

Research on the Optimization Strategy of Architectural Design Teaching Mode in Architecture Specialty under the Background of “New Engineering”

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Fund Project: Education and Teaching Reform Research and Practice Project of Henan University of Technology in 2020—Research on innovative Talents Training Mode of Architecture major under the background of “New Engineering” (Project No. JXYJ2020022), High-level Talents Fund Project of Henan University of Technology (Project No. 2020BS058).

Abstract: With the progress of science and technology and the change of industry, the new era puts forward higher requirements for personnel training. Especially in the context of the implementation of the new round of national innovation strategy and the “new engineering” talent education plan, reform has become the main theme of the development of colleges and universities in the new era, and innovation and development has become a hot spot in the development of colleges and universities in the new era. The popularization and implementation of the construction theory of “new engineering” put forward new requirements for the curriculum system of colleges and universities. This paper fully analyzes the shortcomings of the traditional teaching mode of architectural design course in architecture major, draws lessons from the advanced teaching experience, and innovates and changes the teaching mode under the guidance of the existing curriculum rules, in order to probe into the construction of “new engineering” in architecture major in colleges and universities.

Keywords: New Engineering; Architectural Design; Optimization of Teaching Mode

At present, a new round of scientific and technological revolution and industrial change is underway, and the country is experiencing a new period of innovation driven development. The proposal of “new engineering” talent education plan is in line with the needs of the times and the national development trend. Compared with the traditional engineering education, “new engineering” pays more attention to serving the society, integration of production and education, school enterprise cooperation, close connection with the industry, and advocates the school enterprise cooperation education mode, in order to cultivate talents and meet the needs of the society and imminent “new engineering” of colleges and universities.

As a talent guarantee specialty to accelerate the process of urbanization in China, architecture specialty in colleges and universities plays an important role in engineering education in China. With the joint efforts of colleges and universities, China’s construction major has developed vigorously and made some achievements, but there is still a big gap with the social expectation. How to cultivate more architecture talents in line with the social needs of the new era under the existing conditions is an urgent problem to be solved. Therefore, it is of great significance to comprehensively deepen the reform of architectural design teaching mode, explore the optimization strategy of teaching mode, and promote the cultivation of architectural talents under the background of “new engineering”.

1. Analysis of the current situation of architectural design teaching mode of traditional architecture specialty

1.1 Practice teaching is not paid enough attention to

Colleges and universities do not pay enough attention to the practice teaching, and the investment of students’ participation in centralized practice and decentralized practice is not high. Because the practice of

architecture experiment is relatively boring, many students' real participation in practice is not good, even if they participate in it, it is not inefficient. As a result, the theoretical knowledge of architecture students is not firmly grasped, and the teaching quality of all kinds of practical links related to comprehensive application ability, such as curriculum design, graduation design and curriculum experiment, is becoming increasingly low. Many students have not learned professional courses well, and there is no motivation and pressure to learn knowledge of other disciplines.

1.2 Single teaching method

In the traditional teaching mode, architectural design courses are mainly taught in class and tutored by teachers. Students are not interested in learning, lack of self-learning consciousness and lack of knowledge in breadth and depth.

1.3 Not closely connected with society

The traditional curriculum content is conservative, the updating of professional teaching materials lags behind, and the development needs of the times are derailed, so that the school and society are not closely linked, the lack of research on the demand for talents, and the students' technical skills do not meet the needs of social development.

2. Optimization strategy of teaching mode under the background of “new engineering”

2.1 Implementation of curriculum ideological and political education

Infusing the spirit of innovation. “New engineering” puts forward higher requirements for students' innovative consciousness. When imparting knowledge, teachers should constantly stimulate students' innovative consciousness. On the one hand, teachers should understand the content of the course thoroughly, and further deepen the understanding of designers, historical background and architectural examples, through the in-depth explanation of teachers, a solid foundation is laid for students; On the other hand, using flipped classroom setting to participate in experiential teaching, discussion teaching and other links to improve students' interest in learning, guide students to think actively and deeply, and then cultivate students' innovative consciousness.

Infiltrating humanistic spirit. Moral education is the fundamental task of education, the real master of architecture, in addition to superb skills, also need to have a noble soul. When teachers teach, they also need to preach. How to cultivate students' humanistic spirit can start from the following methods.

The first is to guide students to establish good scientific ethics. Through the sharp contrast between “bean curd residue” project and “ancient architecture”, this paper expounds the core significance of quality to students, integrates “craftsman spirit”, and tells students to be down-to-earth and keep improving. In the usual assignment, students are constantly reminded to pursue excellence and perfection by deliberating on the design details. Secondly, we should use the struggling spirit of scientists to motivate students.

Integrating modern high technology. We should treat excellent architectural examples with an objective and open attitude, integrate new design ideas, solutions and architectural concepts into the course content, and continuously infiltrate modern high technology into daily teaching, so as to cultivate students' modern design ideas, broaden students' cognitive horizon, and improve students' mastery of modern technology.

2.2 Practical teaching

Consolidating the theoretical foundation. How can we innovate and develop without solid basic skills? The talent training mode under the background of “new engineering” must be based on solid theoretical knowledge. Taking the course of architectural physics as an example, its main training goal is to enable students to master the influence of light, heat, electricity, force and other basic physics on architecture. As a professional basic course of architecture, its guiding role in architectural design can't be underestimated. However, due to the difficulty of the course content, it has not received enough attention, which is not conducive to the long-term development of students.

Strengthening practice teaching. Under the background of “new engineering”, architectural design course not only requires students to master theoretical knowledge, but also requires students to have comprehensive practical ability. In the traditional teaching mode of architectural design, practice teaching has accounted for a high proportion, but most of them have not been implemented, and the students' ability has not been improved

in a real sense. On the one hand, the school does not have strict requirements for students' practice; On the other hand, the school lacks necessary practical conditions. Therefore, the school can strengthen practical teaching from these two aspects. At the same time, the integration design competition system and the "1 + X" certificate system pilot also provide the promotion direction of practical teaching for colleges and universities. Relying on the competition and certificate system, students' sense of competition can be stimulated, and their technical skills can be improved in practice.

Paying attention to teaching implementation. The first is to adjust the concept of teaching. In the process of teaching, teachers should pay attention to the change of role, highlight the dominant position of students, and always carry out teaching planning with students as the center. The second is to strengthen the setting of teaching links, introduce advanced teaching modes such as classroom revolution, flipped classroom, online and offline mixed teaching mode, and use advanced teaching methods and rich teaching resources to revitalize the classroom, so as to constantly stimulate students' learning motivation. Finally, we should pay attention to the expansion after class. The classroom time is effective. We can enrich the communication between teachers and students through the cloud classroom mode, and improve the students' autonomous learning time.

2.3 Improving the practice platform

Strengthening the on-campus training room. To establish the experimental platform of free innovation, introduce new technology and new equipment into professional teaching, and explore the specific implementation approaches and strategies of research-oriented learning. On the basis of the existing training rooms, more interdisciplinary training environments should be created to provide students with good conditions for innovative activities. Actively explore the open and innovative management mode of the training room, to provide a guarantee for students to carry out exploratory and research-oriented learning, to provide students with a "fun" and "high-tech" experimental environment, to stimulate students' interest in learning and thirst for knowledge.

Broadening the cooperation platform outside school. To highlight the practical ability of "new engineering", we must further broaden the training platform, pragmatic training content, and provide more training opportunities for students. On the basis of extensive research, colleges and universities can track the situation of talent cultivation, understand the demand of enterprises for talents' practical ability and the current lack of talents' ability in colleges and universities, strengthen school enterprise cooperation, and promote the integration of production and education, in order to apply the concept of modern apprenticeship to sign personnel training orders with enterprises, send students to enterprises for training, and promote the cultivation and improvement of students' practical ability.

3. Conclusion

Under the background of "new engineering", the requirement of architectural talents training is higher and higher. In order to meet the needs of social development, the reform of architectural design teaching mode is imminent. Based on the analysis of the current situation of the talent training mode of this major, this paper points out the reform direction for the talent training of architecture specialty in colleges and universities from three aspects of optimizing the curriculum, practical course teaching and improving the practice platform, and also provides ideas for the optimization of the talent training mode of architectural design. Of course, in view of the professional characteristics of architecture, different local colleges and universities also need to be based on the reality, with distinctive local characteristics as the basis, so that the optimization of architectural design teaching mode can be implemented.

References

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