Research on the Exploration and Practical Path of Aesthetic Education Infiltration in the Higher Vocational Architecture Interior Design Major under the "Dual-Subject, Three-Stage, Three-Integration" Model

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Abstract: This study innovatively constructs a "dual-subject, three-stage, three-integration" model for aesthetic education infiltration, leveraging a deep school-enterprise collaboration mechanism to effectively bridge the aesthetic gap between education and industry. Through a layered and progressive cultivation strategy, it promotes a spiral escalation in achieving aesthetic education goals. Additionally, by employing full-scenario infiltration methods, it successfully creates a virtuous ecosystem where "professional education is equivalent to aesthetic education." Practical validation demonstrates that this model effectively addresses challenges such as fragmentation, superficial collaboration, and inefficient infiltration in aesthetic education within the architecture and interior design major. It significantly enhances students' aesthetic abilities, cultural literacy, and social responsibility, showcasing substantial potential for widespread promotion.

Keywords: Dual-subject; Three-stage; Three-integration; Aesthetic education infiltration; Architecture interior design major

1. Introduction

Against the backdrop of the "New Liberal Arts" initiative advocating interdisciplinary integration and the "Double High Plan" in vocational education focusing on cultivating high-quality talent, the architecture interior design major is strategically positioned at a pivotal juncture, transitioning from a "skill-oriented" to a "literacy-oriented" approach. This shift is not only an inevitable trend in industry development but also a crucial direction

for educational innovation. Currently, the modern interior design industry has transcended the limitations of merely creating functional spaces and is instead pursuing a profound integration of "spatial aesthetics, technological innovation, and humanistic care." This transformation imposes stricter requirements on designers, demanding not only exquisite professional skills but also profound cultural connotations, keen aesthetic insight, and a strong sense of social responsibility. However, when examining the current aesthetic education practices in the field of architectural interior design, a host of issues have emerged: the objectives of aesthetic education are fragmented, often existing mainly in the form of independent public art courses with loose connections to core professional courses; school-enterprise collaboration remains superficial, with corporate involvement mostly limited to internship arrangements and project visits, making it difficult to deeply integrate cutting-edge industry aesthetic standards into the curriculum; cultural inheritance is also confined to a superficial level, with the use of regional architectural cultural symbols often involving simple imitation and lacking modern transformation and innovation. These issues frequently result in students' design works falling into the dilemma of being "technically competent but aesthetically inadequate" or "conceptually novel yet culturally deficient", making it difficult to meet the industry's demand for versatile talents. In light of this, guided by the educational philosophy of "integrating the five areas of education", this study constructs a "dual-subject, three-stage, three-integration" aesthetic education immersion model, aiming to effectively address the issue of professional education and aesthetic education being disjointed through deep school-enterprise collaboration, hierarchical and progressive training, and full-scenario immersion, thereby providing new insights for cultivating high-quality technical and skilled talents in architectural interior design.

2. Definition of core concepts and theoretical foundations

Dual-subject collaboration: In the professional talent cultivation system, implementing a dual-subject collaborative education model is of paramount importance. By taking schools and enterprises as the two core educational entities, a complete closed loop of "theory input—practice transformation—value feedback" is constructed. Schools are responsible for building aesthetic theories, cultural inheritance, and foundational skill development; enterprises provide practical scenarios, industry aesthetic standards, and professional competence training. Their deep collaboration effectively breaks down the aesthetic barriers between education and industry.

Three-stage progressive training: For the cultivation of talents in architectural interior design, the three-stage progressive training model aligns with students' cognitive patterns. Following the logic of "perceiving beauty—expressing beauty—creating beauty", the talent cultivation cycle is divided into three stages. The foundational stage (freshman year) focuses on constructing spatial aesthetic cognition and cultivating cultural sensitivity; the empowerment stage (sophomore year) strengthens aesthetic expression and promotes interdisciplinary integration; the innovation stage (junior year) pursues aesthetic innovation and achieves social value, demonstrating a spiral upward progression.

Three-integration infiltration strategy: In the aesthetic education of the architectural interior design major, the "Three-integration infiltration strategy" holds significant value. This strategy constructs a comprehensive aesthetic education system spanning the "knowledge layer—application layer—environmental layer." Professional course integration involves delving into the aesthetic elements of core courses to achieve resonance between knowledge transmission and aesthetic cultivation. Practical integration utilizes real projects as carriers for aesthetic education to enhance aesthetic application capabilities. Campus integration creates an immersive environment to achieve a subtle aesthetic influence.

3. Deconstruction of the current situation and problems in aesthetic education in architectural interior design

3.1. Practical dilemmas in professional aesthetic education

In the cultivation of professionals in architectural interior design, multiple aesthetic education dilemmas urgently need to be resolved. In terms of subject collaboration, vocational colleges have formulated talent demands that are not closely linked [1]. School-enterprise cooperation often gets stuck in superficial interactions such as "project visits—internship assignments", failing to establish an effective aesthetic education collaboration mechanism. There is poor alignment between corporate aesthetic standards and commercial design logic with the school's curriculum system, leading students to tend toward "conceptual aesthetic expressions" in course designs. However, upon entering corporate practice, their proposals often struggle to materialize due to neglecting client budgets and functional requirements, resulting in a severe disconnect between "school aesthetics" and "industry aesthetics." Seventy percent of students report that the aesthetic knowledge learned in class is difficult to apply to commercial projects. In terms of stage connection, aesthetic education lacks progression, presenting a gap characterized by "heavy theory in lower grades and heavy technology in higher grades." Aesthetic education courses are concentrated in the freshman year's public foundation stage, with subsequent core professional courses lacking progressive aesthetic training modules. Although senior students master complex design software and construction techniques, they are weak in deep aesthetic dimensions such as cultural narration and emotional expression. Only 30% of graduation projects effectively incorporate cultural elements. At the level of immersion effectiveness, the integration of aesthetic education with professional education is insufficient, presenting a state of "two separate entities." Professional course teaching emphasizes technical principles and operational norms while neglecting the exploration of aesthetic elements. For example, "Architectural Decoration Materials and Construction" fails to analyze the aesthetics of materials and the beauty of structural forms, and "CAD Drawing" overlooks guidance on the "orderly beauty of lines" and the "logical beauty of layout." In practical teaching, 60% of institutions do not include aesthetic innovation and cultural expression in training assessment indicators, resulting in student works that meet technical standards but lack humanistic connotations.

3.2. Analysis of deep-seated constraints

In the process of promoting aesthetic education in the field of architectural interior design, two major issues have emerged in the areas of faculty and evaluation. Regarding faculty structure, there is a significant imbalance. Most professional teachers have backgrounds in architectural engineering or design technology but lack knowledge in art history, aesthetics principles, and other related fields, making it difficult for them to effectively integrate aesthetic education content into professional courses. While enterprise mentors possess rich practical experience, they lack the support of educational theories, focusing more on technical details and commercial implementation during guidance, while neglecting the cultivation of aesthetic thinking and cultural literacy. Only 20% of institutions have formed interdisciplinary aesthetic education teams consisting of "professional teachers + art teachers + enterprise mentors", resulting in a "double loss of voice" for aesthetic education in both knowledge transmission and practical transformation. In terms of the evaluation system, the current framework is primarily dominated by technical indicators, with aesthetic literacy and cultural connotations being marginalized. In course assessments, technical indicators account for up to 70%, while dimensions such as the cultural fit of design solutions lack scientific evaluation criteria and quantitative

indicators. This "heavy emphasis on technology and light emphasis on aesthetics" orientation leads students to overlook the enhancement of their aesthetic and cultural literacy.

4. Systematic construction of the "dual-subject, three-stage, three-integration" model

4.1. Innovation of the dual-subject collaborative education mechanism

In the practical process of cultivating talents in architectural interior design, schools and enterprises, as the two core educational entities, need to establish a closely collaborative and complementary education mechanism. By introducing the concept of "co-creation in teaching", they can jointly develop cultural and creative product projects through in-depth collaboration between the two entities, achieving the integration of teaching and industrial practice [2]. This approach aims to form a comprehensive, multi-level collaborative educational synergy that drives the high-quality development of professional education.

From the perspective of the school as the main entity, efforts should be made to construct a dual-driven aesthetic education system that combines "curriculum + culture." In terms of professional curriculum development, aesthetic education elements should be deeply explored, and a mechanism of "one core course, one aesthetic education main thread" should be established. For example, in "Principles of Interior Design", the core focus could be on "spatial narrative aesthetics", explaining methods for creating emotional spaces through materials, lighting, and color; in "Ergonomics", a special topic on "aesthetic design of barrier-free facilities" could be embedded; and in "Soft Furnishing Design", a module on "extraction and application of regional cultural symbols" could be set up to cultivate students' cultural translation abilities. In terms of creating an aesthetic ecology on campus, a "three-dimensional aesthetic education field" will be established. At the physical space level, a Material Aesthetics Gallery, a Design Master Studio, and a Regional Architectural Culture Corridor will be constructed. At the cultural activities level, relevant forums, workshops, and exhibitions will be organized. At the digital platform level, an "AR Art Guide" system will be developed to provide immersive aesthetic cultivation.

Enterprises, on the other hand, are required to build a practical education platform based on "projects + standards." By integrating real projects such as commercial space renovations, elderly-friendly residential designs, and rural homestay upgrades undertaken by enterprises into the teaching system, students can deeply participate in all aspects of project practice. From the demand research phase, students are guided to understand clients' aesthetic preferences and lifestyle habits; in the design phase, they are encouraged to incorporate industry trends and cultural elements; and during the construction phase, they are required to strictly control material aesthetic effects and craftsmanship details. Meanwhile, enterprise mentors should evaluate students comprehensively and multi-dimensionally using core indicators such as "aesthetic fit", "commercial viability", and "cultural expression", thereby effectively enhancing students' practical skills and aesthetic literacy.

4.2. Design of a three-stage progressive training system

In the training system for architectural interior design professionals, aesthetic education planning at different stages is crucial.

The Foundational Stage (from freshman year to the first semester of sophomore year) focuses on building aesthetic cognition and cultural decoding abilities. This ability involves deeply understanding history, culture, and local spirit, and creatively transforming them into design languages and products that align with modern aesthetics and market demands [3]. In terms of course teaching, practical tasks such as "3D modeling of classic cases" (e.g., light and shadow analysis of I.M. Pei's Suzhou Museum) and "aesthetic mapping of historical

districts" are used to strengthen students' perception of formal aesthetic principles such as proportion and scale. In practical activities, "digital collection of traditional architectural patterns" is organized, where students use PS/AI to extract traditional decorative symbols and build a database of regional cultural elements, laying a solid foundation for subsequent design transformations.

The Empowerment Stage (from the second semester of sophomore year to junior year) emphasizes aesthetic expression, innovation, and interdisciplinary integration, with the core task of breaking through single technical thinking and achieving design translation that combines "function + aesthetics + culture." Through organizing workshops on themes such as "intangible cultural heritage-themed homestay design" and "application of color psychology in children's spaces", knowledge from disciplines like anthropology is introduced to analyze the aesthetic and emotional needs of different groups. For instance, in the "intangible cultural heritage-themed homestay design" workshop, students integrate intangible cultural heritage techniques with modern materials to complete spatial design solutions. Meanwhile, a course titled "Aesthetic Marketing in Commercial Spaces" is jointly developed by schools and enterprises, in which students design experience stores for real businesses and undergo special evaluations by the enterprises on the "commercial transformation of aesthetics", thereby enhancing their practical and innovative capabilities.

4.3. Three-dimensional immersion strategy integrating aesthetic education

Firstly, aesthetic education is integrated into professional courses to construct a "knowledge-aesthetic" symbiotic curriculum matrix. In the course "Architectural Decoration Materials and Construction", a "Material Aesthetic Archive" is added for each type of material, analyzing the natural texture narratives of wood, the industrial aesthetic expressions of metal, and the textural presentations of stone. In the course "CAD Drawing", emphasis is placed on the equal importance of "the aesthetic order of lines" and "drawing standardization." Through exhibitions of excellent drawings and practical training in layout aesthetics, students' aesthetic awareness of drawings is strengthened. Specialized breakthroughs are pursued through expanding courses, with an elective course titled "Design Ethics and Aesthetics" offered to explore issues such as the aesthetic alienation of excessive decoration, the emotional aesthetics of age-appropriate design, and the ecological aesthetics of sustainable design, guiding students to establish a "people-centered" design value system.

Secondly, aesthetic education is integrated into practical teaching to create a closed-loop practical training system of "project chain-capability chain." On-campus practical training achieves an aesthetic experience transitioning from "virtual" to "embodied." An "interactive practical training space" is constructed, with simulated scenarios such as living rooms, bedrooms, and commercial exhibition halls built at a 1:1 ratio. When students engage in soft furnishings coordination and lighting design, real-time feedback on color comfort levels and material tactile scores is provided through intelligent sensors, helping students predict the actual aesthetic effects of their design solutions. Off-campus practice constructs a project progression from "participation" to "leadership." Practical projects follow a three-tier progression of "cognitive internships (visiting enterprise aesthetic exhibition halls) → on-the-job practice (assisting designers in collecting aesthetic materials) → On-the-job practical training (independently undertaking small-scale spatial aesthetic design)", with enterprises recording students' performance in cultural understanding, aesthetic decision-making, and solution expression in projects according to the "Aesthetic Competency Growth Manual."

Furthermore, integrate aesthetic education into campus culture, create an immersive environment featuring "explicit symbols—implicit atmosphere", and establish a "mobile aesthetics classroom." Set up "material

tactile walls" in the corridors of teaching buildings, allowing students to touch stones, woods, and metals with different surface treatments; install "visual display boards for design thinking", showcasing the aesthetic adjustment process of outstanding projects from conceptual sketches to final implementation. Organize a "Biennial Exhibition of Graduation Works", inviting citizens and industry experts to participate in "public aesthetic voting" alongside professional evaluations, fostering a dialogue space between campus aesthetics and social aesthetics. Additionally, launch "Designer Afternoon Tea" events, inviting alumni and industry designers to share real-life experiences of "aesthetic compromises and persistence" in their projects; establish an "aesthetic reflection journal" system, requiring students to record aesthetic breakthroughs, cultural expression dilemmas, and improvement directions after each design assignment, cultivating their aesthetic metacognitive abilities.

5. Practical outcomes and reflections

5.1. Typical cases and empirical outcomes

With the high-quality development of vocational education in China, new opportunities have emerged for the construction of a talent cultivation system for architectural interior design majors [4]. Taking the Architectural Interior Design major at Chongqing Energy Vocational College as an example, after implementing the "dual-subject, three-stage, three-integration" model for three years, remarkable practical outcomes have been achieved. At the student development level, students have consistently excelled in competitions such as the "Environmental Art Design" event at the Chongqing Vocational Colleges Skills Competition and the "Future Designer—National College Digital Art and Design Competition." Scores for "cultural narrative integrity" in students' coursework and graduation projects at this college have increased by 25% compared to previous years, with 60% of participating projects incorporating intangible cultural heritage elements and regional elements; enterprises have reported that graduates demonstrate significantly superior "ability to translate client aesthetic needs" and "innovative application of cultural elements" compared to students trained under traditional models. At the school-enterprise collaboration level, "aesthetic education practice bases" have been jointly established with 12 design enterprises, leading to the co-development of talent cultivation plans and aesthetic evaluation systems, and forming a long-term mechanism of "shared projects—co-cultivated talent—shared outcomes."

5.2. Research reflections

The existing challenges mainly focus on two aspects. Firstly, the boundaries of rights and responsibilities of the dual subjects still need to be clearly defined. Some enterprises have insufficient participation in curriculum development and the construction of evaluation systems, so it is necessary to clarify the division of labor through the "Memorandum on School-Enterprise Aesthetic Education Collaboration." Secondly, there are significant differences in the aesthetic education foundations of students from different educational backgrounds (general high schools/secondary vocational schools). It is essential to establish a stratified training mechanism and add an intensive module on aesthetic foundations for students from secondary vocational schools.

6. Conclusion and prospect

The "dual-subject, three-stage, three-integration" aesthetic education immersion model constructed in this study has broken down the aesthetic barriers between education and industry through in-depth school-enterprise collaboration. It has achieved a spiral ascent of aesthetic education goals through stratified and progressive

training, and formed an ecological pattern of "professional education as aesthetic education" through full-scenario immersion. Practice has demonstrated that this model effectively addresses the issues of fragmentation, superficial collaboration, and inefficient immersion in aesthetic education for the architectural interior design major, significantly enhancing students' aesthetic abilities, cultural literacy, and social responsibility.

Under the dual impacts of globalization and digitalization, the modern transformation of traditional culture has become a core proposition of national cultural strategy [5]. In the future, it is necessary to continuously deepen the connotation of aesthetic education through industry-education integration, strengthen the innovative integration of digital technology and traditional aesthetics, and constantly optimize the dual-subject collaboration mechanism and stratified training strategies. This model not only provides a replicable, practical path for aesthetic education in the architectural interior design major but also offers valuable insights for the reform of aesthetic education in art-related vocational education. It helps cultivate design talents in the new era who are "technically proficient, aesthetically outstanding, and culturally confident", and promotes the continuous improvement of the aesthetic education ecosystem in vocational education.

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