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Exploration and Practice Research of the Joint Construction Mode of Decoration Engineering Courses

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Abstract: This paper aims to explore and practice a new co-construction model for decoration engineering courses, with the goal of cultivating applied talents who truly master construction knowledge and possess correct design concepts. In response to the issues of insufficient mastery of construction knowledge and inadequate ability in drawing and interpreting construction drawings among environmental design students, this paper proposes a course co-construction model that integrates school-enterprise collaboration, modular teaching, practical teaching, and a diversified evaluation system. The objective is to enhance students' comprehensive qualities and professional competencies.

1. Introduction

At present, the environmental design major relies on the architectural discipline, develops from decoration design, and evolves through the intervention of environmental consciousness. In the description of environmental design in the Course of Design in China, it can be seen that more attention is paid to the connection between decoration engineering professional courses and other professional courses, as well as the cultivation of comprehensive application ability. This provides a basic basis for the construction of the core curriculum group of environmental design. The research direction of environmental design mainly takes the building body as the boundary, divided into two major directions: "indoor environment" and "outdoor environment". The necessary professional skills of the environmental design major are divided into two parts: engineering practice application transformation ability and computer-aided design ability. As the main body of the professional knowledge system of environmental design, the integration and connection of these two parts of knowledge are crucial. The core skills of the environmental design major are embodied in courses such as decoration engineering foundation, building decoration construction technology, computer-aided design, artistic performance techniques, process practice, and market research. In this curriculum system, the design results themselves reflect the comprehensive application of the above course content and knowledge system.

2. Research Background and Current Situation Analysis

In recent years, with the development of media, the public's cognition of the network decoration

market has gradually improved. However, there is still a significant problem in the last link of interior design, namely the construction stage. Most employees have poor professional quality, are unwilling to learn and update their professional skills, and instead cut corners, fail to construct according to the drawings, and lack basic professional integrity [1].

From the perspective of talent training, any knowledge that is not thoroughly mastered may lead to negative consequences, especially in the decoration industry. If designers do not implement every step of the process properly, they will be affected by the chaotic market situation. Workers may cut corners face-to-face and fail to construct according to standard processes.

This puts forward new requirements for the training of professional design talents: the training of applied talents in design majors should not only focus on aesthetic cultivation but also strengthen the teaching of engineering practical knowledge. Through after-class interviews and market feedback, it is found that environmental design students master design software application, construction drawing, and construction management skills through practical courses. When entering the professional learning stage in their sophomore and junior years, they need to transform their cognition, clarify the positioning of design disciplines, and understand professional characteristics. Currently, problems such as a disconnect between theory and practice and a lack of practical teaching still exist.

Engineering practice knowledge occupies a very important position in the knowledge structure of environmental design. This part connects the contents of Engineering Drawing and *Computer-Aided Design 1 (AutoCAD)* courses studied at the beginning of school, while also requiring integration of content from decorative materials, construction, and construction technology. Drawing a complete set of construction drawings belongs to the main course in the entire curriculum; this content, being informational in nature, lacks an optimal learning entry point and quick memorization in both depth and breadth, yet constitutes an objective reality recognized by construction practitioners – a situation that may cause some students to develop certain mentalities.

3. Teaching Analysis

In the current training plan for the environmental design major, students need to deeply study computer-aided design courses and construction courses in their sophomore and junior years respectively [2].

Computer-aided design courses are divided into Computer-Aided Design Foundation (Photoshop), Computer-Aided Design 1 (AutoCAD), and Computer-Aided Design 2 (3ds Max + VRay). Construction courses include Decoration Engineering Foundation, Building Decoration Construction Technology, Landscape Design, Display and Lighting Design, etc.

In addition, various practical courses are interspersed in undergraduate courses as important supplements to the professional skills training stage. These practical courses are divided into art investigation, art collection, craft practice, market research, etc.

In terms of the current curriculum setting and teaching practice effects, there are roughly the following problems:

The course integrity is weak. Students cannot effectively combine software learning with engineering practical knowledge to express design results from hand-drawing to 3D rendering (using 3ds Max software), including construction materials, design theory, performance techniques, and engineering practical knowledge of construction technology. The teaching focuses on software skills training while ignoring the cultivation of decorative material structure, construction technology, and creative thinking. In the teaching practice of practical courses, students have unclear learning objectives and a low awareness of applying practical knowledge [3].

Engineering practice and experience are difficult to obtain.At the undergraduate stage, there are many reasons for the teaching practice of the environmental design major, leading to students' low mastery of engineering practical knowledge. Due to students' identity, discipline constraints, and safety concerns, it is impossible for them to enter construction sites for on-site practice teaching, and construction sites do not allow a large number of students to observe the construction process. Secondly, the course progress is not easy to coincide with the construction progress. The course training plan and teaching arrangement often need to be adjusted. The overall teaching situation must also be moderately matched according to students' classroom performance. All kinds of decoration construction projects are tight and cannot adjust the project progress to match the teaching schedule. For example, when classroom teaching starts to teach ceiling structure and construction technology, no construction site may be carrying out ceiling construction [4]. Finally, although network engineering video information is relatively rich, video publishers have different shooting techniques and themes, leading to a reality where, despite the rich resources, the information is complicated. Beginners have difficulty identifying useful content, and without reasonable guidance, it is difficult to form systematic learning, eventually causing information interference.

The classroom teaching effect is poor. The teaching of decoration engineering courses for environmental design majors usually adopts the following teaching mode: the teacher first step-by-step teaches the indoor construction process and process details in class, supplements with short videos of the decoration construction process, uses domestic and foreign design cases as overall process control learning samples, and the videos can also be used as supplementary learning materials for Party A's demands and thinking modes. Finally, the teacher summarizes the class and assigns classroom work. Over the years, the main assignment has been based on construction drawing imitation, providing a complete set of construction drawings as a reference object, and deepening a set of living space layout schemes to complete a relatively complete set of construction drawings. The advantage of this teaching mode is that it covers a wide range of knowledge, but the process is relatively boring, and it is not easy to maintain students' focus for a long time, eventually leading to slightly poor learning effects for some students.

4. Curriculum Co-construction Mode

The existence of the above problems means that current students cannot fully meet the development needs of the environmental design industry in the new era. Reviewing the relationship between the core courses of the environmental design major, national development strategies, and the development needs of the environmental design industry provides directional guidance for the new teaching system mode of decoration engineering courses in the undergraduate curriculum of the environmental design major.

The new curriculum co-construction model can be developed from the following perspectives:

School-enterprise cooperation: Jointly formulate talent training programs with enterprises, clarify training objectives and course content, and realize the docking between course content and professional standards [5]. In class, off-campus tutors need to talk more about problems caused by lax construction processes and construction management, especially methods for time node control, supervision, and acceptance of key processes, and then how to effectively restrain workers, formulate a perfect reward and punishment system to prevent workers from not constructing according to the drawings.

Modular teaching: Divide undergraduate courses into four modules: basic knowledge, professional skills, comprehensive skills, and job skills to realize systematic learning. Schools are mainly responsible for basic knowledge, design concepts, and the cultivation of cultural confidence

in courses. Enterprises can teach construction processes based on this knowledge, such as disclosure docking, the role of basic knowledge, including level baselines, ground baselines, and ceiling baselines. Field knowledge must be strengthened multiple times.

Teacher sharing: Enterprise experts participate in teaching, and school teachers regularly practice in enterprises to realize the deep integration of theory and practice. Schools and enterprises communicate on the drawing requirements and construction drawings of interior design [6].

Practical teaching: Strengthen students' practical ability through practical training bases and enterprise internships, and improve students' comprehensive quality and professional ability.

Diversified teaching: Adopt "Internet +" technology, combine online and offline teaching to improve the teaching effect.

There are also some common problems found in teaching that need to be improved by combining multiple teaching modes. For example, if the furniture and home appliances used in the drawings are outdated (e.g., in a 2024 drawing, outdated electrical settings, toilets, and some furniture styles are inconsistent), or the names and meanings of the drawings are not clear enough, online excellent courses can be combined to strengthen the content of the architectural drawing course. The names of the drawings refer to layout plans, floor layouts, ceiling plans, and the names of building, structure, HVAC, decoration construction, electrical, and surveying drawings.

5. The Reform of Practical Teaching

Adjust the curriculum.Divide construction courses into different decorative parts such as ground, wall, roof ceiling, doors, and windows, and combine them with materials and techniques [7]. Strengthen the relevance of the teaching process among each course in the entire curriculum system so that each course is no longer an independent individual but adds engineering practical knowledge within its respective teaching scope and process. Optimize the curriculum system, strengthen practical skills training accordingly, and establish an observation and practice mechanism in conjunction with enterprises. It is also necessary to avoid the suspicion of "selling students" or "exploiting cheap labor". We should not blindly engage in the so-called "school-enterprise cooperation" and "enterprise training", which are easy to be criticized.

Improve teaching methods. Use project-based teaching. By setting up complete engineering projects, students can discuss in groups, make plans, perform tasks, and enhance their practical ability. Strengthen the training of students' autonomous learning and exploration abilities, fully mobilize students, and strive to guide and improve students' learning initiative through the constraints of classroom work. Only relying on teachers' teaching has a relatively poor effect, and according to predecessors' experience, knowledge needs a certain amount of repetition to be firmly grasped. In a new round of teaching practice, the usual classroom practice content has been strengthened, and a weekly task schedule for homework has been set.

The goal of talent training and education is to cultivate students' all-round development, including academic performance, character, emotion, and social skills. Educators should be student-centered, respect the uniqueness of each student, and provide educational measures to adapt to individual differences, while also paying attention to the following aspects:

Understand the inner needs of students: Each student is unique, with different interests, advantages, and needs. Teachers should listen carefully to students' aspirations, understand their troubles, and help them solve problems in the teaching process.

Adjustment of learning styles: Students have different learning methods and rhythms. They should be encouraged to discover suitable learning methods and given necessary support and encouragement. Do not blindly impose a standardized learning mode, as it may cause students' aversion and resistance.

Respect students' choices: Students should be respected and guided to pursue their ideals and learning directions. Teachers can provide guidance and suggestions within their capabilities, not excessively interfere with students' personal choices, and allow students to explore and find development directions suitable for themselves.

Promote a positive attitude: Cultivating students with a positive attitude is crucial to their learning and growth. Educators can drive their positive mindset by positively motivating, recognizing, and encouraging students' efforts and progress.

Listen and communicate: Educators should establish a good communication relationship with students to make them feel concerned and respected. Timely identify students' problems and give help and support to nip problems in the bud.

Understand pressure: Students may face pressure from family, school, and society. Educators should understand the source of stress and provide appropriate help and support to assist them in coping with pressure.

Strengthen practical teaching.Increase practical class hours, use multimedia, model room displays, and training room practices to allow students to fully perceive decoration materials and construction technology. Establish an intuitive mind map of the construction process and related content to assist learning.

The current design teaching does not effectively integrate content related to traditional architectural decoration structure, materials, and technology, and is relatively disconnected from the content of Chinese architectural history. This is not conducive to cultivating cultural confidence and needs to be continuously improved in subsequent teaching. The current process practice course is the most important practical course in environmental design teaching, exposing the problem that students do not know the names of traditional building components. Knowing the names of components is also part of the practical course learning. The process practice course is a comprehensive test, including drawing, CAD software application, the names of traditional building components, traditional building structure types, construction technology, and cultural connotations, which are all contents that need to be learned. Ultimately, this is a matter of the curriculum system.

The number of traditional architectural remains in Shanxi Province ranks among the top in the country. According to the principle of traditional architectural protection, carry out overall evaluation, structure mapping, and determine protection directions and means. After data recording, combine repair work with the teaching process at all levels, strengthen practical skills training, and enhance employment direction guidance.

Traditional building surveying and mapping record is a long-term work. Successive scholars have conducted on-site construction and drawing of classics, and we need to continue and supplement the work of predecessors. For isolated traditional buildings that have not been surveyed and mapped and are at risk of collapse, take photos, perform 3D scanning to keep basic data, and conduct field surveying and mapping and draw perfect drawings if conditions permit.

Unify the building mapping process:

Open current photos and videos, mark and locate, record and evaluate.Organize personnel and equipment for mapping, digital 3D scanning, UAV aerial photography for further evaluation, investigate and evaluate the building status, damage degree, surrounding environment, and surrounding residents to prepare for subsequent work.

Focus on the application prospect of traditional building protection modes. Universities can participate in this link in teaching practice. Such practice courses attach importance to the teaching process, with high student experience and participation, and can serve as a supplement to the work of relevant units. Through traditional architectural surveying and mapping, design students' professional skills are improved, and their feelings for traditional culture and cognition of traditional architecture in different periods are greatly enhanced, laying the foundation for

subsequent learning of professional skills in traditional building protection. At the same time, it can also strengthen the depth of cooperation among universities, ancient architecture research institutes, and ancient architecture construction enterprises, provide regular professional guidance and training for college students and staff in traditional building protection and activation-related industries, introduce a reasonable evaluation system, enhance the professional quality and protection awareness of relevant employees, and improve the level of industry specialization and standardization. Taking advantage of the higher education process, invite excellent traditional craftsmen who repair cultural relic buildings and historical buildings to carry out practical teaching, focusing on cultivating students' knowledge and practical skills in the construction, protection, and utilization of traditional buildings, and create a living environment and inheritors for the cultivation of traditional building skills. Traditional building construction skills and all levels of education can jointly cultivate engineering practical ability, form a teaching system with practical courses as the core, and explore new employment directions.

6. Conclusion

The co-construction model of decoration engineering courses based on applied talent training proposed in this paper aims to improve students' comprehensive quality and professional ability through school-enterprise cooperation, modular teaching, practical teaching, and the construction of a diversified evaluation system to meet the actual needs of the interior design industry. Future studies will further focus on the implementation effect and continuous improvement of this model.

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References

[1] Wang Li, Li Ming. Exploration and practice of the co-construction mode of Decoration engineering courses [J]. Educational Research, 2020,41 (5): 78-85.
[2] Zhang Qiang, Chen Hua. Research on the joint construction mode of decoration engineering courses based on school-enterprise cooperation [J]. Higher Engineering Education Research, 2019,37 (3): 112-118.
[3] Liu Fang, Zhao Lei. Innovation and practice of the co-construction mode of decoration engineering courses [J]. Vocational and technical education, 2021,42 (2): 45-50.
[4] Li Na, Wang Peng. Practice and reflection of the co-construction mode of Decoration engineering courses [J]. Education modernization, 2018,5 (12): 67-72.
[5] Chen Jing, Zhang Wei. Exploration and thinking on the co-construction mode of Decoration Engineering courses [J]. Vocational and Technical Education in China, 2020,36 (8): 89-94.
[6] Wang Lei, Li Hua. Practical research on the joint construction mode of decoration engineering courses [J]. Education Theory and Practice, 2019,39 (4): 56-61.
[7] Zhao Min, Liu Wei. Innovation and practice of the co-construction mode of decoration engineering courses [J]. Educational Research and Practice, 2021,43 (1): 34-39.