

An analysis of teaching strategies of the course “Preliminary Architecture” in colleges and universities based on the training of application-oriented talents

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Abstract: Based on the analysis of the teaching strategy of “Preliminary Architecture” course in colleges and universities, this paper first introduces the goal, content and the actual situation of learners of the course. Then, it discusses the concept and requirements of application-oriented talent training. Finally, it puts forward innovative strategies from three perspectives: student-centered explanation courses and discussion activities, group cooperation to explore topics or projects, and the introduction of information technology to expand curriculum resources. Through the analysis of this paper, the purpose is to help college teachers better design the course of “Preliminary Architecture” and train more application-oriented talents in line with the needs of the construction industry.

Key words: Application-oriented talents; Talent training; Preliminary Construction; Teaching strategies

Introduction

The Ministry of Education issued a series of documents in September 2018, including the Opinions on Accelerating the Construction of High-level Undergraduate Education and Comprehensively Improving Talent Cultivation Ability and the Declaration on First-class Undergraduate Education. The opinions stressed the basic principle of building a high-level undergraduate education, which focuses on the all-round development of students and requires not only teachers’ teaching quality but also students’ learning results. “Preliminary Architecture” is one of the important courses for architecture majors in colleges and universities, which is crucial for consolidating the theoretical foundation of students’ majors and driving practice and innovation. However, it is often difficult for traditional teaching methods to meet the requirements of application-oriented talents training, and it is still far from high-level and high-quality development. Therefore, it is of great benefit to the development of architecture industry and higher education to analyze the teaching optimization strategy of “Preliminary Architecture” under the training of applied talents.

I. Overview of “Preliminary Architecture” course in colleges and universities

1. Course objectives and contents

“Architecture Preliminary” is the main initiation course for architecture majors, including architecture, urban and rural planning, landscape architecture and other freshmen need to study in depth. The course setting and class time arrangement are mainly to lay a solid foundation for students, so that they can have the ability and quality to learn more knowledge in the field of architecture. In terms of content, starting from the cognition of four basic materials, such as cardboard, wood, polystyrene and iron wire, a variety of materials are mixed to make students understand the characteristics of materials and reference materials, and form a preliminary understanding of space cognition, experience and composition design. In teaching, we focus on students’ initiative, emphasize guiding and stimulating students’ interest in learning, change the teaching concept to “teach them to fish”, so that students become the main body of learning in class, and teachers play the role of guidance and assistance, so as to cultivate students’ independent thinking and problem-solving ability, and lay a solid foundation for their future learning. It also achieves the purpose of professional enlightenment.

2. Learner characteristics and needs

As a college student, I have a high level of intelligence and learning ability, but at the same time, I also face many psychological challenges and temptations. In the teaching of “Preliminary Architecture” in colleges and universities, we must pay attention to the intrinsic needs and characteristics of students and realize that they need a clear learning goal to stimulate their own learning motivation; They need to acquire enough knowledge and skills to enhance their professional ability and competitiveness; They also need sufficient practical opportunities to verify and apply what they have learned and promote their own growth; And they need a positive, supportive and encouraging learning environment to maintain their enthusiasm for learning in the face of possible setbacks and difficulties. In order to provide students with a comprehensive and systematic learning environment for building preliminary knowledge, and through various teaching means, as far as possible to stimulate students’ interest and potential, to help them realize the pursuit of self-value.

II. The concept and requirements of application-oriented talent training

1. Analysis of the concept of application-oriented talent training

The concept of application-oriented talent training emphasizes on cultivating students into outstanding talents with solid professional foundation, innovative spirit and practical ability. Obviously, this emphasizes the combination of study and practice, and emphasizes the cultivation of students’ ability to solve practical problems; It emphasizes the comprehensive quality and professional quality of students, so that they can flexibly cope with various challenges in the real society. For college students in our country, all of the above are often relatively

insufficient, especially for professional courses practice module construction time is not long, the depth of excavation is insufficient, the lack of advanced concepts, technology and method guidance, more worthy of exploration and practice. However, at present, we must also agree with the trend of reform and innovation in this direction, focus on cultivating students' innovative consciousness and problem-solving ability, so that they can quickly adapt to the actual work, independent thinking and continuous learning ability, and glow the vitality and motivation of college students' professional learning.

2. Requirements for applied talents in the construction industry

The construction industry has very high requirements for applied talents, after all, construction projects need very strict design and construction plans. At the same time, architecture is also a multidisciplinary field, which requires applied talents to have various knowledge and skills. This includes architectural structure design, landscape design, interior design and other aspects, professionals need to constantly improve their aesthetic level and design ability in practical work, to provide customers with better design schemes. Based on this, architectural design needs strict planning and organization, professionals need to have rich experience in design practice, and can effectively coordinate various departments and personnel to ensure the progress of the project. In addition, there is an understanding of various materials and technologies, including concrete, steel structure, electrical engineering, etc. It is also necessary to have good communication skills and be able to complete the coordination role of various departments to ensure the smooth construction of the project. In short, the construction industry has a very high demand for applied talents, who need to have the ability of design, project management, technology and teamwork, and only in this way can they be successful in the construction field.

III. The teaching strategy analysis of "Preliminary Architecture" course in colleges and universities

1. Student-centered explanation courses and discussion activities

Student-centered explanation and discussion activities are a very important part, focusing on the cultivation of students' initiative and creativity, which makes the learning process more interesting and meaningful. In class, teachers should change from indoctrination to heuristic, no longer simply infuse students with theoretical knowledge, but guide students to think and discuss. In the curriculum, the "1+1" teaching mode, namely "lecture + discussion class", should be implemented to shorten the time for teachers to teach theories in class and set aside reasonable time for students to have free discussion. In the explanation of each course, teachers appropriately increase the cutting-edge knowledge of architecture and integrate the hot issues and case analysis content. This can make up for the limitation of outdated theoretical knowledge in textbooks, and enhance the timeliness, interest and inspiration of classroom teaching. For example, when explaining the knowledge point of "architectural style", the current popular architectural style is introduced, and the explanation and analysis are combined with actual cases, so that students can better understand the concept. In the discussion section, teachers organize students to have group discussions, which allows students to play freely, enhances students' communication ability and cooperation consciousness, and stimulates students' learning interest. For example, when explaining the knowledge point of "architectural structure", students are organized to discuss and practice structural design in groups, so that students can personally feel the importance of architectural structure and consolidate the knowledge foundation. In a word, student-centered explanation courses and discussion activities are an indispensable part of the teaching of "Preliminary Architecture" in colleges and universities, which can make students learn, think and practice more independently, and improve their creativity and expression.

2. Group cooperative exercises, student research projects

Through group division, students can give full play to their personal advantages, cooperate and promote each other in the team, and jointly complete the project task, cultivate students' cooperation consciousness and cooperation ability, and improve students' comprehensive quality and professional competitiveness. First of all, the way of group division should meet the requirements of the teacher, but also respect the students' independent choice. Under the premise that students can form teams freely, teachers can ask excellent students to lead students with learning difficulties, and the principle of male and female matching. In this way, homogenized groups can be avoided, the differences between groups can be more obvious, and at the same time, it can ensure that there are different levels of students in each group, so as to better stimulate the enthusiasm of students. Secondly, it is necessary to arrange group discussion during the practice of group projects, avoid procrastinating homework, grasp the progress of students in time, and exercise students' ability of expression and reporting. In the process of group reporting, teachers need to pay attention to the dynamics of students with learning difficulties and introverted students, and guide them to participate actively and express their personal views. At the same time, they should encourage group members to help each other and promote team cooperation and close relationship. In the group discussion, debate and project exploration activities are properly integrated to make the whole topic teaching more vivid and bring students interesting experience. After the students report, we point out different opinions and ideas, so that everyone can seize the opportunity to speak freely and debate different opinions. Of course, students will be required to reserve knowledge by consulting literature and researching examples before class, so that they can accurately comment and report on classmates' plans in class, and help students develop the ability to find, think and solve problems in the process of independent learning. To sum up, group cooperation exercises in the course of "Preliminary Architecture" are of great importance. Through group division, discussion and reporting, students' cooperation consciousness and ability can be cultivated and their comprehensive quality and core competitiveness can be improved.

3. Build smart classroom to expand curriculum resources

Building smart classroom based on advanced technology can provide students with more abundant, convenient and diversified learning channels and enhance their understanding of architecture. First of all, courses are established and classes are created on the website of

the Super Star platform. Teachers can release learning announcements, task points, share pre-class materials and extra-curricular reading literature, etc., to realize the sharing of teaching resources. This way not only facilitates the communication between teachers and students, but also lays the foundation for the realization of smart classroom, making the boring architectural knowledge and interaction process more lively and interesting. Secondly, record some teaching videos and put them on the exclusive website, as a supplement to classroom teaching, which is convenient for students to watch anytime and anywhere. By recording videos, teachers can present the content of lectures to students more intuitively. At the same time, class time is saved, so that students can learn in their own time. This method is suitable for some contents that need to be demonstrated and explained, such as architectural design case analysis and construction technology explanation. At the same time, the learning platform can link high-quality MOOC resources to facilitate students' learning. On this basis, the smart classroom can be used to guide students to browse some academic websites with high gold content, helping them to have a more comprehensive understanding of the frontier progress and skill requirements of their major. By browsing academic websites, students can be exposed to the latest architectural research results, industry development trends and the application practice of related technologies. This can not only broaden students' academic horizon, but also extend multiple interaction methods based on smart classroom, drive students to think independently and explore independently, enhance their learning ability and architectural literacy, and further enhance their interest in professional learning and exploration. It can be seen that building smart classrooms to expand curriculum resources is an innovative teaching strategy in the course of "Preliminary Architecture" in colleges and universities. Making full use of the Super star platform to build the three links of pre-preparation, training in class and assessment after class not only conforms to the development trend of modern education, but also helps to cultivate architectural professionals with innovative thinking and practical ability.

Concluding Remarks

In a word, the teaching optimization design of "Preliminary Architecture" course in colleges and universities is an important part of promoting the training of applied talents. This paper provides sufficient theoretical reference for teachers by summarizing the course objective, content and the actual situation of learners, and analyzing the concept and requirements of the training of applied talents. At the same time, the paper analyzes the feasibility of student-centered explanation courses and discussion activities, group cooperative exercises and practice exploration, and the introduction of information technology to expand curriculum resources. The clear optimization of teaching content and teaching form is of far-reaching significance to the development of college students' professional quality, and is more in line with the development needs of the construction industry. Of course, the selection and implementation of teaching strategies should be adjusted according to the specific situation in order to achieve the best results.

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