

Exploring the Teaching Reform of “Student-Centered” Construction Engineering Measurement and Valuation in Higher Vocational Colleges

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Abstracts: In the teaching of construction engineering specialty in higher vocational colleges, the course of construction engineering measurement and valuation is one of the core courses. In order to better meet the demand for talents in the development of the current construction industry, we need to be student-centered, pay attention to the promotion of teaching reform, understand the development characteristics of higher vocational students, and pay attention to the design of syllabus, teaching activities and assessment mechanism according to the current teaching situation. This paper mainly analyzes the teaching reform of “student-centered” construction engineering measurement and valuation in higher vocational colleges.

Keywords: Student Centered; Higher Vocational Colleges; Measurement and Pricing of Construction Engineering; Education Reform

In China’s economic and social development, the development of construction engineering plays an important role. At present, with the development of economic transformation and the progress of science and technology, and new technologies and materials are gradually introduced into construction engineering. Under this development background, it has brought new opportunities and challenges to the teaching of construction engineering specialty in colleges and universities. Through the course of construction engineering measurement and pricing, students can understand the relevant knowledge of engineering budget, so as to improve students’ cost and programming level. In order to better meet the needs of the development of the construction industry, we should combine the current teaching practice of construction engineering specialty, change the teaching concept, be student-oriented, and pay attention to cultivating high-quality talents for social development.

1. “Student centered” teaching concept

In recent years, with the development of education and teaching reform, the traditional teaching concept centered on teachers and textbooks has been gradually replaced. In order to better adapt to the development of teaching, the teaching concept of “student-centered” is established in teaching, which is mainly student-oriented. The development of teaching activities serves to improve students’ ability and promote students’ development. In teaching activities, we should guide students to study and explore independently, master scientific methods, and focus on the investigation of students’ learning process, which is more in line with the essence of modern education, train students’ brain and guide them to learn to think. This teaching concept is in line with the development background of quality education. The teaching reform of construction and engineering measurement and valuation in higher vocational colleges should be promoted based on this concept.

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Student centered, as a new teaching concept and method, there are also some problems in the application process, which affect the final learning effect. This teaching concept is applied in the current flipped classroom and other applications. At the same time, student-centered is not compared with traditional teaching methods. It pays more attention to students' learning effect and students' feedback. If the learning effect is good, this teaching method is applicable. Finally, taking students as the center is not to advocate the use of the most advanced technology and design difficult teaching activities, but to teach students according to their aptitude according to the actual teaching situation.

2. Problems in the teaching of measurement and valuation of construction engineering

2.1 Higher vocational students have poor learning initiative

The course learning involves engineering, architecture, metrology and other discipline knowledge, which is highly comprehensive, has relatively many knowledge points, and the knowledge system is complex. For students, the course pressure and difficulty are great, and there are certain requirements for students' mastery of mathematics, architectural drawing ability, structural engineering and other knowledge. Some higher vocational students are easy to say when they suffer setbacks in learning, unwilling to conduct in-depth research and analysis, and take the initiative to explore learning in case of difficulties. In this case, the content taught by teachers in class makes students feel tired. The content of basic theoretical knowledge is relatively boring, and the teaching means is relatively single, so it is difficult to stimulate students' interest in learning, and the participation in learning is insufficient.

2.2 Knowledge application ability is relatively poor

In the course of measurement and valuation of construction engineering, theory and practice teaching are very important. Among them, there are many scattered knowledge points and many normative provisions. In the process of learning, if we blindly pay attention to the knowledge points and carries out simple divisional and subdivisional works, but we are not able to apply them in practical projects. In teaching practice, we mostly carry out teaching according to the syllabus design, or the application of students' knowledge. With the continuous development of economy and society, the relevant normative provisions on which students calculate are constantly innovating and changing, and the time of classroom teaching is limited, so all normative provisions cannot be explained in detail. Therefore, in the teaching of professional courses, we also need to start in the search of normative provisions, understanding and application methods, so as to improve the actual teaching effect.

2.3 Teaching effect cannot be effectively evaluated

At present, the assessment of construction engineering measurement and pricing course is mainly the final summary assessment, and mostly the assessment of theoretical knowledge. Many higher vocational students lack investment in learning at ordinary times. In order to cope with the examination, they simply recite and memorize the knowledge points, ignoring in-depth exploration, and their knowledge transfer and application ability are poor. Some teachers use classroom testing. However, it is still a summative evaluation method. The actual learning situation of students has not been fed back, and the evaluation is of little significance.

3. Discussion on student centered teaching reform measures

3.1 Be goal oriented and pay attention to curriculum outline design

The development of teaching activities should be based on the outline, so we need to pay attention to the design of the outline and unit objectives, mainly to clarify the course objectives and tasks. In the course of construction engineering measurement and pricing, it is mainly to organize students to carry out learning, improve students' comprehensive ability, and finally prepare a complete bill of quantities of actual projects independently, as well as budget construction drawings independently. In teaching, it is necessary to decompose the overall objectives according to the course objectives in combination with students' learning characteristics. The module is subdivided and decomposed according to the overall goal, and the project teaching method or task driven method is adopted to ensure that each task carried out by students in classroom teaching has practical significance and finally complete the overall goal of the course.

3.2 Changing the teaching subject and organize curriculum teaching activities

On the basis of curriculum outline design, we need to pay attention to the deepening of teaching unit design. The most key link is to design teaching activities, and change the traditional teaching concept of taking teachers as the main body, so as to establish students as the main body, and pay more attention to students' learning while paying attention to students' teaching. The setting of teaching activities needs to be carried out according to the specific teaching objectives of each unit, refine the course learning tasks, and understand the knowledge and skills to be mastered before the course is carried out, in order to understand the specific teaching methods and how students carry out teaching. These all need to be designed in detail and organize and carry out teaching activities centered on students.

For example, in the design of the teaching content of "building area calculation", understand the teaching objectives of the course, including mastering the concept and function of building area, understanding the calculation specifications of building area, and guiding students to learn to use the corresponding calculation rules to calculate the building area of actual buildings. In view of these teaching objectives, teachers can guide students to learn from the objectives and create specific teaching situations. Taking the house type design of specific sales offices as an example, teachers can guide students to understand the concept of building area, carry out group discussion, and adopt the project teaching method, so as to guide students to understand the calculation scope of building area, and encourage students to learn the calculation rules of building area independently. After the completion of learning, teacher can conduct process evaluation of teaching, encourage students to carry out self-evaluation and mutual evaluation among students, and then summarize, explain and answer the questions raised by students in detail. Finally, the specific teaching objectives are interpreted in detail. The development of each teaching activity needs the corresponding teaching objectives, and pay attention to enriching students' knowledge level, so as to improve classroom interest, and truly realize student-centered teaching.

3.3 Attaching importance to the implementation of scientific evaluation system

Formative evaluation is the key link in the teaching of construction engineering measurement and valuation, which can effectively test the teaching effect and the achievement of teaching objectives. The original summative evaluation method is relatively single and incomplete, which is difficult to arouse students' further learning. In teaching, we should improve the teaching evaluation mechanism. Before the assessment, we should give students a complete evaluation scale, and explain in detail each score and deduction. Before the assessment, students can clearly know the score involved. Students should first compare themselves with the standards, trigger students' thinking, adjust their self-learning progress and methods, and finally promote formative evaluation.

4. Conclusion

To sum up, the course of construction engineering measurement and valuation is practical and comprehensive. In the new development period, the development of construction engineering industry and the introduction of new technologies have brought opportunities and challenges to the curriculum teaching reform. In teaching, we should respect the dominant position of students, innovate the teaching concept, and take students as the center. We should also pay attention to the design of curriculum outline, scientifically organize teaching activities, and pay attention to improving the teaching evaluation system, so as to guide students to master correct teaching methods, and improve the teaching effect and students' knowledge application ability.

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