

# Analysis on Implementation Strategy of Ecological Teaching Model for Environmental Art Design Major in Higher Vocational Colleges

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**Abstract:** The ecological teaching mode of environmental art design major in higher vocational colleges aims to cultivate talents with environmental awareness and innovation ability to adapt to the ever-changing needs of the design field. This paper discusses the key characteristics and implementation strategies of the ecological teaching model, including interdisciplinary education, practice-oriented teaching, innovative teaching materials and multiple assessment methods. The successful implementation of this model is expected to provide a richer learning experience for environmental art and design students, while making a positive contribution to social and environmental sustainability.

**Keywords:** Higher vocational education; Environmental art design major; Ecological teaching model; Implementation strategy

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## Introduction:

The Environmental Art design major in higher vocational colleges aims to cultivate design talents with environmental awareness and innovation ability to adapt to the ever-changing needs of the design field. With the increasingly prominent environmental problems, environmental protection and sustainable development have become the focus of social attention. Therefore, the education of environmental art design in higher vocational colleges should pay more attention to the cultivation of environmental protection, sustainability and ecological consciousness. In order to meet this demand, the ecological teaching model came into being.

## 1. The key characteristics of ecological teaching mode

### 1.1 Interdisciplinary education

Ecological teaching mode focuses on interdisciplinary education, integrating environmental science, ecology, engineering technology and art design, which helps to cultivate students' comprehensive literacy and enable them to solve problems across disciplines. Students will learn how to consider environmental and sustainability factors in their designs, providing a solid foundation for future design work.

### 1.2 Practice-oriented teaching

The ecological teaching model emphasizes practice-oriented teaching and enables students to apply their knowledge and skills in real projects. Students will gain valuable experience by participating in environmental design projects, and this practice-oriented teaching will give students a better understanding of environmental design principles and practical applications.

### 1.3 Innovate teaching materials

Ecological teaching models require innovative teaching materials to reflect the latest environmental and sustainable development trends. The materials should include case studies, examples of best practices and an introduction to emerging technologies, using which students can gain a better understanding of the challenges and opportunities of environmentally friendly design.

### 1.4 Multiple evaluation methods

Ecological teaching model should adopt multiple assessment methods to comprehensively evaluate students' academic performance and practical ability, including assessment of exams, assignments, design projects and internship experience. Through

multiple assessments, schools can better understand students' learning progress and encourage them to actively participate in academic and practical activities.

## **2. The implementation strategy of ecological teaching mode**

### **2.1 Teacher training and development**

Schools can organize interdisciplinary training to help teachers understand knowledge and skills in different fields in order to better guide students in comprehensive environmental design work. For example, engineers, ecologists and designers can share their expertise in training to help teachers better understand the principles of environmental impact and sustainable design. Teacher training should focus on practice-oriented teaching methods, including how to organize and manage practical environmental design projects and how to help students deal with real-world challenges. The training includes simulation projects, case studies and actual site visits to help teachers better understand the implementation of the ecological teaching model. As the field of environmental design continues to grow and evolve, teachers need to be aware of new technologies and trends. Schools can invite industry experts and researchers to conduct training to introduce the latest environmental design tools, software and methods, which will help ensure that teachers are able to pass on the latest knowledge and skills to students. Ecological teaching mode emphasizes educational innovation, and teacher training should focus on how to design innovative courses, teaching materials and evaluation methods. Training includes the use of educational technology, project-driven learning and the design of practical programs, and teacher training can also encourage teachers to conduct educational research to continuously improve their teaching methods. Teacher training should encourage interaction and collaboration, where teachers can share each other's experiences and lessons, learn best practices, and build a supportive and inspiring community.

### **2.2 Environmentally friendly infrastructure**

Schools can invest in modern design studios and laboratories, equipped with the latest design software, computers and laboratory equipment, which should fully meet the needs of students and enable them to carry out practical work in environmentally friendly design. For example, students are provided with CAD (computer-aided design) software, 3D modeling tools, and simulation equipment to support their design projects. Schools can establish a material library and resource center for students to access environmentally friendly materials and resources. These resource centers can contain environmentally friendly building materials, sustainable design samples, and related literature for students to understand and use environmentally friendly materials. The library can also provide tools and equipment for students to experiment and prototype. Schools can invest in digital tools and technologies to support ecological teaching models, including virtual LABS, online design tools, and digital education platforms that help students simulate and test design concepts in a virtual environment, providing more learning resources. Schools should encourage and implement sustainable building and facility improvements to reduce resource waste and environmental impact, including energy efficiency improvements, water management, and waste recycling facilities. By establishing exemplary sustainable building projects on campus, schools can communicate the principles of environmentally friendly design to students. The greening and landscape design on campus should also conform to the principles of environmental design, using environmentally friendly technologies such as native plants, water-saving irrigation systems and renewable energy to create an eco-friendly campus environment.

### **2.3 Practical project cooperation**

Schools can establish partnerships with architecture and design firms, environmental organizations, government departments, etc., to provide students with industry cooperation projects, which cover sustainable design, environmental engineering, green building and many other aspects. By working with industry, students are able to apply the knowledge and skills they have learned in real projects, while receiving guidance and feedback from industry professionals. Schools can also work with local communities on projects related to environmental protection and sustainability. For example, students can participate in community waste recycling programs, urban greening projects, or energy efficiency improvement projects. Such community cooperation not only develops students' social responsibility, but also enables them to apply their learning and apply the principles of environmental design to the real environment. The school can also collaborate with academic research institutions and universities to carry out research projects. These projects can involve research on emerging environmental technologies and materials, as well as innovative approaches to solving environmental design problems, and students can participate in these research projects to gain insight into the latest developments in the field of environmental protection. Schools may also consider working with international partners on cross-cultural environmental design projects. Such international cooperation projects can provide students with design challenges in different regional and cultural contexts, and develop their intercultural communication and collaboration skills. In order for students to better participate in collaborative projects, schools can provide project management and leadership training, which can help students learn to plan, organize and execute

projects and develop their leadership potential.

## 2.4 Competitions and exhibitions

Schools can encourage students to participate in a variety of design competitions, ranging from interior design to landscape design, which often require students to submit innovative design proposals based on a specific theme or project. Students can exercise their design skills in these competitions, while exchanging and sharing experiences with other students, and winning a prize in the competition is not only a recognition of the student's ability, but also a valuable resume. In addition, schools should hold regular design exhibitions to provide a platform for students to display their work. These exhibitions can showcase students' creativity and design style while attracting the attention of potential employers, industry professionals and the media. By participating in exhibitions, students can build their brand and reputation, which helps them in their future employment and career development. Schools can also encourage students to participate in external design competitions and exhibitions, which may be organized by industry organizations, design agencies, or cultural institutions, usually with a higher level of competition, and students' participation will help improve their professionalism and competitiveness. In competitions and exhibitions, students' work is often reviewed and evaluated, and these review processes provide students with valuable feedback and suggestions to help them improve their design and improve quality. Schools can provide guidance to students to help them understand the evaluation criteria and how to respond to the evaluation comments. Schools can set up honors and awards to recognize students who perform well in competitions and exhibitions, such as prizes, certificates, MEDALS or academic honors, to stimulate students' motivation and sense of competition.

## 2.5 Continuous improvement

Schools can conduct regular assessments and surveys to gauge feedback from students, faculty, and industry, including course evaluations, student satisfaction surveys, and alumni tracking. With this feedback, schools can identify any issues or opportunities for improvement and then take steps to adjust. Based on the evaluation and feedback, schools can update and improve the curriculum content, including adding new courses or modules, updating teaching materials, or adopting new teaching methods to ensure that the curriculum content is in line with industry trends and the latest environmental design technologies. Schools can provide teachers with regular training and professional development opportunities that help teachers follow the latest educational methods and technologies to better meet the needs of students. Teachers can also share best practices and experiences to improve the overall quality of teaching. Schools can actively seek to collaborate with industry and the community to understand the latest trends and needs. Working with industry can provide practical opportunities for students while providing schools with information about industry needs. Working with the community can provide students with field experiences and project opportunities to address real environmental design problems. Schools can encourage teachers and students to undertake research and innovative projects to promote the development of ecological teaching models. Research results can help improve educational methods and curriculum content, while building a reputation for research and innovation in schools. In addition, schools can actively manage alumni networks to keep in touch with alumni and learn about their career development and feedback. Alumni can provide the school with information about the quality of programs and career opportunities, and they can also give back to the community and industry to set success stories for the school.

## 3. Concluding remarks

To sum up, the implementation of ecological teaching mode of environmental art design major in higher vocational colleges will help to cultivate design talents with environmental awareness and innovative ability to adapt to the ever-changing needs of the design field. Through interdisciplinary education, practice-oriented teaching, innovative teaching materials and the application of multiple assessment methods, schools can provide students with a richer learning experience and make a positive contribution to social and environmental sustainability. The field of higher vocational education should actively explore and implement this ecological teaching model to meet the future needs of talents.

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