Exploration of the Course Teaching Reform under the Background of PCEE

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Abstract: In order to improve the quality of personnel training, meet the needs of engineering technology professionals in the industrial field, and cultivate talents with strong comprehensive ability and quality for the society and the country. Teachers must combine the actual problems in all aspects of teaching at this stage, and comprehensively adjust and optimize the construction of curriculum system, the optimization of teaching content, the infiltration of engineering concept, so as to promote the improvement of teaching quality.

1. Introduction

Action-based, philosophy first. Professional certification of engineering education (PCEE) is an advanced educational concept, which takes students' learning achievements and social satisfaction as the final evaluation basis of education quality goals. China's PCEE is organized under the leadership of the Chinese PCEE Association. It is carried out by professional vocational associations and societies with educators in this field. It is a qualified evaluation for engineering majors in higher education. The concept of PCEE is reflected in its certification standards. The "engineering education certification standards" formulated by the China PCEE association embodies the three core concepts of continuous improvement based on achievements and students.

Achievement oriented is an advanced concept advocated by international engineering education (EE), and also the core concept of EE certification. It is totally different from the traditional curriculum orientation of EE. Each indicator is required to run through it and continuous improvement. In the implementation mechanism of continuous improvement, the major is required to have a clear and feasible improvement mechanism and measures, which can continuously track the improvement effect, collect information for the next improvement, form a closed cycle mechanism, so that the teaching quality is always in the process of circular rise, and realize the common development of teachers and students.

The certification standard includes several indicators such as student training objectives, necessary requirements, curriculum reform, teaching mode, and faculty. These requirements are centered on the PCEE, focusing on the actual needs of students, optimizing the curriculum content and teaching model, so as to achieve the goal of talent training, promote the improvement of students' comprehensive quality and ability, and meet the standards and requirements of PCEE.

Under the background of PCEE, social development requires more and more talents. When professional knowledge is excellent, it must also have the ability of practical application of knowledge. As an important talent training base, universities undertake the education of professional knowledge and skills, in order to improve the quality and effect of education and achieve the goal of talent training, we should make full use of function of modern information toolsand attach importance to the improvement of students' abilities in many aspects.[1-3]

2. Reform of assessment form

2.1 The assessment content is single

Partial to concept, partial to memory, lack of innovation and comprehensiveness. The traditional

assessment method is based on the closed book examination of course conclusion, which is difficult to reflect the essence of the course. Due to the limitation of examination form and examination time, the examination paper can not comprehensively assess the course knowledge points, which requires teachers to arrange some homework or carry out small tests in the ordinary teaching process, especially for the missed course knowledge points in the examination paper. In addition, in order to expand the international vision, on the one hand, we can add the latest international cutting-edge research results in the teaching content; on the other hand, we can choose the actual engineering cases to let students voluntarily complete the large assignments, exercise the engineering practice ability, communication and cooperation ability.[4]

2.2 Lack of assessment feedback mechanism

At the end of the course assessment, passing the examination indicates a deep understanding of the course. Students don't know what's right or wrong. Unscientific assessment will not only lead to superficial understanding of this course, but also lead to insufficient mastery. What's worse is that we can't learn the thinking mode and learning function of this course at all. Through scientific evaluation of students' performance, the assessment methods are diversified. According to the knowledge characteristics of each stage, analyze the learning effect of students, influence their learning mode and thinking mode, and improve learning efficiency. The efficiency is implemented by means of examination papers, large assignments, theses, practical exercises, etc. after each assessment, the trainees will make statistics of the results, establish and expand the scientific research thinking mode and the teachers will make comments and analysis respectively, take the professional certification requirements as the measurement standard, and reform according to the course assessment.[5]

3. Effective means of practical teaching reform under the background of PCEE

3.1. Strengthening the engineering background training of professional teachers

Teachers, as the main body of talent training in universities, as teachers in the front line of education, only with engineering practice ability, can guide students' research and teaching with engineering vision, and their professional level and engineering background will affect the quality of engineering talent training. In the certification standard of teaching staff, teachers should have enough professional level, engineering experience, be able to carry out engineering practice research, and engineering background can meet the needs of professional teaching. Based on the school enterprise platform, demand-oriented, and with the goal of improving engineering practice ability, the college and its departments encourage their professional teachers to further strengthen engineering background training through various ways.[6]

3.2. Optimize the teaching classroom form

China’s education has a long history of development, and its teaching methods are deeply ingrained in the hearts of teachers. In most universities, the main teaching method is still the traditional teaching method. This teaching method will reduce students’ interest in professional learning, resulting in students We did not have a good knowledge reserve during the study period. There is a big impact on the improvement of students' comprehensive literacy and the development of teaching activities, and even affect the students' future development. In the classroom teaching process, teachers should adopt flexible and diverse classroom teaching methods to create a tense, orderly and lively teaching atmosphere, so that teaching and learning can be conducted in a harmonious and harmonious atmosphere. Whether or not to enhance students 'participation consciousness and exert students' subjective initiative in classroom teaching is directly related to the success or failure of teaching. Therefore, we need to continuously explore teaching methods, broaden students 'knowledge, mobilize students' participation in learning, and promote students to meet the development needs of society and industry. In order to better organize classroom teaching, the shortcomings of traditional teaching methods and multimedia courseware teaching should be

avoided in teaching methods. The combination of multimedia teaching and traditional teaching methods should be used to give full play to their respective advantages and make the two methods mutually compatible. To support, complement each other, promote each other and complement each other. In addition, students should be transformed from passively accepting knowledge to actively and consciously learning knowledge, focusing on cultivating their ability to think independently, analyze problems, and solve practical problems.[7]

3.3. Combine theory with practice

Under the influence of traditional teaching methods, teachers take a large proportion of time to explain the theoretical knowledge of professional courses in a class, which leads to a serious lack of time for students to practice. After class, the energy and time in practical activities are bound to be limited. The lack of students' practical activities and time directly leads to their problems in the use of theory, which is not conducive to the application of theory Students' understanding of professional knowledge also hinders the improvement of students' practical ability. In the process of explanation, teachers use multimedia technology to show the concept of theoretical knowledge, achieve the effect of both pictures and pictures, and trigger students' practical thinking through the setting of problem situations. At the same time, to strengthen the operation of students' practical ability, in the development of practical activities, it is necessary to provide sufficient practical time for students, so in the classroom, we should reasonably arrange the time of theoretical knowledge explanation, to ensure that students can get more experience in the limited classroom, so as to make the knowledge more solid.[8,9]

3.4. Construct evaluation system.

The traditional evaluation system is mainly based on students' cultural achievements, which can not fully reflect the comprehensive quality and ability of students, and its guidance function is also insufficient, leading to many students' excellent performance, but lack of team cooperation consciousness and innovation ability. Therefore, it's necessary to study a reasonable evaluation system, and focus on the assessment of students' comprehensive ability in all aspects. Students' performance is divided into two parts: classroom performance and final performance. Classroom performance is mainly about students' enthusiasm to participate in teaching activities, in which expression ability is the main part. Each time they take the initiative to answer questions and opinions, they can appropriately increase their scores. The final grade is mainly composed of examination results and comprehensive practice evaluation ability. It focuses on students to find problems in practice and solve practical problems with the knowledge they have learned.[10-11]

Conclusion

The PCEE in the new situation puts forward new requirements for college curriculum teaching. Under the background of EE professional certification, the reform of curriculum design and teaching links has an important role in promoting the construction of majors. At the same time, China's “The Belt and Road Initiative” strategy is being comprehensively promoted, and the demand for high-quality engineering talents is increasingly pressing. The PCEE is the certification of engineering majors whose main goal is to cultivate engineering technical talents. The purpose of certification is to further improve the quality of EE. To summarisel, in order to improve the teaching effect and quality of college majors, under the guidance of the background certification concept of EE majors, it should be combined with the teaching content, focusing on all aspects of students and ability development and put forward targeted solutions, through reasonable teaching reforms, to provide a strong guarantee for cultivating students' engineering practice ability.

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