

# Research on Practical Teaching of Environmental Design Specialty based on "Craftsman's Spirit"

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**Abstract:** This paper focuses on the practical teaching of environmental design major introduced by "craftsman's spirit", analyzes its guiding role in practical teaching in universities, and summarizes the contents, training system, school-enterprise cooperation and evaluation standards in practical teaching. The "craftsman's spirit" will be introduced into practical teaching, the content of teaching practice will be expanded, the system of practical teaching will be optimized, and the mode of school-enterprise cooperation will be deepened. In addition, the paper studies the evaluation system of practical teaching, forms effective evaluation content, breaks the barrier of practical teaching of environmental art design in the course teaching management of universities, and provides practical impetus for the transformation of environmental art design major in the new era.

## 1. Introduction

In the 21st century, China is transforming from a "big manufacturing country" to a "strong manufacturing country", and all walks of life are advocating the inheritance and innovation of "craftsman's spirit". In March 2016, Premier Li Keqiang put forward in his report on the work of the government at the fourth session of the Twelfth National People's Congress that "fostering the spirit of craftsmen who strive for excellence" [1]. As a main front for cultivating "big country craftsmen", design majors in higher education institutions should follow the requirements of the times and shoulder the historical mission and social responsibility to cultivate the "craftsman's spirit". By analyzing the connotation and essence of the "craftsman's spirit", it can be used as the guiding ideology for the reform of the practical design mode of environmental design profession.

## 2. Practical teaching and "craftsman's spirit"

### 2.1 Practical teaching

Practice teaching is an important process of classroom theory learning knowledge to externalize professional practice ability. Compared with theoretical teaching, practical teaching plays an important role in cultivating students' comprehensive quality [2]. Practice teaching is an educational model based on the combination of engineering and learning. It is of great practical significance to use specific professional programs to train students' professional skills and cultivate students' thinking ability and innovative ability. The practical teaching mode of environmental art design specialty is characterized by cultivating students' practical ability, aiming at "ability-centered" and adapting to social needs. It is a practical teaching which covers solid theoretical foundation knowledge of design and strong practical ability of design.

### 2.2 Craftsman's spirit

The academic interpretation of "craftsman's spirit" is not entirely consistent. The author agrees with Xiao Qunzhong and Liu Yongchun in their article craftsman's spirit and Its Contemporary Value. They define craftsman's spirit as "narrow sense refers to coagulation on craftsmen, and broad sense refers to coagulation on all people." The attitude and quality of pursuing excellence in

production or work "[3]. Practice teaching is an important part of talent cultivation in Colleges and universities. It is the main means to cultivate students' professional quality and "craftsman's spirit". It plays an extremely important role in cultivating students' technical ability and practical innovation ability [4]. At the same time, many courses in environmental art design, such as "model making", "design drawing expression" and "thematic design" are directly related to the "craftsman's spirit", especially in the aspect of hand-made artisans. By incorporating the "craftsman's spirit" into the practical teaching system and integrating its connotation into all levels of the design education practice system, it can largely change the situation in which the existing environmental art design practice courses are not "practical".

### **3. The status quo of environmental art design practice teaching**

According to statistics, the total number of environmental design majors in more than 2,000 colleges and universities across the country has exceeded two-thirds. However, from the actual situation of running schools, there are widespread problems of insufficient features, inconspicuous differentiation, poor student hands-on ability, and inability to meet the diversified needs of the talent market. In theory, the environmental art design profession can not find its own accurate positioning, planning management with a single theoretical teaching and practical teaching, copying the art design education concept and training objectives. In practice, graduates majoring in environmental art and design have a low degree of employment counterpart, which is repetitive with architecture and landscape architecture and has its own limitations, resulting in the situation that "employment of environmental design specialty is difficult, counterpart is more difficult" [5]. Practice teaching is a breakthrough in the teaching reform of environmental art design specialty. Through combing the problems existing in practice teaching, the following four points are formed:

#### **3.1 Lack of Characteristics in Practical Classroom Teaching**

In the course of teaching, the teaching form of practical courses is still traditional, which is not in line with social practice projects. Many professional teachers have been engaged in theoretical education for a long time and lack the ability of designing practical projects. Lack of guidance of practical ability in practical teaching affects students' cognition and understanding of professional practical courses. In particular, the current employment model of colleges and universities with the standard of diplomas excludes teachers with strong practical ability. At the same time, many colleges and universities pay insufficient attention to the practice of environmental art design practice. They cannot take into account the characteristics of practical teaching in various professions, and constrain the form and content of practical courses, which affects the enthusiasm of teachers to explore the diversity of practical courses.

#### **3.2 Single talent training system**

The practical curriculum talent training system affects teachers and students' understanding of the content of professional courses. At present, some colleges and universities practice courses do not cover high and low grades, and there is a fault in practical curriculum learning, which cannot guarantee the continuity of practical curriculum learning. At the same time, there are still unreasonable sequence of practical course content arrangement and practice. For example, professional style should be arranged in the lower grades. For the convenience of teaching management, it will be postponed to the upper grades, which will lose the meaning of content learning at this stage. Environmental Art Design is a practical and applied subject. Colleges and universities need to strengthen the overall planning of practical courses and infiltrate them into the courses from lower to higher grades. The gradual training of students' professional practical skills has aroused the attention of teachers and students to the cultivation of practical abilities [6].

#### **3.3 Insufficient implementation of school-enterprise cooperation**

In the current situation of constantly emphasizing practical teaching, colleges and universities have been trying to form an effective school-enterprise cooperation model with enterprises. Because

of the lack of a platform for school-enterprise collaborative assessment and effective operational mechanism for practical teaching, imperfect teaching system, non-standard practice environment, unreasonable personnel arrangement and inadequate performance incentives, the two sides lack of motivation in cooperation. Affecting the quality of college-enterprise cooperation practice teaching, many school-enterprise cooperation projects have become paper contracts without substantive implementation and promotion.

### **3.4 Evaluation mechanism is not yet sound**

The development of practical courses in colleges requires the cooperation and promotion of students, teachers, teaching management departments and cooperative enterprises. Due to the lack of a perfect evaluation mechanism for the practical teaching of the ring art design profession, the teaching management department uses a one-size-fits-all evaluation system for quality assessment in order to facilitate management, which weakens the enthusiasm of teachers and academics for exploring practical courses. In the absence of a sound evaluation mechanism, cooperative enterprises can not effectively evaluate the significance and value of practical teaching courses, lack of quantitative evaluation indicators of results, affecting the initiative of enterprises in exploring school-enterprise cooperation [7].

## **4. Practical Teaching Reform Measures of Environmental Art Design**

### **4.1 Introducing "craftsman's spirit" into Practical Teaching**

Highlighting the spirit of craftsmen and expanding the content of practical teaching. In the current teaching management and curriculum teaching in Colleges and universities, the practical teaching of environmental art design is often labeled as "bad management" and "discount of curriculum coefficients". Mainly because the current colleges and universities have not perfected the evaluation criteria for environmental art design practice teaching, which has affected the proportion of professional practice teaching, and even clearly stipulated the proportion of practical teaching, which constrained the expansion of practical teaching content [8].

In professional study, environmental art design students have limited ability to absorb theoretical courses. By optimizing the curriculum system, the proportion of practical teaching is improved, and traditional craftsmen learn from hands-on practice as the first element of learning, and learn theoretical knowledge in hands-on practice. Therefore, in the practical course, the "craftsman's spirit" is highlighted and refined into practical learning to promote the theoretical content of learning and mastery. Introduce the teaching mode of the competition project in the teaching, build the research institute with the design unit, adopt the teaching mode of the tutor system, and introduce the project into the teaching. For example, the course "Public Space Design" can be negotiated with the villages around the colleges and universities, and adopt the way of micro-transformation in the co-construction of schools and villages. By means of investigation, step-on and grouping, 5-8 groups of class atmosphere are set up to modify the designated nodes of villages within a limited period. In this process, the village environment can be effectively improved, students in learning is no longer a simple drawing modification, but in the construction practice of drawing content certification and promotion. Through practice, we can deeply understand the importance of theoretical knowledge transformation in design.

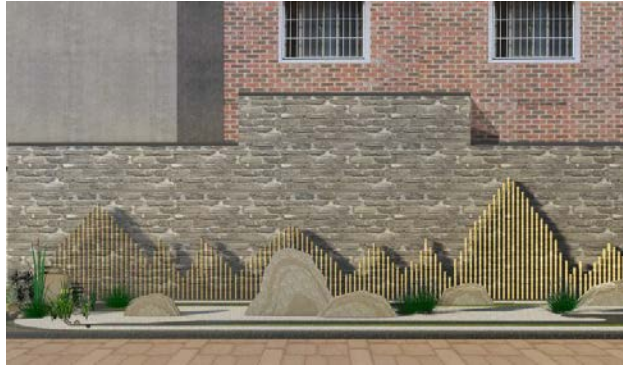


Fig.1. Course Scheme Design Source: Zheng Ye Tong draw



Fig.2. Construction and Implementation of Student Site Source: Author's Photography



Fig.3. Introducing Competition Items into Teaching Source: Team shooting



Fig.4. Co-construction Institute Source: Author's Photography

#### 4.2 Integrating "craftsman's spirit" and Optimizing Practical Teaching System

In the practical teaching system, the system is divided into three stages, namely "craftsmanship", "ingenuity" and "craftsman soul". The first stage, "Craftsmanship" is to form the cognition and basic practice of professional courses through basic learning and training. The teaching part includes a series of courses such as hand-made courses, computer graphics courses and thematic

design courses. School-enterprise practice includes school-enterprise cooperative courses and studio courses, forming comprehensive training for professional orientation, and achieving the cognitive goal from professional skills to project practice rules. In the second stage, "ingenuity" is to cultivate students' comprehensive social practical ability, and to open up their professional cognitive mind on the basis of mastering professional practical skills. Integrating professional skills into the needs of social practice includes curriculum practice, graduation design and vocational qualification certificate. This stage is the promotion level of professional practice learning. It is not enough to master the professional practice rules. It is necessary to clarify social needs through social practice and social connection, and apply the practical principles to the needs to achieve the effect of learning. The third stage: "The soul of the craftsman" can be said to be the highest stage of practical teaching, and innovative learning after mastering the professional practice rules and social cognition. Through the excellence of innovation classes, creative design competitions and professional internships, we will integrate the contents of the previous "craftsmanship" and "ingenuity" to cultivate innovative, creative and professional practical qualities. It can be seen that the integration of "craftsman's spirit" into the practical teaching system is of great help to promote and optimize the teaching system of environmental art design [9].

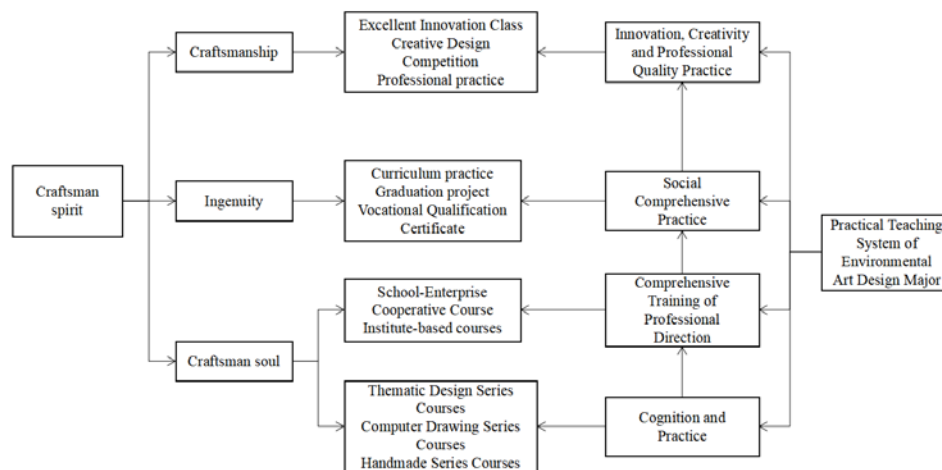


Fig.5. Practical Teaching System of Environmental Art Design

### 4.3 Strengthen the Spirit of Craftsmen and Deepen the Way of School-Enterprise Cooperation

In recent years, with the change of national education environment and concept, school-enterprise cooperation has become an important form of practical teaching in Colleges and universities, but the effect of teaching practice has not been achieved. In the final analysis, many colleges and universities only put this form of cooperation on paper agreements, turning the way of cooperation into an administrative task of an institution. Each year, a certain number of agreements must be completed, and school-enterprise cooperation becomes a resounding slogan.

Strengthening the "craftsman's spirit" in the school-enterprise cooperation, mainly through the form of benefiting both schools and enterprises, so that universities and enterprises can achieve results in cooperation. It can take the form of "apprenticeship" and "dual track system". The apprenticeship-oriented teaching method is through the application of enterprise technicians or direct company appointment. For the different internship positions, a team of technicians with high comprehensive quality will be formed. As the student's corporate mentor, the students will be guided to participate in the enterprise project practice. From the adaptation guidance in the early stage, the technical guidance in the middle stage to the direction guidance in the later stage, they imitate the form of traditional craftsman apprenticeship training and adopt the guidance mode of "hand-in-hand". The "two-track system" refers to the introduction of theoretical teachers in Colleges and universities on the basis of guaranteeing the guidance of technicians in the guidance of enterprises' practical projects, and the elaboration and analysis of the technical principles and theories in the learning of practical projects. Not only can technicians understand more theoretical knowledge, but also can teachers get intuitive project practice process, so as to achieve

multi-benefit effect.

#### 4.4 Research on the Evaluation System of Practical Teaching

For a long time, the practical teaching of environmental art design specialty will be managed by many colleges and universities' professional teaching management in a "one-size-fits-all" way. The main reason is that compared with other majors, the major does not have a perfect practical teaching evaluation system and can not be effectively managed. Therefore, the practical teaching of environmental art design specialty should have an objective, scientific and perfect evaluation system, so as to achieve evaluation and promote reform. The evaluation index system is constructed from the perspective of practical teaching management process, and its contents include student satisfaction evaluation, university practice achievement evaluation and enterprise practice benefit evaluation.

#### 4.5 Student satisfaction assessment

Through the setting of the primary and secondary indicators, the evaluation content and process are refined, and it is regarded as one of the important evaluation methods of the practical curriculum, and the results of student satisfaction evaluation are effectively feedback. The evaluation system includes practice teaching idea, practice teaching environment, practice teaching teachers, practice teaching management, practice teaching content and practice teaching effect.

Table 1 Satisfaction Index System

First level index	Two level index	First level index	Two level index
Practical Teaching Concept	Identity Degree of Teaching Objectives Attention to Practical Teaching	Practical Teaching Management	Satisfaction with Teaching Link Design Satisfaction of Organizational Management Satisfaction with assessment methods
Practical Teaching Environment	Satisfaction of on-the-job internship Enterprises Satisfaction degree of internship working environment Satisfaction degree of internship living environment	Practical teaching content	Job Satisfaction Ways of Source of Teaching Information Practicality of Teaching Content Frontier of Teaching Content
Practical Teaching Teachers	Comprehensive Quality of School Instructors Teaching Attitudes and Methods of School Guiding Teachers Comprehensive Quality of Enterprise Tutors Teaching Attitudes and Methods of Enterprise Tutors	The effect of practical teaching	Deep Understanding of Specialty Deep understanding of industry Promotion of Professional Skills Student self-evaluation

#### 4.6 Evaluation of Practical Achievements in Colleges and Universities

Colleges and universities can evaluate the results of practice by means of teacher evaluation and peer expert evaluation. Teachers' evaluation mainly collects students' feedback on curriculum learning, teaching ideas and learning benefits, and evaluates the completeness and implementation of teachers' teaching plans and contents in teaching. Through the quantification of index data, suggestions are put forward for the improvement of teachers' feedback practice teaching methods and contents, which can effectively promote the quality of teachers' practice teaching. For the

results of practical teaching, such as works, essays, curriculum design, etc., the completion degree, effect and operability of the results can be reviewed through the evaluation of the experts in the school and the experts outside the school to form the level of teaching results. It can enable the practical teaching subject to clearly and comprehensively understand the actual achievements and values of the course results, and enhance the practical teaching with a higher vision and requirements. In general, teacher assessment and peer expert review can effectively evaluate the completion of practical teaching results and provide measurable standards for the teaching of practical results in colleges and universities.

#### **4.7 Enterprise practice benefit evaluation**

In the practice of school-enterprise cooperation teaching, the evaluation of practical benefits is particularly important through the formation of practice teams and job provision. If cooperation is only a unilateral benefit, there will be no guarantee of the sustainability of school-enterprise cooperation. For example, Toyota Japan sponsors more than 1 million US dollars in product design for the Detroit Institute of Creative Research. It is because the college's faculty and outstanding student talents provide the company with a constant stream of power in product technology and product development. For students, teachers and enterprise technicians in the job process, the progress of task completion, the guidance process and the effect of task completion are formed in three parts: on-the-job task evaluation, process evaluation and result evaluation. Effective evaluation of enterprise platform, technicians and product research and development in teaching practice.

#### **5. Conclusion**

As an applied design specialty, environmental design has many differences with other specialty disciplines in teaching form, teaching content, curriculum system and so on. Copying the practical teaching methods of other specialties can not effectively solve the problem. By introducing the spirit of craftsmen, this paper summarizes the traditional craftsmen's study methods and applies them to the practical teaching construction of environmental art design, focusing on the core task of cultivating professional competence and improving professional practical quality. To highlight the spirit of craftsmen in the form of project teaching, to optimize the practical teaching system in the three stages of craftsmanship, ingenuity and craftsman soul, to strengthen the spirit of craftsmen in the form of apprenticeship and double regulation, and to deepen the mode of school-enterprise cooperation. Form a professional practice teaching system and teaching mode with the characteristics of the ring art design. At the same time, improving the evaluation system of practical teaching can provide quantifiable measurement standards for practical teaching, improve students' interest in practical courses, promote the construction of practical teaching system in college courses and corporate positions, and provide sustainable development guarantee for practical teaching.

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