paper focuses on the three core fishing boat symbols in fishermen's paintings: the traditional symbol of "Longan" wooden sailing boats, the modern symbol of wooden motor fishing boats, and the contemporary symbol of steel motor fishing boats, and analyzes the reasons for their evolution.

1.1 Traditional Symbol of "Longan" Wooden Sailing Boats

Among the fishing boat images, the "Longan" wooden sailing boat is the most direct and intuitive expression of the inner emotions of the majority of fishermen in Zhoushan Fishermen's Paintings[3], and a direct reflection of fishermen's aspirations for a better life. The emergence of "Longan" wooden sailing boats dates back more than a thousand years. Before the 1970s and 1980s, almost all boats anchored in Zhoushan's fishing ports were wooden sailing boats of varying sizes but quite similar in appearance, and a considerable number of them were decorated with "Longan"[4]. Due to awe of the unpredictable ocean and expectation for harvest, ship decorations gradually evolved on fishing boats during the Tang and Song dynasties. Undoubtedly, this is the birth of a folk art, a manifestation of the most primitive and simple aspirations of the working people, embodying their positive, hardworking and optimistic spirit.

In fishermen's paintings, they are usually presented as the main subject in scenes of operations at sea. Their patterns are concise and generalized, with strong effects and high decorativeness, composed of black and red stripes and large ship eyes. For example, Cai Chengshi's work "Emergency Repair" (Figure 2) directly shows this classic decorative pattern. The symbol of the "Longan" fishing boat with unique connotations was born in the Tang and Song dynasties. The ship decorations that continued to develop from the Tang Dynasty are not only a kind of fishing boat culture, but also play a role in protecting fishing boats and promoting the spiritual outlook of folk customs. On the one hand, these "ship eyes" add bright colors to the fishing boats; on the other hand, with the meaning of "the wooden dragon opening its eyes", they are expected to illuminate the sea, avoid natural disasters, detect fish shoals and achieve a bumper harvest. This is a prayer for peace and an expectation for the fruits of labor [5]. Acting as the dragon eyes that perceive heaven and earth instead of natural power, it is a typical semiotic expression. Therefore, as a symbol of peace and harvest, the "Longan" sailing boat undoubtedly brings a profound emotional impact, resonating with people and attempting to highlight the vigorous vitality and hope for life in this strange and unique image. Compared with the real prototype, the image of the "Longan" wooden sailing boat in fishermen's paintings has more gorgeous colors and more exaggerated shapes. This shape weakens the hardships and dangers during navigation, and strengthens the fearless, hardworking and optimistic spirit of the working people.

Sometimes, intuitive character symbols such as "smooth sailing" appear around the image of the "Longan" wooden sailing boat, clearly expressing the content to be conveyed in the painting. This idea conveys aspirations for productive labor and a better life. For a long time, wooden sailing boats have accompanied fishermen's productive labor and helped build a better life, which is a primitive and simple force. Different from the difficult fishing activities in reality, the most presented scenes in the paintings are harvests, and the "Longan" wooden sailing boats are always bright and new with exaggerated dynamic postures. The tension of the shapes in the paintings stems from the tenacious character of marine residents, and is also a regional projection of the indomitable national spirit of the Chinese nation, which has run through the blood of the nation for a long time. Shined

by the blessing elements, this character becomes even more brilliant.

1.2 Modern Symbol of Wooden Motor Fishing Boats

Wooden motor fishing boats are the pioneering products of production during the reform and opening-up (Figure 3). Compared with the "Longan" wooden sailing boats, their utilitarian connotations and blessing meanings began to weaken, marking that the liberation of productive forces brought about by the reform and opening-up began to be reflected in marine operations. As a kind of decorative pattern in fishermen's paintings, it is different from the gorgeous characteristics of "Longan" wooden sailing boats, participating in the construction of fishermen's paintings with a more simple and concise image. Its appearance is similar to that of traditional wooden fishing boats, but the decorations around the hull almost disappear, and there are no oars or sails. Instead, it is equipped with modern masts, and the power is completely provided by the mechanical engine at the bottom. Its patterns tend to be simple in expression, with a single color choice mainly of black and yellow, and usually appear in plural in fishermen's paintings. As a representative image of the times, it is the initial display of the achievements of the reform and opening-up, symbolizing aspirations for the future life, a symbol of hope, development and progress. The emergence of the wooden motor fishing boat symbol is full of a strong sense of reform and marks the beginning of modernization. Although its patterns are not eye-catching in fishermen's paintings, they are also an indispensable and important part. For example, the patterns of wooden motor fishing boats are shown in Yu Shixiang's work "Abundant Yellow Croaker Harvest on the Daiju Ocean" (Figure 4), with concise shapes and simple lines, containing the transformative power of modernization.

In the construction of fishermen's paintings, compared with the strong and gorgeous patterns of "Longan" wooden sailing boats, the constituent elements of the wooden motor fishing boat patterns are constantly decreasing. The reduction of these elements indicates that while the utilitarianism of folk art is weakening, the concept of pragmatism began to germinate, showing leadership and advanced nature. As a representative of modern fishing boat patterns, the image of wooden motor fishing boats is an indispensable symbol in fishermen's paintings, but their decorativeness is slightly weaker than that of "Longan" wooden sailing boats, so they do not appear in large numbers in fishermen's paintings.

1.3 Contemporary Symbol of Steel Motor Fishing Boats

Steel motor fishing boats are products of the new era (Figure 5). The fully modernized steel motor fishing boat patterns are contemporary symbols generated by the progress of productivity in the times. Although painters are more willing to choose classic and beautiful wooden sailing boats in their creations, the image of steel motor fishing boats, as a symbol of development, inevitably participates in the construction of fishermen's paintings. The addition of this element has inevitably raised a question for fishermen's paintings: whether to continue to express traditional folk art ideas or turn to realism. Painters of fishermen's paintings have three choices: first, ignore the emergence of these modern elements and continue to delve into classic shapes and colors; second, focus on contemporary elements and emphasize the characteristics of the times; third, juxtapose or integrate the two elements to create new patterns. In any case, the new extension of fishing boat patterns represents the innovation of ideological concepts and the transformation of social environment. This change has led to the continuous weakening of traditional meanings in fishermen's paintings, and the fishermen's paintings that have already begun to move towards pure art have further gained pure schematic significance.

The emergence of this image undoubtedly represents a new direction for the development of fishermen's paintings. This schema reflects a real future in a highly convincing way. From Zhang

Binheng's work "Peace and Prosperity Towards a Moderately Prosperous Society" (Figure 6), we can clearly observe that the fishing boat patterns have undergone a complete modern transformation. From colors to shapes, they show the characteristics of ships in the new era, with tough patterns and mainly blue and white colors. They are representative patterns of scientific and technological progress and social development in the new era, and their symbols eulogize the new era and new life.

In fishermen's paintings, the three main fishing boat patterns represent the social changes during the reform and opening-up period. At the node of reform, these three epoch-making symbols are wonderfully intertwined in one art form, presenting the great changes of the times



Figure 1. Model of "Longan" wooden sailing boat, made by Zhoushan Museum;



Figure 2. Cai Chengshi's "Emergency Repair";



Figure 3. Model of wooden motor fishing boat, made by Zhoushan Museum;



Figure 4. Yu Shixiang's "Abundant Yellow Croaker Harvest on the Daiju Ocean"



Figure 5. Model of steel motor fishing boat, made by Zhoushan Museum

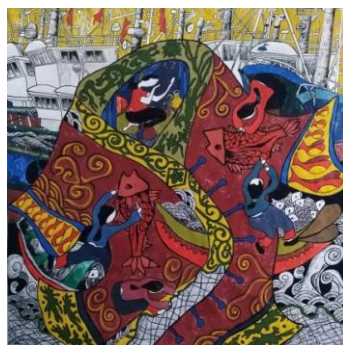


Figure 6. Zhang Binheng's "Peace and Prosperity Towards a Moderately Prosperous Society"



Figure 7. Zhuang Zhouying's "Busy Harvest in Lixia"

1.4. Mutated Ship Symbols

As mentioned earlier, juxtaposing or integrating traditional and contemporary patterns to create new patterns is a unique symbol at the juncture of the times. They often retain the most classic hull image of the "Longan" wooden sailing boat, while integrating elements of steel motor fishing boats into the cabin. The large and exquisite hull is matched with modern masts and cabins, presenting an unusual harmony under the painters' brushes. For example, the ship patterns shown in Zhuang Zhouying's work "Busy Harvest in Lixia" (Figure 7) reflect this feature. The integration of contemporary and traditional images is the inheritance and innovation of marine culture by marine residents, and also a sketch of their spiritual life. While society is developing and changing, it will inevitably bring an impact on traditions. Although the thousands of years of awe for the ocean and the inheritance of blessing culture have been greatly weakened, marine residents still hold a deep affection for them in their blood.

The application of this element in fishermen's paintings reflects the subjective initiative of painters. Most creators of fishermen's paintings are former fishermen with several to decades of sea experience. Their feelings for fishing boats and the ocean are beyond ordinary people's imagination. Their familiarity with ship structures and schemas enables them to easily combine and create new patterns. What kind of feelings do they hold when creating this new pattern? This transformation of patterns is precisely the emotional transformation of the social collective in production and life in the new era.

Whether expressing classic traditional symbols, depicting contemporary symbols of the new era, or integrating various schemas, they all reflect the emotional ideas of builders and changes in social relations under the background of the times. With their respective positions, they promote the all-round formation of social ideology from multiple perspectives such as productive labor, social construction and revolutionary ideological construction.

2. Transformation and Shaping of the Social Significance of Fishing Boat Symbols

Under the melody of reform and opening-up, China's national economic level and social productivity have been greatly improved. Faced with the tremendous changes in society, the social ideals and collective emotions of the working people have changed. As a form of art that records and reflects social life, the transformation of fishing boat symbols in fishermen's paintings has shaped the context of social development.

2.1. Semiotic Interpretation of Fishing Boat Patterns

The purpose of semiotic research is to express facts and meanings. This paper interprets the three representative ship images in fishermen's paintings through Peirce's semiotic three elements, tripartite division and three natures [6]. In the interpretation of the interpretant, the "Longan" wooden sailing boat symbolizes wishes for peace, blessings, favorable weather and a bumper harvest; the wooden motor fishing boat symbolizes reform and development, representing the transformation when the new era comes; the steel motor fishing boat is a symbol of scientific and technological progress, indicating that the new era has arrived.

From the perspective of psychological nature, the first psychological impression of the fishing boat symbol is huge, numerous, common, necessary and basic, which is extremely common in the sea area; the second nature is the symbol of the sea area, the totem of the sea area and the spiritual sustenance of marine residents; the third nature is productive, relying for survival by marine residents, and its form changes and iterates continuously with the changes of the times.

Through the Peircean semiotic interpretation of the three representative fishing boat elements in

the decorative patterns of fishermen's paintings, the referential meaning of the fishing boat symbol becomes clear. Ships, which are ubiquitous in daily life, serve as the totem, spiritual sustenance and symbol of the sea area. With the development of the times, their forms have changed, ancient images have constantly disappeared, and their inherent values and meanings have been gradually forgotten by people. Through in-depth research on the fishing boat symbols in fishermen's paintings, we can get a glimpse of various fishing boat images and cultural connotations in the history of the sea area. These symbols not only carry people's emotions and expectations, but also record the changes and progress of the times. The above symbolic analysis is shown in Table 1.

Table 1. Symbolic Analysis (Compiled by the Author)

Analysis by Peirce's Three Elements			Analysis by Peirce's Tripartite Division			Analysis by Peirce's Three Natures		
Object	Representamen	Interpretant	Icon	Index	Symbol	Firstness	Secondness	Thirdness
Traditional Fishing Boats and Modern Fishing Boats	"longan" Wooden Sailing Boat Pattern	Peace, Blessing, Favorable Winds and Smooth Sailing, Returning with a Full Load	Similar Ship Images such as Chemical Ships, Transport Ships, Military Ships, etc.	Pointing to the Process of Modernization	Trend of Productive Force Development	Vast, Numerous, Common, Necessary, Fundamental	Symbol of the Marine Region, Totem of the Marine Region, Spiritual Sustenance of Marine Residents	Having Productive Function, (Làiyīshēngcún - Relying on for Survival) of Sea Area Residents, Updating and Iterating with the Changes of the Times
	Wooden Motor Fishing Boat Pattern	Reform, Development						
	Steel Motor Fishing Boat Pattern	Scientific and Technological Progress, New Era						

2.2. Evolution of Social Development and Life Ideals

In the early stage of reform and opening-up, with the progress of social productivity and the acceleration of social development, people's life ideals also changed. At this juncture of the alternation of the old and the new, the fishing boat symbols in fishermen's paintings vividly reflect the characteristics of the times with their unique artistic forms. These images map the changes in social life and ideals.

Fishermen's paintings present thematic content through specific visual art forms. Among them, the fishing boat image, as a symbol of the sea area, symbolizes the development and changes of industrial and agricultural production and plays a certain recording role. In the fishing boat symbols focusing on modern expression, their expression methods are different from the traditional fishing boat symbols. On the basis of maintaining the characteristics of fishermen's paintings, they actively draw on new era elements and transform them, expressing brand-new elements such as iron machines, shipyards and trawls in the form of fishermen's paintings, thus creating brand-new fishermen's painting works with the characteristics of the times.

It is worth noting that there is an interesting phenomenon in the depiction of new schemas. In the fishermen's paintings depicting contemporary ship symbols, even the waves seem to have become much calmer, and the sea has become gentle and lovely, losing its ferocious power to devour people. This transformation reflects the change of people's ideals. People's ideals have shifted from returning safely with gains to a more direct yearning for and eulogy of a better life. The worry about shipwrecks has been greatly reduced, and people no longer seem to fear the unpredictable sea. This

is a positive feedback brought about by social development. The beautiful expectations for social development are integrated into each vivid symbol. Creators place their passion and high spirits in social ideals, promoting the public's recognition of political ideals.

2.3. Weakening of Folk Art Functions and Germination of Realism

The theme of Chinese folk art is inseparable from the awareness of life: the interaction of yin and yang gives birth to all things, and all things are eternal [7]. The awareness of life in fishermen's paintings is rooted in life itself, which is "a positive, active and free creation carried out by the people in the sea area according to their own needs". The sublimation of reality in fishermen's paintings enables the public to obtain a deeper feeling than the life and scenes they have personally experienced. They can temporarily forget the toil of going out early and returning late and the trivial family chores in the paintings, and gain great spiritual satisfaction.

However, with the progress of social development, the material conditions of residents have been improved, the risks and hardships of going to sea have been greatly reduced, and people's awe of nature has also begun to weaken. This is an irreversible process. As a primitive and utilitarian art, folk art is a carrier of the simplest aspirations of the working people for life [8]. With the weakening of primordiality and utilitarianism, traditional ship decoration culture, blessing culture and so on are gradually disappearing and fading. This not only means the decline of traditional customs, but also represents the decline of the functionality of fishermen's paintings as a traditional folk art.

With the iteration of patterns and the change of elements, the folk art color in fishermen's paintings is constantly decreasing, and they are developing towards pure art. The expression of picture schemas also shows a tendency of realism. This transformation is not accidental, but the joint effect of social development, improvement of material conditions and artistic innovation. A large number of modern expressive elements constitute the pictures, which are quite different from the classic fishermen's painting schemas. Whether this change is conducive to the development and inheritance of fishermen's paintings and even marine culture remains to be discussed. Undoubtedly, it will bring new possibilities for the development of fishermen's paintings. In terms of picture themes, fishermen's paintings still continue and deepen the life ideals and production publicity at the time of their birth, but the recording function of folk customs, the social function of ethical education and the spiritual demand for prayers and blessings in the functions of folk art have begun to weaken.

2.4. Shaping Social Relations and Constructing Collective Emotions

The image of fishing boats has a good sense of collective identity for marine residents. In China, fishing boats have a development history of nearly a thousand years. They are not only important production tools for coastal residents, but also important representatives of marine culture. With the development of politics, culture, economy, folk customs and other aspects, they are closely linked with the life of marine residents and have become a deeply rooted and conventional cultural image. When their images are transplanted into fishermen's paintings, they become core patterns. Under this condition, the regional identity of fishermen's paintings is self-evident, becoming an important carrier for constructing collective emotions and reflecting the relational changes of the times.

In the context of reform and opening-up, it is particularly important to adapt to social changes and create a good social atmosphere. Pursuing the spiritual landscape of the new era and exploring new combinations and expressions of life and art have become the orientation for the development of fishermen's paintings. For example, in Zhu Guoan's work "Shipyard" (Figure 8), modern elements dominate the picture. The depiction of the ship chooses the unfinished state during the construction process, which is extremely rare in fishermen's paintings. Abandoning the classic and

mature schema, it deconstructs the fishing boat symbols of the new era, representing a new change in fishing boat patterns. In the picture, shipbuilders work with modern equipment in the shipyard. Although the patterns and symbols have changed, what remains unchanged is the simple, hardworking and sincere yearning of marine residents for a better life.

The evolution of fishing boat symbols and patterns in these fishermen's painting works expresses the people's inheritance of traditional culture and their love and praise for the new life in the new era. They guide the ideas and behaviors of the broad masses and their cognition of collective strength. On the one hand, they show a close correlation with current politics, record and reflect the changes of the times, establish the relationship between the country and individuals, and provide an annotation for the people being masters of the country. On the other hand, through the depiction of artistic symbolic relations, they shape harmonious and intimate social relations, construct collective memory and collective emotions, and become an important part of the establishment of the national image of New China.



Figure 8. Zhu Guoan's "Shipyard"

3. Spatial Transformation and Teaching Application of Fishing Boat Patterns in the Environmental Design Major

3.1. Spatial Transformation of Fishing Boat Patterns in the Environmental Design Major

The evolution of fishing boat patterns in Zhoushan Fishermen's Paintings has a natural fit with the needs of spatial design: the traditional patterns of "Longan" wooden sailing boats (black and red color matching, exaggerated ship eyes, blessing connotations) are suitable for cultural theme spaces (such as marine culture exhibition halls, fishing port homestays); the modern patterns of wooden motor fishing boats (simple shapes, black and yellow main colors, pragmatism) are suitable for functional spaces (such as fishing boat supply stations, marine theme restaurants); the contemporary patterns of steel motor fishing boats (tough lines, blue and white color matching, industrial texture) are suitable for modern public spaces (such as fishing port squares, coastal trails); the mutated patterns (integration of traditional and modern elements) are suitable for innovative spaces (such as marine cultural and creative parks, entrance nodes of fishing port towns), providing differentiated materials for different types of spatial design. The above patterns and spatial analysis are shown in Table 2.

Table 2. patterns and spatial analysis (Compiled by the Author)

Pattern Type	Core Symbolic Characteristics	Spatial Transformation Direction	Suitable Environmental Design Scenarios
"Longan" Wooden Sailing Boat	<ol style="list-style-type: none"> 1. Shape: Exaggerated and round ship eyes, smooth hull curves 2. Color: Strong contrast between black and red, dotted with gold (symbolizing blessings) 3. Connotation: Peace, harvest 	<ol style="list-style-type: none"> 1. Spatial interface: Transform the ship eye shape into wall reliefs and door/window shapes 2. Color application: Use black and red as the main colors to create a cultural theme space atmosphere 3. Decorative elements: Extract hull curves to design furniture and lamp shapes 	<ol style="list-style-type: none"> 1. Marine culture exhibition hall 2. Living room of fishing port homestay 3. Intangible cultural heritage theme tea house
Wooden Motor Fishing Boat	<ol style="list-style-type: none"> 1. Shape: Simple and square hull, no complicated decorations 2. Color: Black and yellow earth tones, simple texture 3. Connotation: Reform, pragmatism 	<ol style="list-style-type: none"> 1. Spatial structure: Draw on the square shape of the hull to design partitions and cabinets 2. Material application: Select wooden materials to restore the texture of fishing boats, matched with black metal parts 3. Functional design: Focus on pragmatism to optimize spatial circulation 	<ol style="list-style-type: none"> 1. Fishing boat terminal 2. Marine theme restaurant 3. Fishing port community service center
Steel Motor Fishing Boat	<ol style="list-style-type: none"> 1. Shape: Tough and straight lines, strong geometric sense of the hull 2. Color: Blue and white industrial color system, dotted with silver (metallic texture) 3. Connotation: Science and technology, progress 	<ol style="list-style-type: none"> 1. Spatial form: Extract tough lines to design landscape corridors and wall divisions 2. Material matching: Adopt modern materials such as steel and glass to restore the industrial texture 3. Lighting design: Use blue light strips to simulate the marine atmosphere, and silver metal parts to enhance the modern sense 	<ol style="list-style-type: none"> 1. Fishing port square 2. Coastal trail 3. Marine science and technology exhibition hall
Mutated Fishing Boat Pattern	<ol style="list-style-type: none"> 1. Shape: Traditional hull + modern cabin, mixed and integrated 2. Color: Collision between traditional black and red and modern blue and white 3. Connotation: Inheritance, innovation 	<ol style="list-style-type: none"> 1. Spatial nodes: Design landmark public art installations (such as sculptures at the entrance of fishing ports) 2. Style integration: Integrate modern elements into traditional spaces or vice versa 3. Interactive design: Combine the mixed characteristics of patterns to design participatory spatial installations 	<ol style="list-style-type: none"> 1. Entrance of fishing port town 2. Marine cultural and creative park 3. Coastal viewing platform

The evolution of fishing boat patterns presents an aesthetic trend of "from decorativeness to functionality, from simplification to diversification, from flatness to three-dimensionality", which is highly consistent with the core requirements of environmental design such as "unity of function and aesthetics", "balance between locality and innovation" and "linkage between flatness and space". For example, the decorative patterns of "Longan" wooden sailing boats provide cultural atmosphere support for the space, and the functional patterns of steel motor fishing boats provide form and material references for the space. This law provides a logical bridge from "symbol understanding" to "spatial application" for environmental design teaching.

3.2. Teaching Application of Fishing Boat Patterns in Environmental Design Major

Centering on the core courses of the environmental design major, with "interior design, landscape design, and public art design" as the three major modules, this paper corresponds the symbolic evolution of fishing boat patterns with the needs of spatial design, and constructs a teaching process of "theoretical explanation - case analysis - symbol extraction - design practice -

achievement review" to ensure the in-depth integration of pattern resources into curriculum teaching.

3.2.1 "Interior Design": Application in Cultural Theme Spaces

In the "Interior Design" course, taking a small space of 15-20 square meters (such as a guest room of a fishing port homestay, an intangible cultural heritage themed tea house) as the carrier, the application of the traditional patterns of "dragon-eye" wooden sailing boats is the main focus, and the core problem of "integration of cultural symbols and spatial functions" is solved. The teaching is divided into three stages: first, 2 class hours are arranged for cultural cognition. Through case explanation and video display, students are made to understand the historical background, symbol characteristics and blessing meanings of the "dragon-eye" pattern, and master pattern extraction methods such as shape simplification and element reorganization; then, 2 class hours are used for symbol transformation practice, guiding students to extract core elements such as ship eyes, curves and black-red color matching, and clarifying the corresponding relationship between symbols and spatial elements through a "transformation comparison table" (such as ship eyes → bedside reliefs, curves → ceiling shapes); finally, 6 class hours are allocated for scheme design, requiring students to take "cultural narrative" as the clue (such as the circulation corresponding to the process of fishing boats going out to sea → fishing → returning), and complete a spatial scheme including floor plans, renderings and design descriptions. In the evaluation, the rationality of pattern transformation, the clarity of cultural meaning expression, the adaptability of spatial functions and the innovation of the scheme are mainly inspected.

3.2.2 "Landscape Design": Application in Fishing Port Public Landscapes

The "Landscape Design" course takes medium-sized sites (such as coastal walkways, fishing port community parks) as the objects, focusing on the application of modern patterns of wooden/steel motor fishing boats, with the core of "coordination between patterns, landscape functions and site needs". In the teaching process, 3 class hours are first arranged for site investigation and pattern analysis. Students are organized to conduct on-site investigations on the flow direction of people in the site, functional gaps and environmental characteristics, and clarify the design entry points (such as solving the shading demand and supplementing cultural signs) combined with the functional characteristics of modern fishing boat patterns; then, 6 class hours are used for scheme design, guiding students to transform pattern elements into landscape elements (such as steel fishing boat lines → trellis structures, wooden fishing boat texture → pavement materials), and adopting the "node sequence" design method to apply different patterns at nodes such as the entrance of the site, rest areas and viewing platforms to form a coherent landscape experience; finally, 3 class hours are allocated for report and optimization. Industry tutors are invited to put forward suggestions on engineering feasibility, cost control, process implementation, etc., to help students improve the scheme and enhance their local design ability. In the evaluation, attention is paid to the adaptability of patterns to the site, the practicality of landscape functions, the feasibility of engineering schemes and the appropriate expression of cultural connotations.

3.2.3 "Public Art Design": Application in Landmark Installations

The "Public Art Design" course takes macro nodes (such as the entrance square of fishing ports, the core nodes of marine cultural and creative parks) as the carriers, focusing on the application of mutated fishing boat patterns, with the core of "integration of patterns, interactive functions and

public experience". In the teaching, 4 class hours are first used for theoretical and case learning, explaining the principles of public art design and common forms of interactive installations, analyzing domestic and foreign cases of the application of intangible cultural heritage symbols in public art, so that students can understand the connotation of "inheritance and innovation" of mutated patterns; then, 6 class hours are allocated for scheme design, guiding students to design public art installations with both cultural expression and interactive experience (such as interactive walls that can switch projections of traditional and modern patterns, spliced pattern decoration modules) combined with the mixed characteristics of mutated patterns. At the same time, technical consultants are introduced to solve technical problems such as waterproofing of outdoor equipment and optimization of sensing functions; finally, 4 class hours are used for model making, requiring students to make physical models at a ratio of 1:20 to verify the structural stability and interactive feasibility of the installations, and collect feedback through user testing to adjust and optimize the scheme. In the evaluation, the depth of cultural expression, the rationality of interactive design, the feasibility of technical implementation and the comfort of public experience are mainly inspected.

The three courses form a clear progressive relationship in teaching: in terms of scale, they gradually expand from indoor micro-spaces to landscape medium-sized sites and installation macro-nodes; in terms of pattern application, they transition from traditional "dragon-eye" patterns to modern motor fishing boat patterns, and then to innovative mutated patterns; in terms of ability training, they progress from basic symbol extraction ability to comprehensive function coordination ability, and finally to innovative interactive design ability. This progressive teaching constructs a complete teaching closed loop, which not only enables students to systematically master the spatial application methods of fishing boat patterns, but also helps them form a complete design thinking from cultural excavation to practical implementation, laying a foundation for their subsequent participation in regional cultural spatial design projects.

4. Conclusion

Introducing the fishing boat patterns in Zhoushan fishermen's paintings into the teaching of environmental design major in colleges and universities is not only an in-depth activation of local intangible cultural heritage resources, but also an important exploration of the "localization" reform of environmental design teaching. From the cultural decoding of pattern symbols to the construction of spatial transformation logic, and then to the practical implementation of core courses, this process not only fills the gap of insufficient local cultural materials in environmental design teaching, but also builds a teaching chain of "traditional symbols - modern design - spatial practice", allowing students to deepen their cognition and identification of regional culture while mastering design skills.

In the long run, this teaching exploration not only provides a new "spatial" paradigm for the living inheritance of intangible cultural heritage resources, but also provides replicable and promotable experience for the environmental design major to cultivate compound talents who "understand culture, can transform and are good at practice". In the future, it is still necessary to further deepen the integration dimension of pattern symbols and spatial design, strengthen the linkage with regional industries, so that the unique cultural symbol of fishing boat patterns in Zhoushan fishermen's paintings can radiate new vitality in more diverse spatial scenarios, and continuously inject vitality into the localized development of environmental design and the contemporary inheritance of intangible cultural heritage.

References

- [1] Zhoushan Dinghai District Cultural Center (ed.). *Chronology of Zhoushan Mass Culture (1950-1986)* [M]. Zhoushan: Zhoushan Dinghai District Bureau of Culture, Radio, Television and Tourism, 1988: 163.
- [2] Chi Shahong. *The Wind Blows from the East* [A]. *Zhoushan Fishermen's Paintings* [C]. Hangzhou: Zhejiang People's Fine Arts Publishing House, 2015: 150-156.
- [3] *The traditional wooden sailboats in Zhoushan are usually called "wooden dragons", which are usually decorated with a pair of large "ship eyes" on the bow, also known as "longan".*
- [4] Gu Aiding. *China Putuo • Century-old Fishing Port* [M]. Zhoushan Putuo District Archives Bureau, 2009: 8-30.
- [5] Education, Culture, Health and Sports Committee of Zhoushan Putuo District CPPCC (ed.). *History of Putuo Fishing Boats* [M]. China Literature and History Press, 2009: 86-93.
- [6] Pei Lingxuan, Yang Liu. *Interpreting Nanjing's Urban Image from Peirce's Semiotic Perspective* [J]. *Art Panorama*, 2020(7): 136-139.
- [7] Jin Zhilin. *The Philosophical Basis of Chinese Folk Art* [J]. *Art Research*, 1988(4): 60-64.
- [8] Pan Lusheng. *An Outline of Folk Art Studies* [M]. People's Fine Arts Publishing House, 2021: 138-149.