



Full length article

Characteristics, Challenges, and Resolutions in Architectural Design Courses within Chinese Vocational Undergraduate Education

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ABSTRACT

The architectural design course should focus on reflecting the characteristics that vocational undergraduate architectural design courses should possess: by improving the teaching requirements, expanding the curriculum system, and adjusting teaching methods, the course should reflect high-level characteristics; By constructing a content framework for career design and organically integrating career theory, the course highlights its professionalism; By reshaping course objectives, reconstructing course content, and transforming course delivery methods, this course demonstrates innovation. At present, the course is facing practical difficulties such as the lack of teaching guidelines or curriculum standards, support from teaching and research achievements, and support from teaching resources. It is necessary to steadily improve the quality and teaching effectiveness of vocational undergraduate education architectural design courses by leveraging the educational function of the course, consolidating teaching research, writing new textbooks, and improving teacher abilities.

1. Introduction

From the decision on accelerating the development of modern vocational education in 2014(Chu.2014.), which first proposed the establishment of undergraduate level vocational education, to the clear proposal of pilot programs for undergraduate level vocational education in the National Vocational Education Reform Plan in 2019, and to the clear proportion of enrollment in vocational undergraduate education in 2021, the steady promotion of vocational undergraduate education has become an important measure for the high-quality development of vocational education in China. As an important professional course in the field of architectural design, architectural design should be re-evaluated based on the characteristics of vocational undergraduate education types and talent cultivation goals, in terms of course positioning, teaching objectives, curriculum design, teaching methods, etc., to clarify the characteristics that vocational undergraduate education courses in architectural design should have, the difficulties currently existing in the course implementation, and the path to improve the quality of the course.

Characteristics of Architectural Design Curriculum in Vocational Undergraduate Education

1.1 Architectural design courses should reflect high-level characteristics

Vocational undergraduate education is not a simple and extended version of vocational education at the vocational level, but a substantial improvement reflected in the hierarchical structure of talent cultivation. Therefore, the construction of architectural design courses in vocational undergraduate education does not simply extend the course hours or increase the number of courses on the basis of vocational level courses. Instead, it requires adjustments and optimizations to the teaching objectives, content system, teaching mode, and other aspects of the course to truly reflect the high-level nature of talent cultivation.

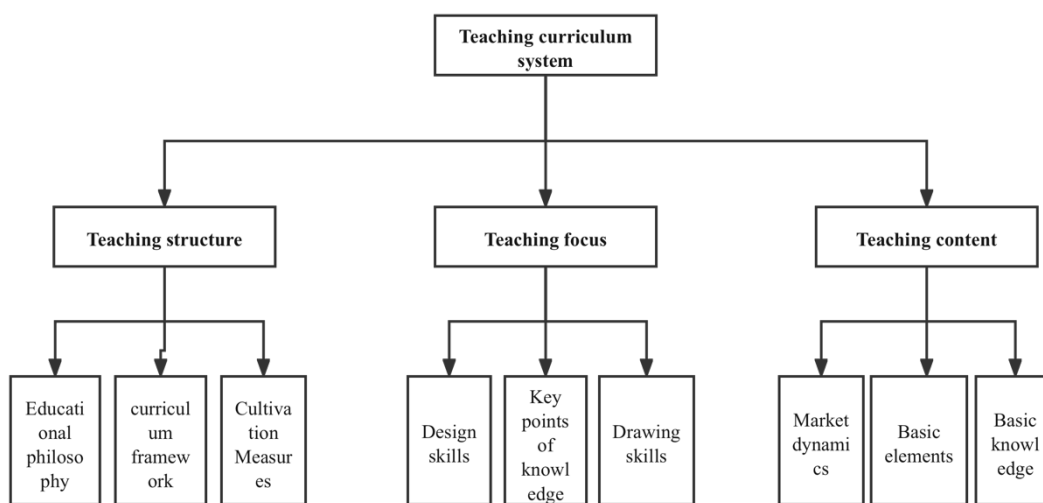


Fig. 1.1 Curriculum system of architectural design for Vocational Undergraduate

Firstly, the Ministry of Education pointed out in the "Management Measures for the Establishment of Undergraduate Vocational Education Majors (Trial)" that "we must adhere to the positioning of cultivating high-level skilled and technical talents." The "high-level" clearly states that the talent cultivation level of vocational undergraduate education should be higher than that of vocational education at the vocational college level, in order to achieve vertical integration between different levels of vocational education(Xu.2015.). Therefore, as a professional course that exists simultaneously in vocational education at both the vocational and undergraduate levels, architectural design should also distinguish and enhance the training objectives of the course. At the level of design ability cultivation, the architectural design teaching objectives of undergraduate vocational education can refer to the three levels of foundation, improvement, and development described in the "Architectural Design Professional Talent Training Plan (2022 Edition)". Based on the characteristics of the university and the actual teaching situation, a comprehensive planning can be made to form architectural design teaching objectives that reflect high-level characteristics and are in line with the actual situation of the university. From the two levels of overall ability description and individual skill description, Guide the construction and teaching of architectural design majors(Song.2023).

Secondly, the high-level nature of undergraduate vocational education is reflected in the need for students to possess stronger professionalism and more solid technical and theoretical knowledge, as well as in the formation of higher architectural design literacy among students(Zheng.2020.). Therefore, on the basis of preliminary design, the architectural design course also needs to condense the professional characteristics of the vocational

undergraduate major offered by the university, anchor the elements of the architectural design major, develop architectural design courses corresponding to social needs, and assist students in learning professional theoretical knowledge in the form of limited elective courses, elective courses, and other forms to achieve the goal of cultivating architectural design abilities.

Thirdly, in the teaching of architectural design courses, based on the course content, students are created to propose tasks based on real engineering projects, guiding them to continuously mobilize their design knowledge accumulation through self-learning, group cooperation, teacher-student communication and other methods in tasks that are close to real engineering environments, and continuously learn new design materials and application skills required to complete tasks, Thus, the architectural design task can be successfully completed in the form of drawings, and the quality of architectural design results can be continuously improved and enhanced by referring to teacher evaluations, thereby enabling students to steadily enhance their design application abilities in the effective process of architectural design output.

1.2 Architectural design courses should reflect professional characteristics and the needs of the times

Compared to the disciplinary system development logic followed by ordinary undergraduate education and applied undergraduate education, the talent cultivation of vocational undergraduate education is based on vocational logic and presents vocational characteristics in the training objectives(Yin.2020.). This type of education is rooted in professional practice, and talent cultivation is carried out based on the changing needs of professional positions. Therefore, while expanding the depth of the curriculum, the architectural design courses in vocational undergraduate colleges must firmly adhere to the characteristics of professionalism. Through the reasonable layout and organic integration of vocational elements in the overall curriculum, the architectural design courses should be more in line with the educational positioning of vocational undergraduate colleges and better serve the cultivation of technical and skilled talents.

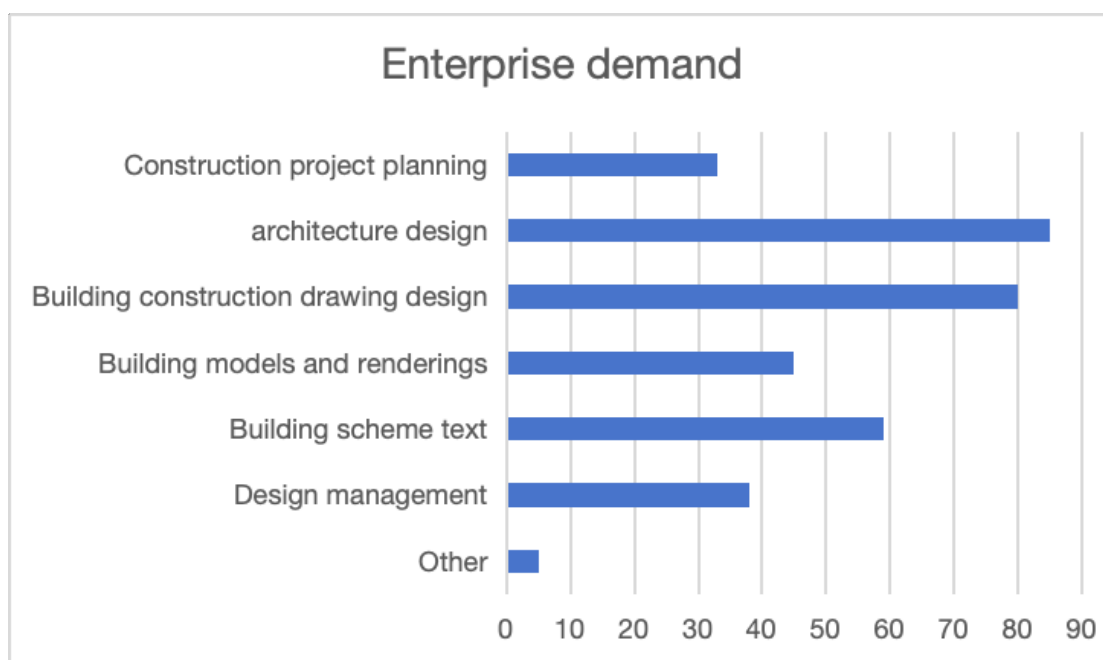


Fig. 1.2 Investigate the demand of enterprises for professional post skills of architectural design

Firstly, compared to architectural design in vocational education at the vocational level, the architectural design curriculum in vocational undergraduate education needs to be further expanded and enhanced in terms of vocational depth and breadth. Firstly, for the general design courses in the architectural design curriculum system, it is necessary to integrate them that are suitable for the actual needs of current design institutes, and organically integrate them into the general design courses, so that they not only strengthen students' architectural design drawing ability, but also have the characteristics of professional adaptability. Expand the employment breadth of students, so that students in this major will not be limited to the field of architectural design in the future. Based on this, focus on the characteristics of the university's major, investigate the types of professions of graduates, analyze potential employment scenarios, develop corresponding expandable workplace architectural design resources around the required vocational skills in the market, and thus form a "foundation expansion" vocational architectural design curriculum structure in general basic and specialized skills courses, To better serve the talent cultivation of vocational undergraduate colleges.

Secondly, based on the construction of the architectural design framework, the professional characteristics of the course are fully integrated into the teaching objectives, content, organization, and evaluation of the course through market demand elements, so as to truly meet the requirements of vocational undergraduate education. In terms of teaching objectives, on the basis of English knowledge, ability, literacy and other aspects of teaching objectives, clarify teaching objectives based on specific architectural design knowledge and ability; In terms of teaching content, based on the latest requirements for architectural design skills, set teaching themes for each unit of the course, create teaching scenarios that simulate real workplace environments, collect relevant engineering case materials, and form corresponding course teaching resources; In terms of teaching organization, driven by specific workplace tasks, guide students to achieve relevant design knowledge and drawing standards in the process of completing design output tasks, and form corresponding workplace design drawing application abilities; In terms of teaching evaluation, the ability to design and draw in the workplace is integrated into the overall and individual descriptions of different design abilities, in order to more comprehensively evaluate and measure the learning effectiveness of students in architectural design.

1.3 Architectural design courses should have innovation

Vocational undergraduate education cannot simply copy the educational model of ordinary undergraduate education, nor is it simply extending the training time of talents on the basis of vocational education at the vocational level, but rather cultivating undergraduate talents with vocational education characteristics. Similarly, the architectural design course in vocational undergraduate education is not an extended version of the vocational level architectural design course, nor is it a complete replication of the architecture curriculum system of ordinary undergraduate colleges. Instead, it focuses on the talent cultivation positioning of vocational undergraduate education, actively innovating the training objectives, content materials, and teaching methods of the course. Firstly, reshape the teaching objectives of architectural design courses. Firstly, expand the depth and breadth of the design drawing ability cultivation in this course, fully integrating professional needs into the overall design language ability description and design skill skill description, so that the goal of cultivating students' architectural design ability is not only limited to the basic construction drawing ability required by the architectural design institute, but also to the formation of various related engineering professional application abilities. In addition, expanding the coverage of the training objectives of this course, on the basis of cultivating the

application ability of architectural design, focuses on the expansion and improvement of students' professional knowledge reserves, comprehensive cultural and aesthetic literacy, and innovation ability(Qi.2023.).

Secondly, reconstruct the content materials of architectural design courses, especially the course modules developed specifically based on actual engineering cases, in order to more accurately reflect the school's professional settings and educational characteristics. The professional settings of vocational undergraduate colleges should closely revolve around the development of key industries, serve new industrial formats and models, and connect with new professions. The architectural design course needs to be based on the new workplace environment and requirements adapted to the professional settings of the university, innovate the teaching content and form of the course, develop course teaching resources that showcase the characteristics of the university and meet future workplace needs, and better meet the actual learning needs of students.

Thirdly, the proportion of practical teaching hours in vocational undergraduate education should not be less than 50% of the total class hours. Architectural design courses also need to actively innovate in teaching modes, reflecting the "practical" characteristics of this type of education. This innovation is first reflected in the reform of teaching methods, guiding students to actively learn and internalize course content through various classroom practical activities through teaching methods such as task-based, project-based, and collaborative. At the same time, the innovation of teaching modes is also reflected in the changes in the way architectural design practice courses are conducted: strengthening communication and cooperation with relevant industry enterprises, creating a "dual teacher" architectural design teacher team, hiring qualified industry practitioners for part-time teaching, creating design training tasks that are closer to real industry scenarios, and implementing the practicality of vocational undergraduate education.

2 The Realistic Dilemma of Architectural Design Curriculum in Vocational Undergraduate Education

The characteristics of vocational undergraduate education and the positioning of talent cultivation have put forward new requirements for architectural design courses. Architectural design needs to reflect high-level positioning and professional characteristics in course construction and implementation. However, compared to the accumulation of this course in general undergraduate education and vocational education at the vocational college level, the foundation of the construction of the architectural design course in vocational undergraduate education is relatively weak. In the process of building it into a high-quality public foreign language course that fits the characteristics of vocational undergraduate education, there are many practical difficulties that need further examination and resolution.

Firstly, there is a lack of targeted teaching guidelines or standard guidance. Due to the particularity of the architectural design profession, there is a significant difference from the traditional teaching mode. Most courses are of design type, and it is difficult to have a single evaluation standard. The quality of course teaching also varies from person to person. Therefore, the standardization of the profession or course needs to be further addressed. To meet the requirements of professionalism and transferability, it is necessary to further enhance the teaching ability of teachers at the vocational level.

Secondly, there is a lack of targeted accumulation of relevant teaching research. On China National Knowledge Infrastructure (CNKI), searching for keywords such as "vocational undergraduate" and "architectural design" resulted in only dozens of related research papers. Among the very limited research results, there are few studies

that start from the connotation of vocational undergraduate education and discuss the connotation and characteristics of architectural design courses from a macro perspective. There are also few studies that analyze and explore the actual teaching effect, student learning satisfaction, and quality improvement path of architectural design courses in vocational undergraduate colleges from a micro perspective. At the same time, it may also homogenize the architectural design of vocational undergraduate education, making it unable to better reflect the educational positioning of vocational undergraduate education, and thus unable to better serve the talent cultivation of vocational undergraduate colleges.

Thirdly, there is a lack of adaptive teaching resource support. At present, architectural design textbooks in higher education institutions are mainly divided into vocational education textbooks at the vocational level and general undergraduate education textbooks. The selection of textbook content, language difficulty setting, and other aspects are adapted to the characteristics and needs of architectural design course teaching in various educational types. Applied undergraduate education and vocational undergraduate education are essentially different types of general education and vocational education. The former's talent cultivation is based on the logic of the disciplinary system, and the architectural design textbooks written based on this logic cannot perfectly meet the characteristics and needs of vocational undergraduate education.

Fourthly, there is a lack of experienced teacher team support. On the one hand, most of the existing undergraduate level vocational colleges are upgraded from private vocational colleges (Wei.2023.), with relatively weak teaching staff. They do not have advantages in terms of the proportion of senior professional titles, the proportion of highly educated degrees, and the number of "double qualified" teachers. On the other hand, currently, the teaching of public architectural design in vocational undergraduate education is facing various practical difficulties, such as unclear course positioning and weak foundation in course construction. This requires teachers to have solid teaching and research abilities and strong adjustment abilities, in order to explore the characteristics, connotations, and implementation methods of architectural design courses from the perspective of vocational undergraduate education, and based on the actual learning needs of students in the teaching process, continuously adjusting course content and teaching methods also requires teachers to have rich experience in course resource construction, develop targeted online and offline architectural design course teaching resources, and have a certain accumulation of industry knowledge and familiarity with the requirements of relevant workplace types for students' architectural design abilities.

3 Possible ways out for architectural design courses in vocational undergraduate education

The practical problems faced by the architectural design course in vocational undergraduate education, such as insufficient accumulation of teaching research, weak teaching resources, and lack of teaching guidelines, have brought many uncertainties to the construction and implementation of the course. Therefore, it is urgent to use theoretical research, curriculum standard formulation, and teaching resource construction to make architectural design truly fit the teaching philosophy of undergraduate vocational education, and better reflect the connotation and characteristics of vocational undergraduate education(Zheng.2023.).

Firstly, strengthen teaching research, improve the construction of architectural design curriculum system and curriculum standard formulation with vocational undergraduate education characteristics. At the macro level, clarify the connection and difference between vocational undergraduate architectural design and ordinary undergraduate architectural education, clarify the connotation and characteristics of vocational undergraduate

architectural design courses, explore the improvement path of this course at the design teaching level and the expansion path in the application ability of architectural design. Based on solid theoretical research, and based on the talent training program and professional characteristics of colleges and universities, build a system that can reflect high-level and professional qualities An innovative framework system for architectural design courses in vocational undergraduate education. At the same time, considering the diversity of vocational undergraduate education students, the architectural design curriculum system should reflect reasonable differentiation in terms of training objectives and curriculum settings, targeting the different architectural aesthetic foundations of ordinary high school graduates, vocational school graduates, and vocational college graduates among students, to meet the learning needs of different student groups.

Secondly, promote the development of new textbooks and consolidate the teaching resource foundation of vocational undergraduate education architecture design course. Due to significant changes in talent cultivation goals and professional standards in vocational undergraduate education, it is urgent to develop new textbooks that meet the requirements for talent cultivation in vocational undergraduate education design. The textbook should reflect the positioning and requirements of undergraduate level architectural design courses in the setting of goals for cultivating architectural design abilities, and fully integrate the cultivation of design drawing skills required by the profession, so as to fully reflect the "professional" characteristics of architectural design courses. Thirdly, enhance the professional abilities of teachers and ensure the teaching quality of architectural design courses in vocational undergraduate education. In terms of teaching ability, through communication and learning, gradually familiarize and understand the implementation of architectural design courses in undergraduate colleges at the levels of teaching content, teaching methods, classroom rhythm, and in class practice. At the same time, understand the implementation of relevant courses in vocational undergraduate colleges, especially by borrowing practices and experiences that reflect the professional characteristics and industry characteristics of the colleges, and continuously reflect and improve through their own teaching practice, Gradually develop teaching abilities for architectural design courses that are in line with the characteristics of vocational undergraduate education.

The architectural design teaching in vocational undergraduate education is not an extended version of vocational level architectural design teaching, but requires adjusting and upgrading the course positioning and training objectives through increasing the difficulty of design drawing, expanding the coverage of teaching content, and integrating and strengthening basic design abilities. At the same time, by conducting teaching research, constructing teaching resources, and improving the level of teaching staff, a curriculum system, curriculum design, online and offline curriculum resources, and curriculum development model for architectural design that is in line with the goals of vocational undergraduate education talent cultivation are formed, so that the architectural design curriculum can better reflect the characteristics of vocational undergraduate education and contribute to the cultivation of high-level technical and skilled talents.

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