Integration of Traditional Ecological Culture and Environmental Design Courses in the Context of Rural Revitalization

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ABSTRACT

In the context of China's rural revitalization strategy, traditional ecological culture is an important medium for carrying Chinese outstanding culture, and contains profound ecological space culture and wisdom in environmental design. From the perspective of teaching environmental design courses, this paper explores how to effectively integrate traditional ecological culture into educational content and teaching methods, in order to respond to the composite requirements of "ecological, local and innovative" for design education in the new era. The study summarizes the compatibility between traditional ecological culture and environmental design, builds a path of integration, and demonstrates the effectiveness of curriculum implementation through teaching cases. The study shows that the curriculum design incorporating traditional ecological culture can enhance students' cultural cognition and ecological awareness, and provide innovative ideas for rural design practice. Finally, the difficulties and challenges in teaching are summarized, and suggestions for continuous optimization are put forward to provide a feasible path for promoting the sustainable development of local environmental design education and establishing a special design professional education system.

Keywords: *Rural revitalization, Traditional ecological culture, Environmental design, Curriculum integration, Pedagogical innovation.*

1. INTRODUCTION

With the deepening of the global concept of sustainable development, China's "rural revitalization strategy" not only focuses on the growth of the rural economy, but also emphasizes the inheritance and innovative development of traditional ecological culture. Traditional ecological culture is rooted in local traditional wisdom, including "the unity of man and nature", "adapt to local conditions" and other philosophical ideas of sustainable development. "Integrating traditional ecological culture into ideological and political education is of great value to the cultivation of ecological civilization values among college students." [1]. As an important discipline integrating ecological concepts and design practice, environmental design education bears the important mission of cultivating students' sense of ecological responsibility and creativity. Currently, environmental design courses in China generally focus on the technical expression of spatial forms, while paying insufficient attention to the core element of traditional ecological culture. "Native genes are the roots of rural development, and the promotion of rural ecological civilization requires the thick planting of rural ecological cultural heritage." [2]. As a result, environmental design works lack local cultural connotations and characteristics. How to effectively integrate traditional ecological culture into the teaching process of environmental design has become an urgent problem in the field of design education. From an international perspective, the integration of ecological design and culture has gradually become a mainstream trend in design education. The environmental design education in colleges and universities in Europe, America and other developed countries has always focused on cultivating students' ecological awareness and

regional cultural identity. At the same time, focusing on ecological culture construction and building a harmonious campus is an important strategic goal for higher education institutions and a cornerstone for promoting the development of higher education institutions." [3]. Shujun Zhang et al. argue that "Interdisciplinary core literacy is an important bridge that connects content across disciplines and is the key to teaching interdisciplinary integration." [4]. It is to enhance students' comprehensive cognitive ability of traditional ecological culture. However, in China's design education system, this interdisciplinary and local cultural integration path is still in the exploratory stage. Therefore, it is of great practical significance and academic value to explore the ecological and cultural integration paths suitable for local environmental design education in China, in order to promote teaching practice and theoretical construction.

Taking China's national strategy of "rural revitalization" as the research background and the integration of traditional ecological culture and environmental design courses as the entry point, this paper focuses on answering the following questions: First, what are the theoretical basis and practical value of integrating traditional ecological culture into the teaching of environmental design courses? Second, through what teaching path can the integration of ecological culture and environmental design teaching be effectively realized? Third, what is the impact of this integration on specific teaching practices? What are the practical challenges? This study aims to provide theoretical references and practical experiences for the curriculum construction of environmental design majors, and to promote the innovative transformation of environmental design education into ecology and culture in the context of China's rural revitalization era.

2. THEORETICAL FOUNDATIONS AND CURRI ULUM INTEGRATION LOGIC

2.1 Theoretical Connotation and Value of Traditional Ecological Culture

Traditional ecological culture is rooted in the historical experience of long-term coexistence between man and nature. It focuses on building the living environment of one's own people in long-term interaction with the environment, and develops traditional ecological knowledge that is compatible with it. While maintaining the stability of the living environment of its own people, this knowledge has also benefited other peoples in other regions, creating for all humankind a favourable environment in which human beings can live in harmony with nature [5]. The "modernization of harmonious coexistence between human beings and nature" in Chinese modernization is the best example of the inheritance and development of traditional Chinese ecological culture, such as "the unity of heaven and man", "the law of the Tao and nature" and "the concurrence of all things". The inheritance and development of traditional Chinese ecological culture, such as "the unity of heaven and man", "the law of nature", "the harmony of all things", etc., is the best example of "combining the basic principles of Marxism with the excellent traditional Chinese culture."[6]. In addition, the principles of "festival logic" and "local materials" further reflect the profound knowledge and skillful utilization of the natural environment and local resources.

These eco-philosophical ideas have not only provided guidelines for the layout, architectural design and production of villages in the past, but have also greatly improved the living environment for people in China as a result of the accelerated pace of urbanization, and the theoretical research and design practice of environmental art design have been increasingly emphasized [7]. Environmental design education that deeply understands and absorbs the essence of traditional ecological culture will help to cultivate students' ecological sensitivity, cultural understanding and design creativity, so as to better cope with the lack of ecology and culture in current design practice.

2.2 Trends in Ecological Transformation in Environmental Design Education

In recent years, the construction of ecological civilization has gradually become the consensus of global social development, and the field of design education has entered the stage of ecological transformation accordingly. The design education sector in Europe and the United States has long put forward the theoretical systems of eco-design and sustainable design, and advocated the integration of eco-ethics, efficient utilization of resources, and eco-aesthetics into design practice. Internationally renowned design schools, such as Delft University of Technology in the Netherlands and Rhode Island School of Design in the United States, emphasize the interdisciplinary integration of traditional

ecological and cultural perspectives in the design of the curriculum, and advocate that students should experience and understand local ecology and culture through field surveys, graduation design and other forms. According to Han et al. "Interdisciplinary thematic learning, which emphasizes the comprehensive and practical nature of the science curriculum, refers to the goal of promoting students' in-depth understanding of the core concepts of disciplines and interdisciplinary concepts, as well as the development of their core literacy, based on their knowledge experience, cognitive level and interests." [8]. In addition, although domestic design education embodies the integration of ecological concepts, the curriculum is relatively fragmented and systematic, and lacks localized teaching methods. Chen Xiaofei believes that "on the basis of reflecting on the existing results, it is found that there are problems of blurring the research object, fragmentation of research content and homogenization of research methods." [9]. Especially after the strategy of rural revitalization was proposed, environmental design education faces the new topic of how to integrate traditional ecological culture with rural construction. Therefore, taking traditional ecological culture in the context of rural revitalization as an entry point, the exploration of curriculum integration is in line with the trend of international design education and responds to the realistic needs of local design education.

2.3 Logical Mechanisms for Integrating Traditional Ecological Culture into the Teaching of Environmental Design Courses

Based on constructivist learning theory and interdisciplinary teaching concepts, this study proposes a curricular mechanism for integrating traditional ecological culture into environmental design teaching. Specifically, this mechanism involves the following four dimensions:

The first is the transformation of teaching objectives. From the sole objective of focusing on skills training and formal expression in the past to the diversified objective of cultural cognition, ecological awareness and innovative thinking, it is necessary to focus on cultivating students' cultural sensitivity and ecological and ethical awareness.

The second is the integration of course content. The core concepts of traditional ecological culture (e.g., unity of man and nature, local conditions, etc.) are systematically integrated into the curriculum teaching, and a curriculum teaching system integrating "cultural module - ecological module - design module" is established, while the integrity of the knowledge structure is strengthened.

The third is the innovative teaching methods. It is to adopt the comprehensive teaching method of "project-based learning (PBL) + field research + graduation design", focus on the practical and experiential nature of knowledge, and prompt students to actively build up their understanding and cognition of the relationship between traditional ecological culture and environmental design in real-life situations.

The forth is the diversification of assessment mechanism. The assessment standard of environmental design course teaching is no longer a single focus on the design form aesthetics and technical performance, but also increases the dimensions of traditional ecological culture understanding, social benefit evaluation, design process reflection, etc., to form an all-round, process-oriented evaluation system. ("Figure 1")

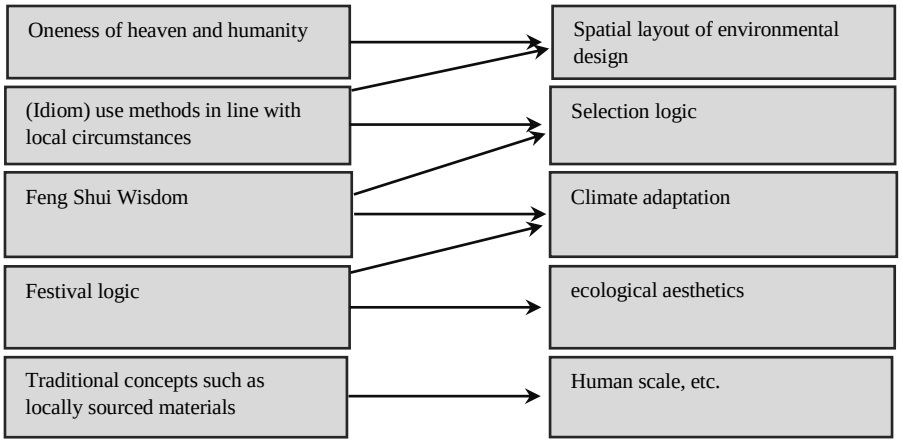

Figure 1 The core concept of traditional ecological culture and environmental design fit map.

3. TEACHING PRACTICE PATHWAYS AND CASE STUDIES

3.1 Overall Design of the Curriculum Pathway

Based on the aforementioned theoretical foundation and integration logic, this study constructs a teaching path for environmental design courses centered on traditional ecological culture, which is divided into three main stages: “cultural awareness - field research - project design”. This structure clearly reflects the integration of project-based learning (PBL), field research, and graduation design, and strengthens students' active learning and project practice and innovation in the real environment. The first is the cultural awareness stage. Based on theoretical lectures, classical case studies and literature reading, through lectures related to traditional ecological culture, students can systematically master the concepts of “unity of man and nature”, “adaptability to local conditions”, “festival logic”, and “use in moderation”. Through lectures related to traditional ecological culture, students will systematically grasp the core concepts of traditional ecological culture and their design values, such as “the unity of heaven and man”, “adaptability to local conditions”, “the logic of festivals” and “the use and use in moderation”. At the same time, combined with the analysis of typical environmental design cases, students can initially form the perceptual cognition and rational understanding of the integration of traditional ecological culture into design. The second is the field research phase. This phrase emphasizes the local and practical nature of the teaching process. Students enter the countryside in small groups to carry out research, interviews, field mapping, etc., and through face-to-face communication, record-keeping and environmental mapping, they can deeply explore the traditional ecological and cultural elements in the countryside environment, and accumulate first-hand information for the project design. This stage emphasizes students' practical participation and social interaction ability. The third is the project design stage. In the form of graduation design, students work together in groups to complete specific environmental design projects based on theoretical studies and field research results. Teachers provide guidance and feedback to help students transform traditional ecological and cultural concepts into design language and spatial programs, and finally conduct group reports and presentations of results, encouraging students to self-reflection and mutual evaluation.

3.2 Case of Teaching Practice: Teaching Practice of Traditional Ecological and Cultural Design in Yongning Township, Yangchun City

Taking the traditional ecological culture design teaching project of Guangzhou Academy of Fine Arts in Hengpangyangyang Yao Village, Yongning Town, Yangchun City as an example, it shows the specific implementation process and practical effect of the above teaching path.

3.2.1 Case Background and Teaching Objectives

Yongning Town is located in Yangchun City, Guangdong Province, with rich ecological resources and Lingnan vernacular cultural characteristics. In recent years, with the development of rural tourism, the local government put forward the development strategy centered on ecological protection and cultural heritage. The teaching of this course takes Hengxiangyao Village of Yongning Town as the practice base, and combines the local reality to put forward the following teaching objectives: firstly, to enhance the students' deep understanding and perception of the local traditional ecological culture; secondly, to cultivate the students' ability of field investigation, environmental spatial analysis and design; and thirdly, to guide the students to put forward the design scheme which is in line with the local ecological environment and exploiting the connotation of the local traditional culture.

3.2.2 Teaching Implementation Process

In the cultural awareness stage, experts were invited in the field of traditional ecological culture to carry out special lectures, such as “spatial layout of traditional villages in Lingnan”, “application of local ecological materials and design”, etc., and organize students to read the literature related to Lingnan culture, Yao culture and ecological design and make students form a basic understanding of the relationship between traditional ecological culture and environmental design integration through the analysis of classic cases. Through the analysis of classic cases, students can form a basic understanding of the relationship between traditional ecological culture and environmental

design. In the field research phase, students were organized to go to Hengpangyang Yao Village in Yongning Town for a week-long field research. During the research process, students entered the village in groups and conducted in-depth interviews with the residents, recorded in detail the lifestyle of local residents, local architectural forms, ecological habits and cultural rituals, and completed field mapping drawings, photographic records and environmental data collection. Through this direct accumulation of experience, students get real materials and inspiration for design creation. In the project design phase, after the research, students carry out a twelve-week design graduation design on campus in small groups, based on the research of Hengxiangyao Village, Yongning Town, to conceptualize and create the design program. Teachers participated in the whole process of guidance and invited local cultural experts to provide stage-by-stage feedback to help students materialize the traditional ecological and cultural theories into implementable design solutions (“Figure 2”).

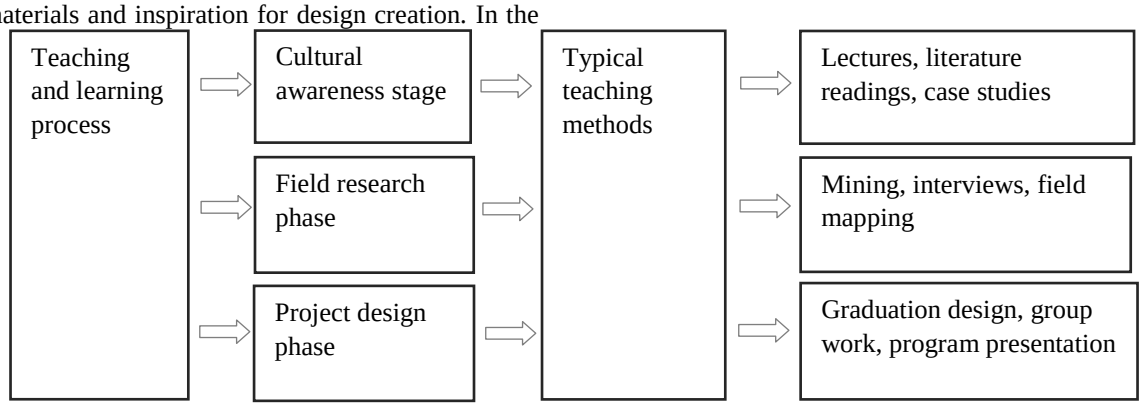

Figure 2 Instructional Implementation Flowchart.

3.2.3 Teaching Achievements and Students' Work Showcase

The theme of the overall design of Hengxiangyang Yao Village is “Yao Drums Welcome, Thousand-meter Gallery”. This exhibition focuses on the teaching achievements of the environmental art design major of Guangzhou Academy of Fine Arts in the course of “Rural Revitalization and Environmental Design”, in which the students launched the design according to their groups, and put forward the design for the integration of agriculture, culture and tourism, with the spatial design scheme of five chapters and 13 nodes. For example: (1) Student Group A's design proposal of “Looking at the Starry Sea - Ecological Camping Place Design Proposal in the Landscape of Center Honeycomb” is based on the theme of “Looking at the Starry Sea”, extracting the star worship of the Yao people. The theme of the design is “Yao Looking at the Starry Sea”, extracting the cultural images of the Yao people's worship of stars and nature, and constructing an immersive eco-camping space. (2) Student Group B: “Yao Township Style - Traditional Village Culture Theme Experience Center” takes “Yao Township Style” as the theme and conveys the traditional life and cultural charm of the Yao people through spatial design. through spatial design to convey the traditional life and cultural charm of the Yao people. (3) Student Group C: “Yaotian Rice Fragrance - Creative Environmental Design for Village Public Facilities” The design is based on the theme of “Yaotian Rice Fragrance” and centers on the farming culture and ecological education of the Yao people. The design is centered on Yao farming culture and ecological education. (4)Student Group D, “Sui Wine Workshop - Yao Brewing Culture Exhibition Space Design for Hanging Footstool Area”, takes “Sui Wine Workshop” as its theme, aiming at inheriting and revitalizing the traditional Yao brewing culture.

Table 1. Teaching examples of student work showcase chart

Cluster descriptions	Description	Artwork Display Chart
Student Group A: Center Shopping Program	Incorporating the Yao astrological culture, following the concept of unity of heaven and man, preserving the landforms and vegetation, and designing the viewing platform and camping area according to the trend, it shows the spirit of national culture.	
Student Group B: Yaowen House Project	Showcasing the non-heritage culture of the Yao people, preserving the original terrain and living pattern, creating the interactive space of "Yao Rest House", and immersing in the life and cultural charm of the Yao people.	
Student Group C: Yaotian Inari Project	Integrating the wisdom of rice festivals and educational functions, it builds the practice base of "Art Academy", which combines traditional sloping roofs and modern spaces to inherit the Yao culture and practice ecological concepts.	
Student Group D: Spike Winery Program	Extracting the symbols of winemaking and festivals, relying on the footstools to construct exhibition and experience space, continuing the Yao ethnic style, integrating the dissemination of non-legacy and cultural tourism and leisure, and activating the industrial value of the village.	

These works reflect distinctive regional characteristics and traditional ecological and cultural connotations, and during the design process students significantly improved their understanding of traditional ecological culture and their ability to innovate in eco-design, which was highly recognized by the university and the local government ("Table 1").

3.3 Analysis and Reflection on the Effectiveness of Curriculum Practices

Teaching practice has shown that the above teaching pathway has effectively improved students' ecological awareness, cultural sensitivity, and practical design ability. The post-course questionnaire survey showed that more than 90% of the students believed that this course significantly enhanced their traditional ecological and cultural cognitive abilities, and more than 85% of the students expressed deeper emotional links to ecological environments and rural cultures, as well as their willingness to continue exploring related fields in the future ("Figure 3").

However, the course practice reveals problems such as insufficient faculty composition, insufficient interdisciplinary collaboration, high organizational cost of on-site practice, excessive investment of teaching resources, and imperfect evaluation system. In particular, there is a lack of effective evaluation criteria for traditional ecological and cultural understanding, etc. Based on these reflections, this paper proposes optimization suggestions to improve the effectiveness and sustainability of traditional ecological culture in environmental design education.

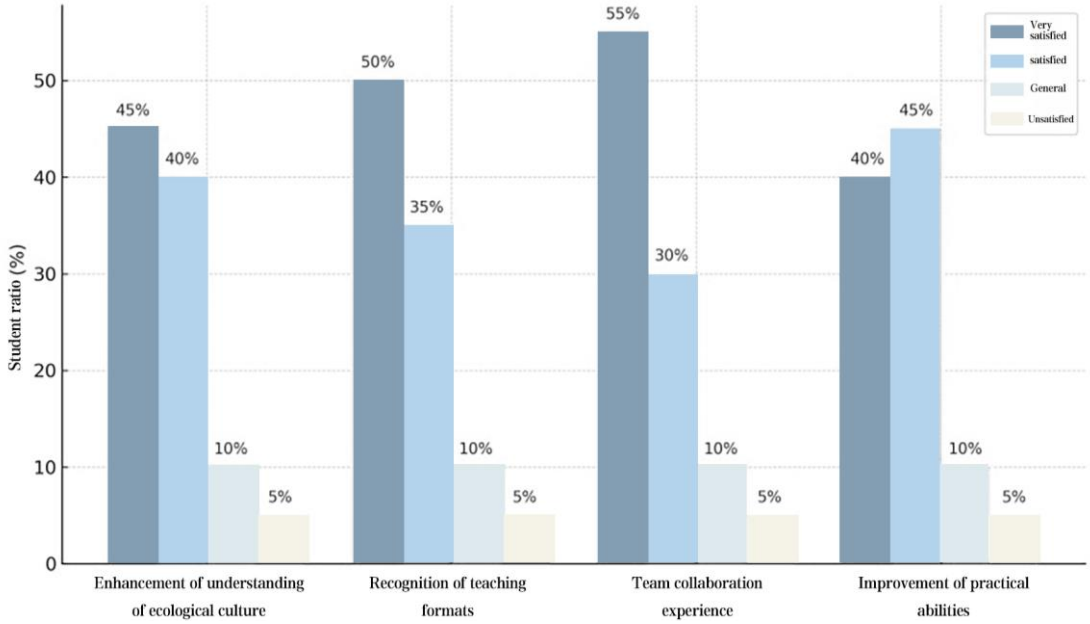

Figure 3 Graph of student feedback and program effectiveness survey results.

4. REFLECTIONS ON ISSUES AND PROSPECTS FOR DEVELOPMENT

4.1 Problems and Challenges of current Teaching Practices

Although the three-phase teaching model of "cultural awareness-field research-project design" proposed in this study has achieved certain results, there are still practical problems that need to be solved in the process of implementation. First, teachers' interdisciplinary ability is insufficient. Most of the environmental design teachers have design technology background, but their deep understanding of traditional ecological culture and interdisciplinary education ability is still insufficient, which affects the deep integration of traditional ecological culture knowledge system. Secondly, the school-local cooperation mechanism is not perfect. In the teaching program, the synergistic mechanism between the local government, rural communities and schools is not mature and stable enough, which leads to the high cost of communication for actual education landing and the lack of sustainability of results transformation. Thirdly, the construction of curriculum resources is insufficient. The construction of traditional ecological and cultural teaching materials and digital material libraries is backward, and there is also a lack of systematic and sustainable cultural case material platform, which limits the richness and depth of teaching content. Fourth, the assessment system needs to be optimized. The classroom evaluation system focuses more on students' design ability, spatial form innovation and other external performances, and lacks evaluation methods to enhance students' understanding of the meaning of traditional eco-culture and eco-ethics, making it difficult to quantify and prove the intrinsic depth of the classroom effect.

4.2 Proposals for Curriculum Optimization and Development

To address the above problems and promote sustainable development with the integration of traditional ecological culture and environmental design education, the following four optimization methods are proposed: The first is to strengthen the construction of faculty teams for interdisciplinary integration, encourage cooperation among experts in environmental design disciplines, ecology, human geography, folklore and other related fields to form interdisciplinary integration faculty teams, improve teachers' comprehensive teaching abilities through regular exchanges, joint lesson planning and other means, and promote the in-depth integration of interdisciplinary teaching. The second is to build a platform for cooperation between the university and the local community, establish a long-term and effective cooperation platform of "government + industry + university +

research + application", and form a long-term and stable education and practice environment through project cooperation and construction of joint practice bases, so as to ensure students' continuous and in-depth participation in practice and design and implementation. The third is to build a traditional ecological culture teaching resource base. Schools should cooperate with social and cultural departments to jointly build a multi-dimensional digital educational resource platform covering the history of traditional ecological culture, rural cases, design materials, local technologies and crafts, etc., and provide sustainable curriculum content support. The forth is to establish a multi-dimensional course evaluation system, optimize the evaluation system to include soft evaluation indicators such as traditional eco-cultural understanding, eco-ethical awareness, social interaction, feedback, etc., in addition to strengthening students' design ability, so as to reflect the teaching results more comprehensively through multi-dimensional evaluation (“Figure 4”).

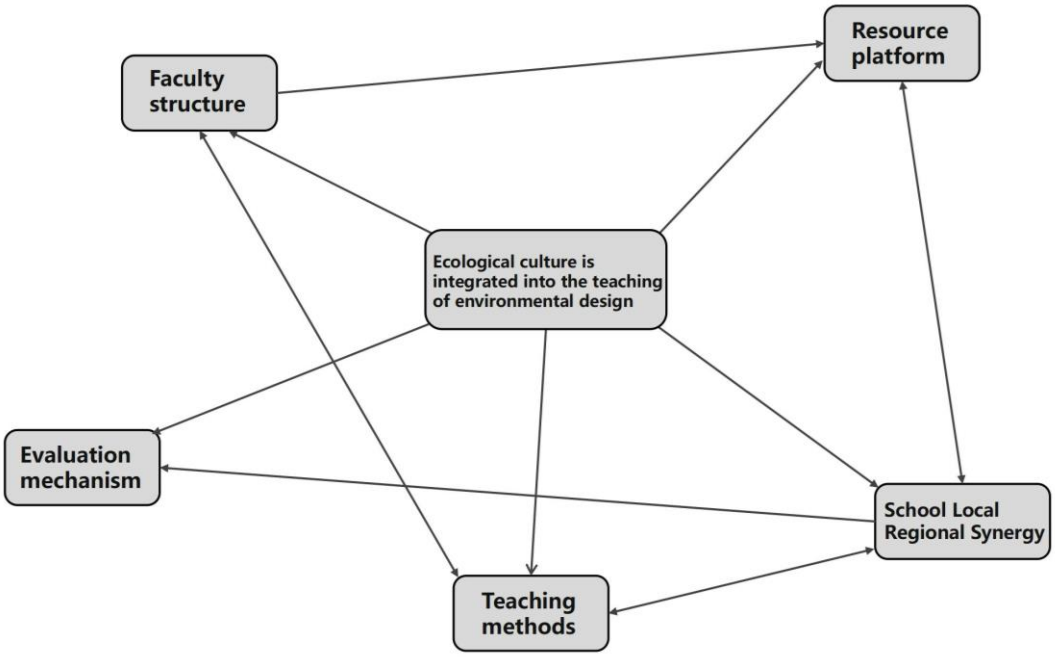

Figure 4 Teaching development optimization model diagram.

4.3 Future Outlook

The integration of traditional ecological culture into environmental design education is an important way to comply with the global trend of ecological civilization and respond to the world trend of ecological civilization and the strategy of rural revitalization. Future design education should focus on the in-depth development of ecological ethics and local cultural resources, and deepen the practice of traditional ecological culture education in a systematic and sustainable way. The path of integrating traditional ecological culture and design education explored in this study provides a new educational paradigm for environmental design students. In the future, through deepening theoretical research, expanding the practice base, and improving the resource platform, we will gradually form an ecological design education model with Chinese characteristics.

5. CONCLUSION

This paper explores the effective path of integrating traditional ecological culture into environmental design courses under the background of China's rural revitalization strategy. It analyzes the implication and value of traditional ecological culture in environmental design education, proposes a three-phase education model of “cultural cognition-field research-project design”, and verifies the application and effectiveness of this model through the case study of Hengpangyangxiang Yao Village, Yongning Town, Yangchun City, Guangzhou Academy of Fine Arts. The application and effectiveness of the model is also verified through the case of Hengxiangyao Village, Yangchun, Guangzhou Academy of Fine Arts. The study found that the model can improve students' ecological awareness, cultural

understanding and design ability, and promote interdisciplinary integration and regional innovation in environmental design education. However, the educational practice still faces problems such as insufficient interdisciplinary ability of teachers, lack of school-local cooperation mechanism, insufficient resource construction and evaluation system to be optimized. In the future, it is necessary to strengthen the construction of interdisciplinary teachers, improve the school-local cooperation mechanism, build a platform of traditional ecological and cultural resources, and optimize the evaluation mechanism of the curriculum, so as to promote the sustainable and innovative development of environmental design education. This study provides theoretical support and practical paths for the local transformation and internationalization of environmental design education, and also contributes useful Chinese experience to global sustainable design education.

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