

Teaching Reform of Interior Design Majors in Universities under the Background of 1+X Certificate System

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Abstract: At present, traditional interior design courses in universities no longer meet the needs of the market and society for new interior designers, and comprehensive educational reforms are needed. This article explored the development opportunities and challenges of interior design majors in universities under the "1+X" certificate system, and proposed in-depth research and reform of this course design. The analysis of higher education reform, practical training, and curriculum system reform highlighted the challenges and problems of current reforms. Curriculum reform measures, practical courses, innovative teaching methods, and practices were emphasized; a detailed analysis was conducted on the teaching strategies of interior design majors under the "1+X" certificate system, and specific suggestions were put forward to transform teaching concepts, construct integrated curriculum certificate teaching reform, and build a "dual teacher" teaching team. By organically integrating the "1+X" certificate system into teaching, the design talents that better meet market demands were cultivated to promote a positive interaction between education and industry, and promote the comprehensive development of students.

Keywords: Interior Design in Universities, Teaching Reform, 1+X Certificate System, Practical Ability, Curriculum Design

1. Introduction

With the rapid evolution of society and the continuous progress of technology, the interior design industry is facing unprecedented opportunities and challenges. The traditional teaching mode of interior design courses in universities can no longer meet the new demands of the market and society for the roles and abilities of interior designers. The 1+X certificate system is a new type of education system aimed at cultivating talents with practical skills and diverse comprehensive qualities. Therefore, the introduction of the 1+X certificate system has brought new opportunities for the curriculum teaching reform of interior design majors in universities. Therefore, the curriculum teaching reform of interior design majors in universities is imperative.

This article explored how to reform teaching methods such as curriculum design, teaching methods, and practical activities to better adapt to the needs of the times and cultivate outstanding talents that meet market demands. This article also delved into the necessity and feasibility of reforming the teaching curriculum for interior design majors, while exploring how to cultivate interior design talents with practical skills, innovative spirit, and comprehensive qualities through the introduction of practical curriculum design, innovative teaching methods, and practical links.

2. Related Work

Since the introduction of the vocational education reform guidance plan by the country, various vocational colleges have actively promoted the reform of education models, improved the teaching system of professional courses, and faced the challenge of insufficient traditional curriculum and limited teaching methods in the reform of interior design courses in universities. Some universities have strengthened the cultivation of students' practical abilities by increasing practical courses, introducing practical case analysis, interdisciplinary cooperation, and industry connections. However, reform still needs to consider multiple dimensions, continuously improving resource investment and

reform mechanisms, in order to comprehensively enhance students' comprehensive literacy and practical abilities. Guo Weiwei pointed out that interior design courses aim to cultivate students' mastery of basic principles and methods to meet the spatial needs of people's daily lives. It is necessary to fully utilize interior design courses for vocational value education and provide correct guidance to students [1]. Yang J analyzed the optimization of interior design teaching practice through the use of three-dimensional computer-aided simulation technology, allowing students to preview design effects in terms of space volume, material, proportion, color, etc., thereby greatly improving classroom efficiency [2]. Huang S's research indicated that design history, industrial design history, and teaching reform are the three main topics of concern to Chinese scholars. Curriculum reform is a hot topic in existing research, and teaching reform is an influential research direction [3]. Han X used the specific application of virtual reality technology in interior design teaching to improve the guiding significance of interior design teaching effectiveness [4].

The implementation of the 1+X certificate system is crucial for improving the quality of talent cultivation in applied undergraduate colleges. The application of the 1+X certificate system is an inevitable result of economic and social progress and the development of education [5]. Under this system requirement, vocational colleges have actively invested human, material, financial, and technological resources to promote professional curriculum reform, improve teaching, cultivate more comprehensive vocational education talents, and improve the problems existing in traditional talent cultivation [6]. Although some successful experiences have been achieved in the teaching reform of interior design courses in universities, it is still necessary to address the shortcomings of resource investment and reform mechanisms in order to continuously improve students' comprehensive literacy and practical abilities. This article aimed to explore the reform of the curriculum system for interior design majors in universities, analyze the connotation and characteristics of the "1+X" certificate system, and discuss the current teaching situation of the curriculum system for interior design majors in universities. Finally, through the introduction of practical courses, innovative teaching methods, and practical processes, interior design talents with practical skills, innovative spirit, and compound literacy were cultivated.

3. Curriculum Reform of Interior Design Majors in Universities

3.1 Reform of the Curriculum System for Interior Design Majors in Universities

The reform of the curriculum system for interior design majors in universities is aimed at adapting to the needs of social development, improving the quality of education, and cultivating interior design talents that meet industry requirements. Universities have adjusted and optimized their curriculum based on industry needs and student career development requirements; In order to enhance students' practical abilities and professional qualities, practical courses such as design practice, construction practice, and internships should be added.

In the era of artificial intelligence, the interior design industry is also rapidly developing, which has led to a rapid increase in the demand for interior design talents. In order to adapt to the current trend of development, universities have introduced new design software technology tools such as Computer Aided Design (CAD) and Building Information Modeling (BIM) for interior design majors, in order to cultivate students' technical operation ability and artificial intelligence design ability [7]. In addition, technologies such as virtual reality and augmented reality are utilized to provide a more realistic design experience and communication methods. For outdated content that is disconnected from reality in the curriculum, universities collaborate with other related majors such as architecture and art design across disciplines to update course content and cultivate students' comprehensive and problem-solving abilities. The form of joint projects, workshops, etc., is organized to promote communication and cooperation between different professions. In order to cultivate a large number of applied talents and promote the healthy development of the industry, universities have also strengthened the establishment and implementation of practical links such as design practice, internships, and field research. By participating in practical projects and collaborating with the industry, students are exposed to real design problems and project needs, enhancing their practical abilities and innovative thinking. At the same time, teacher training and team building are strengthened, encouraging teachers to participate in practical projects and industry research. This is also conducive to improving teaching level and professional quality, enhancing teachers' industry experience and teaching practice ability [8].

3.2 Connotation and Characteristics of the "1+X" Certificate System

The "1+X" certificate system is an innovative system in the higher education system, which introduces vocational skill level certificates on the basis of undergraduate degree certificates to meet the development needs of students at different levels and needs. The uniqueness of this system lies in its provision of diverse learning paths, encouraging students to obtain relevant vocational skill level certificates while pursuing a bachelor's degree. Students can freely choose career skill paths based on their interests and career plans, in order to expand the range of choices for employment and career development. At the same time, the system is also committed to cultivating students' practical abilities and vocational skills, improving their competitiveness and employment opportunities in the job market. In addition, students can continuously improve their professional abilities and skill levels through continuous participation in vocational skill level exams, in order to achieve long-term career development and growth. By combining with vocational skill level certificates, it can be ensured that students have skills that meet industry requirements, improving their application ability and competitiveness in the workplace. The design of the "1+X" certificate system takes into account the needs of society and industry for talents, and is closely related to industry standards and vocational skill level standards [9].

3.3 Current Teaching Status of Interior Design Curriculum System in Universities

At present, the curriculum structure of interior design majors in many higher education institutions is chaotic, and practical teaching lacks systematicity and continuity. There are even situations where the arranged practical courses are not necessarily related to the major. This issue is very prominent in the teaching of interior design majors. Some universities may place too much emphasis on imparting theoretical knowledge while neglecting the cultivation of students' practical skills when setting up courses, resulting in a lack of sufficient preparation and ability in practice after graduation. Based on feedback from surveys of interior design related enterprises, it can be seen that there is a common problem of students having a significant gap in their professional qualities compared to the requirements of employers, which is also one of the main reasons for the difficulty in employment for students. Firstly, there is a disconnect between theory and practice. Some interior design courses in universities are too theoretical and lack practical links that are close to practical needs, resulting in students lacking practical experience during their time in school and finding it difficult to adapt to practical work needs after graduation. Secondly, the practical course design is unreasonable, and some universities arrange practical courses with weak correlation with professional knowledge, lacking systematicity and depth, which cannot effectively improve students' practical design abilities. In addition, the structure of the teaching staff in universities is unreasonable, and some teachers in interior design majors lack relevant industry practical experience, which cannot effectively guide students in practical operations, thereby affecting the quality and effectiveness of practical teaching. Finally, there is a lack of monitoring and evaluation of the quality of university courses, as well as a lack of effective monitoring and evaluation mechanisms for course design and practical teaching, resulting in a lack of timely feedback and improvement measures in the teaching process [10]. The structural design of interior design courses in previous universities is shown in Table 1.

Table 1: Structural design of interior design courses in universities

Basic Course	Professional Core Courses	Practical Courses	Electives
Design Basis	Principles and Methods of Interior Design	Practical Design Project	Commercial Space Design
Introduction to Architecture	Indoor Space Planning and Layout	Internship and Practical Exercises	Hotel Interior Design
Color Foundation	Interior Decoration and Furniture Design	Construction and Project Management	Exhibition and Museum Design
Building Materials and Construction	Light and Lighting Design	Interior Design Drawing and Expression	Office Space Design
	Indoor Materials and Decoration Technology	Indoor Display and Display Technology	Residential Interior Design
	Research on Architecture and Interior Style		Environmental Psychology and Interior Design
	Interior Design and Ergonomics		Interior Design and Sustainable Development
			Application of Digital Design and Virtual Reality Technology

3.4 Introduction of Practical Courses, Innovative Teaching Methods, and Practical Links in Interior Design Majors in Universities

Nowadays, the global architectural decoration industry is growing at an astonishing speed, and China's architectural decoration and interior design industry is also facing fierce competition and unprecedented challenges from peers around the world. In order to improve the practical ability and innovative thinking of interior design students in universities, and in conjunction with the "1+X" certificate system of the Ministry of Education, this article introduces a series of practical course settings, innovative teaching methods, and practical links. By integrating vocational qualification certificate examination courses with professional course teaching, students can combine theoretical knowledge with practical operations, enhance their theoretical learning and practical skills, and meet the practical skills required for future employment. The course design is shown in Table 2.

Table 2: Curriculum design structure of interior design majors in universities under the "1+X" certificate system

Basic Course	Design Fundamentals: including design principles, design sketches, and color foundations, to lay the foundation of interior design knowledge and skills for students
	Fundamentals of Architecture: Introduce the basic concepts, structure, and spatial layout of architecture, providing a theoretical basis for subsequent interior design work.
Professional Core Courses	Interior Design Theory: Deeply study the principles, processes, and methods of interior design, and cultivate students' design thinking and creative abilities.
	Interior Materials and Construction: Introduce commonly used materials and construction techniques in interior design, learn the performance characteristics, applications, and selection of materials.
	Indoor Lighting Design: Learn the principles, techniques, and applications of lighting design, and understand how to use lighting to create a spatial atmosphere and enhance design effects.
Practical Courses	Practical Design: Through practical projects, students complete the production and presentation of interior design schemes, exercising their practical design and project management abilities.
	Construction Internship: Students participate in indoor decoration construction sites, understand the construction process and technology, and enhance their communication and cooperation skills with construction parties.
	Indoor Display Technology: Learn indoor display and display techniques, including exhibition planning, spatial layout, and display of exhibits.
Electives	Field Expansion: Provide elective courses in different fields, such as hotel design, office space design, commercial space design, etc., to meet the personalized professional development needs of students.
	Professional Practice: Arrange internships or project practice courses to enable students to participate in practical projects firsthand and apply the theoretical knowledge they have learned to practice.

Some universities provide design workshops or studios for students to participate in real or virtual project cases, simulate actual work scenarios, and complete interior design solutions through team collaboration. By combining on-site investigations, role-playing, brainstorming, and other methods, students can develop their design thinking and problem-solving abilities. At the same time, students are also organized to conduct on-site inspections and research, allowing them to personally understand different types of indoor spaces such as hotels, exhibition halls, and office buildings, and collect relevant data and design materials, so that students can have a better understanding of actual scenes and design needs. In order to adapt to market changes, universities can introduce virtual reality technology, allowing students to experience and simulate interior design in a virtual environment. By using 3D modeling and visualization software, students can present their design results more intuitively and collaborate with the team for real-time communication. The demand for talent varies among different industries, and for this reason, universities collaborate with industries and actual projects, providing students with opportunities to participate in real projects. Students can participate in practical projects of architecture or interior design companies, applying the knowledge and skills they have learned in practical projects. Innovative design competitions stimulate students' creativity and competitive awareness, and universities also encourage students to participate in innovative design competitions in course teaching to cultivate their innovative thinking and problem-solving abilities. To cultivate students' practical abilities, creativity, and problem-solving abilities, universities can also establish simulation laboratories and studios, providing practical operation and experimental venues for students to learn and practice. Students can use professional software, equipment, and materials for model making, material testing, and other practical operations, as shown in Figure 1.

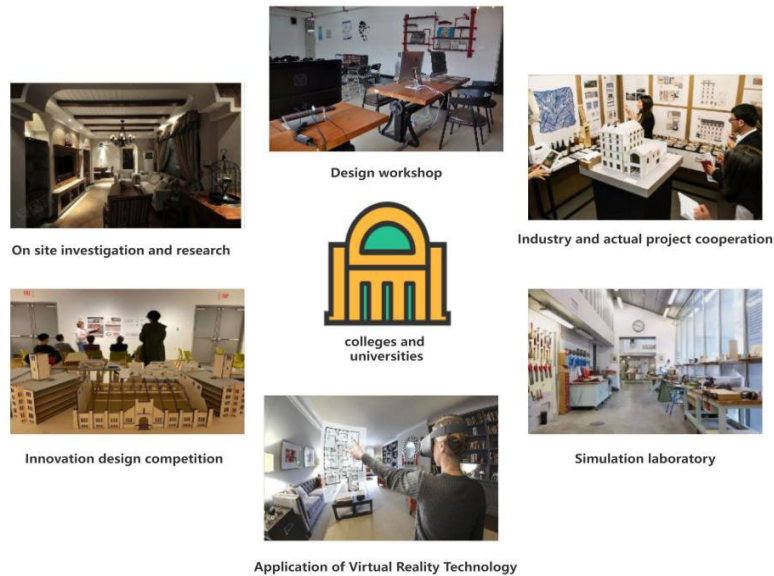


Figure 1: Curriculum setting for interior design majors in universities

4. Curriculum Strategies for Interior Design Majors in Universities under the "1+X" Certificate System

4.1 Transform Teaching Philosophy, Change Teaching Ideas, and Correctly Understand the Relationship between Academic Education and Skill Training

In the context of implementing the "1+X" certificate system, the primary task for universities to reform the teaching of interior design majors is to deeply understand the characteristics of academic education and skill training, and clarify the relationship between the two, that is, to clarify the interaction between "1" and "X". For academic education, "1" represents the importance of academic education and the cultivation of basic abilities. Academic education in interior design majors should focus on cultivating students' innovative thinking abilities, design theories and methods, and provide a wide range of knowledge backgrounds and comprehensive qualities. Through academic education, students can gain a broad learning foundation, develop critical thinking and innovative abilities, and lay the foundation for further professional development. The "X" in skill training represents the cultivation of professional abilities and practical proficiency. The skill training for interior design majors should focus on enhancing students' practical experience and professional practical skills in practical projects. Through skill training, students are able to apply their learned knowledge to practical operations, master the use of relevant software and tools, and cultivate problem-solving skills and professional competence. Skill training and academic education mutually promote each other, providing a practical platform for the application and transformation of learned knowledge [11].

4.2 Overall Ideas for the Teaching Reform of "Integrating Course Certificates" in Interior Design Majors in Universities

The teaching reform model of "integrating courses and certificates" means integrating curriculum design with certificate training, so that students can not only receive knowledge and ability cultivation from academic education during the learning process, but also obtain corresponding vocational skills certificate training. Vocational colleges should optimize and adjust their existing training objectives based on the social demand for talent knowledge and skill structure. Compared with traditional training models, the "integration of courses and certificates" model emphasizes putting students' vocational skills at the core. By reforming classroom teaching and curriculum evaluation and assessment, it achieves the unity of teaching standards and skill standards in universities, and promotes the integration of textbooks and teacher teaching methods, so that universities can better meet the talent needs of the interior design industry and improve teaching quality and student employment ability. The design of the teaching reform for the integration of course certificates in interior design majors in universities is shown in Figure 2.

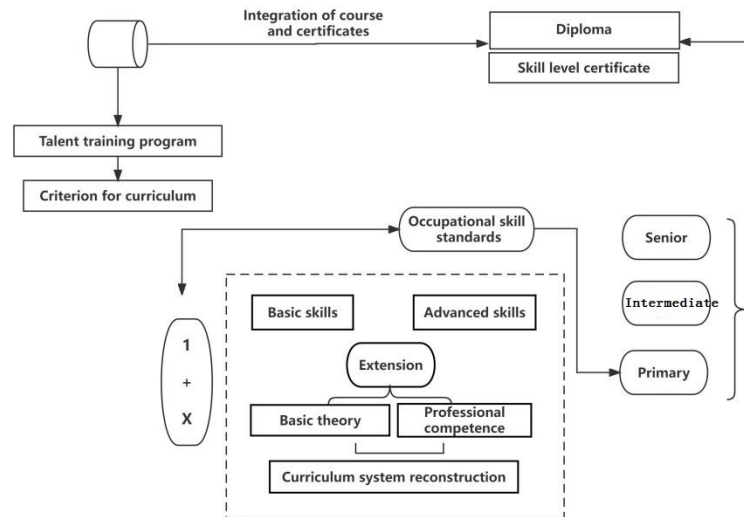


Figure 2: Design of the teaching reform for the integration of course certificates in interior design majors

5. Discussion of Results

The application of the "1+X" certificate system is conducive to promoting the development of students' professional qualities and ability building, helping them steer their professional growth direction, and also establishing corresponding evaluation standards. In order to meet the needs of the interior design industry, universities should incorporate professional course teaching standards and vocational qualification certificate standards into their professional talent training programs, and adopt a new organic integration method of "course → certificate → job" to change the traditional teaching mode. Universities need to build small majors with diverse directions, rich content, and diverse forms, accurately imparting knowledge and skills to students, and achieving targeted and targeted talent cultivation. One of the principles that universities must attach importance to when developing professional courses in interior design is to closely follow practical needs and adapt to market trends in course design. Universities should clarify the quality and knowledge requirements for interior design students, and improve their skills in CAD drawing, 3D MAX rendering, and computer image processing technology. In addition, students need to understand the application and construction process of interior design materials, and master professional knowledge such as interior design and furniture design. In terms of teaching, it is necessary to optimize teaching methods, strengthen practical training effectiveness, and establish corresponding scientific assessment mechanisms. It is necessary to adhere to employment orientation and actively promote school enterprise cooperation. Finally, vocational colleges should attach importance to building a "dual teacher" teaching team. Designers with certain achievements in society are hired to serve as teachers based on actual situations to improve the ability level of the teaching team, strengthen knowledge and skills teaching, and provide guarantees for the development of students' professional qualities and professional ability construction, laying a good foundation for their future employment. Therefore, teaching reform requires the efforts of school teaching departments, as well as the active cooperation of enterprises and society, to jointly create an atmosphere of the "1+X" certificate system.

6. Conclusions

Faced with social changes and technological development, interior design majors in universities are facing unprecedented opportunities and challenges. In order to adapt to the introduction of the "1+X" certificate system, this article conducted in-depth research and analysis on the curriculum reform of interior design majors in universities. Through in-depth research, the curriculum system of interior design majors in universities has been reformed, introducing new design software and technical tools, interdisciplinary cooperation, on-site investigations and internships, and other practical activities to enhance students' comprehensive literacy and practical abilities. At the same time, in order to provide students with a broader practical platform and more development opportunities, universities have also

introduced cooperation with industries, the application of virtual reality technology, and the construction of innovative design competitions. By combining the "1+X" certificate system, universities are transforming their teaching concepts and utilizing the "curriculum certificate integration" teaching reform to achieve an organic integration of academic education and skill training, providing students with a comprehensive and practical educational experience. At the same time, universities have also established "dual teacher" teaching teams, introducing successful designers from society into teaching courses, and improving the quality and practical experience of teaching personnel. Therefore, the reform of interior design majors in universities, through the organic integration with the "1+X" certificate system, helps to cultivate interior design talents that meet market demand, promotes a positive interaction between education and the industry, and promotes the comprehensive development of students.

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Project Number: FG2022052 Research on the application of digital technology in the design of elderly care space

Project number: WZYYFFP2022005 Comprehensive research project on R&D feedback teaching

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