

Research on the Learning Status of Students in Environmental Design Courses in Applied Undergraduate Colleges and the Path of Teaching Reform

Cheng Zhang

School of Art and Design, Wanjiang University of Technology, Ma'anshan 243031, Anhui, China

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Abstract: Environmental design is a core professional in applied undergraduate art design programs, integrating artistry, technology, and practicality. Its core goal is to cultivate high-quality applied design talents that meet industry demands. Currently, the environmental design teaching in most applied undergraduate colleges suffers from disconnection between theory and practice, lagging courses, and fixed teaching models, resulting in insufficient student initiative in learning, weak practical ability, and low employment adaptability. This paper takes students from environmental design programs in multiple applied undergraduate colleges as the research subjects. Through questionnaire surveys, teacher-student interviews, and classroom observations, it systematically analyzes the learning status of students in the courses, summarizes existing learning and teaching problems, and delves into the causes of these problems. Based on the school's positioning of "emphasizing practice, strengthening application, and aligning with industries" in applied undergraduate education, it constructs a teaching reform path from four dimensions: curriculum system, teaching mode, practical teaching, and assessment and evaluation. The aim is to optimize the professional education system, enhance students' professional core capabilities, and provide a reference for improving the quality and efficiency of environmental design teaching and meeting the demands of industry talent.

1. Introduction

The promotion of rural revitalization, urban renewal and improvement of the living environment have driven a rapid transformation of the environmental design industry. The market's demand for design talents has shifted from traditional drawing skills to "innovative design, technical operation, and project implementation" as a comprehensive type of talent. Applied undergraduate colleges are the core base for sending environmental design, engineering construction, and space operation talents to the grassroots level. The teaching quality directly determines the level of talent output. Currently, some applied undergraduate environmental design majors still follow the traditional art teaching system, with outdated course content lagging behind the industry development, a high

proportion of theoretical teaching, and superficial practical teaching, and a single and rigid teaching method. The lag in the teaching system directly leads to problems such as insufficient learning motivation, low classroom participation, lack of practical operation ability, and unclear career planning among students, making it difficult to meet the requirements of enterprise job positions. The student learning status is the core indicator for testing teaching effectiveness and optimizing talent training plans. Based on empirical research data, this paper sorts out students' learning pain points, analyzes teaching shortcomings, and proposes reform strategies that are in line with the application-oriented educational goals, which has important practical significance for promoting professional industry-academia integration and enhancing students' employment competitiveness.

2. Design and Implementation of the Survey Plan

2.1 Survey Participants

This survey selected 2022 and 2023 grade students majoring in environmental design from 3 local applied undergraduate colleges as the research subjects, covering two major directions of interior design and landscape design, including basic courses and core professional courses in different grades, to ensure the comprehensiveness and representativeness of the survey data. A total of 320 questionnaires were distributed, and 306 valid questionnaires were retrieved, with an effective recovery rate of 95.6%. Simultaneously, 40 current students and 8 professional instructors were interviewed to supplement qualitative research data and improve the analysis dimensions of the problems.

2.2 Survey Contents and Methods

The survey focused on students' learning status, using a combination of questionnaire survey method, classroom observation method, and one-on-one interview method. Quantitative data were used to present students' learning status in an intuitive way, and qualitative analysis was used to deeply explore the underlying problems of teaching, providing solid empirical support for teaching reform.

3. Survey Results and Analysis of Students' Course Learning Status

3.1 Statistical Analysis of Students' Overall Learning Status

This survey statistically analyzed students' overall learning status from four core dimensions: learning motivation, classroom participation, after-class investment, and practical effect. The specific data are shown in Table 1.

According to the research data, the overall learning status of students majoring in environmental design at application-oriented undergraduate institutions is relatively passive, and their awareness of self-directed learning is weak. Only 18.3% of the students can actively plan their professional studies, while over 65% of the students have only the sole goal of completing course tasks and lack the willingness to explore the profession. At the classroom level, most students listen passively, with insufficient interaction between teachers and students and self-thinking. The learning efficiency in the classroom is low. The post-class learning investment is extremely scarce, with only 15.4% of the students actively expand their professional skills. At the same time, the students' practical abilities are particularly weak. 70.3% of the students only master basic software operations and theoretical knowledge, and do not possess core practical skills such as scheme optimization,

construction drawing, and project implementation. There is a significant gap from the application-oriented talent training goals.

Table 1 Overall Statistical Table of Students' Course Learning Status in Environmental Design Major

Research dimension	Specific manifestations	Percentage (%)
Learning motivation	Take the initiative to love and plan your learning independently	18.3
	Passive learning, merely completing the course tasks	65.7
	Lack of motivation, merely going through the motions with studies	16.0
Class participation status	Positive interaction, active thinking and questioning	22.5
	Listening passively and rarely participating in interactions	63.4
	Lack of concentration, frequent distraction in class	14.1
	Actively expand practical operations and review industry materials	15.4
After-class study engagement	Only completed the homework, with no additional study efforts.	68.9
	Delaying and evading responsibilities, careless and sloppy in completing tasks, copying others' work without proper citation	15.7
	Proficient in practical skills, capable of independently completing projects	16.7
Practical learning outcomes	Having a good grasp of basic skills, but lacking the ability to implement projects effectively	70.3
	Weak in practical operation, unable to complete comprehensive design projects	13.0

3.2 Course Learning Satisfaction and Problem Feedback

To accurately identify the teaching pain points, this survey statistically analyzed students' satisfaction with the four modules of the course system, teaching mode, practical teaching, and assessment evaluation, sorted out the core teaching problems, and the specific data are shown in Table 2.

Data shows that students' satisfaction with each module of the professional teaching is generally low, with practical teaching and teaching mode issues being the most prominent. Firstly, the curriculum system lags behind the development of the industry, failing to incorporate cutting-edge contents such as AI design, low-carbon landscape, and digital space design. The course sequence is chaotic and the practical content is fragmented. Secondly, traditional lecture-based teaching dominates, while new teaching models are insufficiently applied, lacking in classroom interest and practicality. Thirdly, there is a shortage of practical teaching resources, and the school-enterprise cooperation is shallow, making it difficult for students to participate in real project practices. Fourthly, the assessment and evaluation system is one-sided, with final assessment being the main method, unable to comprehensively evaluate students' practical ability and innovative literacy, and lacking in educational orientation.

Table 2 Statistical Table of Students' Satisfaction with Course Teaching Modules and Core Issues

Course module	Satisfaction Rate (%)	Generally (%)	Unsatisfied (%)	Core issue feedback
Curriculum system	21.2	53.6	25.2	Content is outdated, with a lack of emerging technologies; the theoretical component is too high, while practical courses are fragmented
Teaching mode	19.6	51.3	29.1	The teaching method is rather monotonous, mainly relying on theoretical lectures, and there is a lack of project-based scenario teaching
Practical teaching	17.4	48.7	33.9	The training is mainly through simulation, without the support of real projects. The educational effect of school-enterprise cooperation is weak
Evaluation and assessment	23.5	54.2	22.3	Emphasizing results over the process, with a single form of assessment, and neglecting the evaluation of practical skills and innovation capabilities

4. Analysis of Existing Problems and Causes in Students' Learning

4.1 Causes at the Student Level

Firstly, there is a lack of clear professional cognition and insufficient learning motivation. Most students have a one-sided understanding of the environmental design major upon enrollment, equating the major solely with drawing and modeling, ignoring the comprehensiveness and practicality of the major, lacking clear career planning, and their learning is highly utilitarian, merely fulfilling academic tasks. Secondly, the autonomous learning ability is weak, and the learning methods are rigid. Students have long relied on the passive listening learning mode and lack the autonomous learning habits of case accumulation, skill improvement, and innovative thinking, unable to adapt to the learning requirements of the design major^[1-2]. Finally, the fear of practical operation is prominent, and when facing difficult contents such as scheme design and construction drawing, there is a tendency to avoid, with insufficient investment in practical training, making it difficult for professional abilities to be improved.

4.2 Causes at the Teaching Level

Firstly, the adaptability of the curriculum system is insufficient, with a focus on theory and a neglect of practice. The course content is updated slowly and is out of step with the industry's job requirements, and the course gradient and connection are poor. Secondly, the teaching mode is fixed and conservative, with teachers mostly adopting a one-way lecture mode, and project-based and blended teaching are merely formalities. The students' status as the main body in the classroom is lacking^[3]. Thirdly, the depth of industry-academia integration is insufficient, with outdated school equipment for training being updated slowly, and the lack of a regular project co-creation mechanism between schools and enterprises for off-campus cooperation, resulting in poor internship education effects. Fourthly, the assessment mechanism is not perfect, with a single evaluation dimension, focusing on final results assessment, and neglecting the comprehensive evaluation of students' learning process, practical ability, and professional literacy.

5. Teaching Reform Path for Applied-Undergraduate Environmental Design Courses

5.1 Optimize the Curriculum System and Align with Industry Job Requirements

Based on the positioning of applied talent cultivation, restructure a three-dimensional curriculum system of "foundation solidification + core refinement + industry expansion". Reasonably reduce redundant theoretical courses and increase the proportion of practical training courses to achieve balanced development of theoretical and practical teaching. Dynamically update the course content and incorporate cutting-edge industry contents such as digital design, low-carbon living, and rural landscape renovation, eliminating outdated teaching knowledge points. Sort out the progressive logic of the courses and break through the barriers between basic courses, core courses, and practical courses, while setting tiered teaching tasks to adapt to the learning needs of students with different foundations, achieving a step-by-step improvement of students' professional abilities.

5.2 Innovate Teaching Modes and Activate Students' Learning Initiative

Break the traditional single lecture mode and implement a diversified teaching mode combining project-driven, blended teaching, and group collaboration. Before class, rely on online platforms to push pre-class resources to cultivate students' autonomous learning ability; during class, use real enterprise design projects as carriers, break down the entire process of project research, scheme conception, modeling and rendering, and outcome presentation, and conduct teaching through group discussions, mutual evaluation of outcomes, and precise answers from teachers, strengthening students' practical training^[4]. At the same time, integrate academic competitions and innovation projects into daily teaching to promote learning through competitions, stimulating students' innovative thinking and learning enthusiasm.

5.3 Deepen Industry-Academia Integration and Strengthen Practical Education Effects

Build a three-in-one practical teaching system of "full real training in the school + practical training in enterprises + on-site job placement internship". Upgrade the on-campus digital design laboratory and training workshops, improve the training equipment, carry out full-scale simulation project training, and consolidate students' practical operational skills. Deepen the deep cooperation between the school and enterprises, collaborate with local design, landscape, and decoration companies, introduce real enterprise projects to the campus, and have dual-teacher teams jointly guide students to complete the entire project design process^[5-6]. Optimize the off-campus internship model, abandon the superficial visiting-style internship, implement fixed-position and on-site internship, enable students to deeply participate in enterprise engineering projects, accumulate practical job experience, and achieve seamless connection between campus learning and industry positions.

5.4 Improve the assessment mechanism and build a diversified full-process evaluation system

Establish a diversified assessment system of "process evaluation + final evaluation + comprehensive quality evaluation". Increase the proportion of process evaluation to over 50%, covering dimensions such as classroom performance, stage assignments, group collaboration, and training outcomes, and record students' learning dynamics throughout the process. The final assessment abandons traditional written tests and focuses on comprehensive design projects and practical assessments to test students' professional application abilities. Add comprehensive quality evaluation, combine enterprise mentor ratings, competition achievements, and practical

performance to assess students' innovation ability and professional qualities, fully leveraging the incentive and guiding role of assessment, and guiding students to attach importance to all-round ability improvement.

6. Conclusion

This empirical research indicates that current students majoring in environmental design at applied-type undergraduate institutions face significant problems such as insufficient learning motivation, low classroom participation, and weak practical skills. The root cause lies in the insufficient compatibility between the traditional teaching system and the goals of cultivating applied-type talents. To effectively enhance the quality of education, professional teaching should be oriented towards application, starting from the students' learning pain points as the reform entry point. By optimizing the industry-appropriate curriculum system, innovating diverse teaching models, deepening practical teaching in industry-academia integration, and constructing a comprehensive multi-level assessment and evaluation system, all aspects of the compatibility between teaching and learning can be solved, activating students' autonomous learning motivation, and strengthening their practical and innovative capabilities. In the future, universities need to continuously keep up with industry development trends, dynamically update the teaching system, continuously deepen industry-academia collaborative education, and continuously improve the quality of talent cultivation, in order to provide high-quality, multi-disciplinary applied-type talents for the environmental design industry.

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