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Research on Teaching Design of Internship Practice Course under the Background of New Engineering

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Abstract: *Under the background of new engineering, traditional teaching methods and models can no longer meet the training requirements of new engineering. It is necessary to continuously reform and adjust traditional courses to meet the requirements of training students under new engineering. The previous training based on OBE and CDIO theories There are many problems in the practice of the model. In the new background, in order to meet the requirements of the new training objectives, this paper takes the most widely used OBE theoretical training model as the research object, focusing on the biggest shortcoming in the training of engineering students. The link---internship practice course, contributes its own strength to the training of new engineering students in China.*

Keywords: *New Engineering, Intern, Practice, Course*

1. Introduction

Under the guidance of the new national strategy, all walks of life in China have issued a series of reform policies. The education industry, as the industry for training and exporting talents in China, is related to the prosperity of the country. In response to the call of the new national strategy, the education industry New training requirements and models are put forward for all kinds of students. The content of the new engineering reform covers a wide range, and the main purpose is to carry out inheritance and innovation, intersection and integration, and coordination. In terms of sharing and sharing, the ultimate purpose is to cultivate new talents with strong comprehensive ability and multi-quality ability. The main tasks of training include reconstructing the knowledge system of engineering students, improving students' innovation and entrepreneurship ability, and strengthening students' scientific research transformation.

Colleges and universities are the main bases for talent training, and enterprises are important places for talent use. Therefore, when colleges and universities cultivate various talents for the country, they need to be guided by the needs of enterprises and cultivate students according to the needs of enterprises for talents. It is of extraordinary significance to use the OBE model to promote the practical innovation and entrepreneurship ability of engineering students in China.

2. The importance of practical course teaching

The combination of theory and practice is an important way to cultivate outstanding students. At present, in most colleges and universities in China, due to the limitations of various factors such as funding and conditions, the practical courses of college students in China are severely compressed, even if they are limited. The realization of the course is mainly a process of watching and listening. College students in China have rich theoretical knowledge and severely weak practical ability. [1]To strengthen the teaching of practical courses can deepen the understanding and application of theoretical knowledge in the practical link, and at the same time, it can also discover and master some new knowledge that is not in books from the practical link, so as to achieve the purpose of improving personal ability, but also for the China's front-line enterprises urgently need to supply talents who can match the job requirements, so that people and positions can be adapted.

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3. Problems existing in the teaching of practical courses at present

3.1. Unreasonable teaching design of practical courses

At present, the teaching design of practical courses in most colleges and universities in China is single and one-sided. The teaching design of a practical course is a single simple experiment. This kind of experimental operation does not have the ability to cultivate students' comprehensive knowledge. In the design of experimental courses, teachers should ensure the coherence, comprehensiveness, complexity and novelty of experimental course design.

3.2. Problems with teaching methods

At present, the teaching methods of practical courses in the vast majority of colleges and universities in China are single and boring, and the teaching teachers have not been able to integrate modern scientific and technological means and methods to teach. Therefore, they have failed to stimulate students' subjective initiative in teaching, and the quality of teaching is not high. , students' low interest in learning and other issues.

3.3. Insufficient training of students' engineering practice and innovation ability

There is a lack of attention to the cultivation of students' innovative ability in the teaching of practical courses in colleges and universities, and most of them are instilled in the traditional mode. This kind of cultivation mode is not conducive to the divergence of students' thinking and the improvement of innovative ability. It is only rigidly accepted by teachers. Knowledge, in this mode for a long time, students' innovative ability cannot be developed, and it is difficult to adapt to the society's demand for employees' innovative ability.

3.4. Practical teaching is not sufficiently oriented towards new formats

Under the background of new engineering, the training requirements have changed, so the training mode of students also needs to be adjusted according to the changes in requirements. teaching methods and methods, and ultimately lead to the training of students seriously deviate from the training requirements under the new engineering discipline.

3.5. Lack of effective feedback in teaching

Feedback on teaching effect is to enhance the communication between students and teachers, and it is also a key way for teachers to fully grasp the learning effect of students. Purpose.

4. Problems existing in the current practice

4.1. Internship time is too short

Although many engineering majors in domestic colleges and universities have arranged internship time, various colleges and universities have the problem that the internship time is too short, which seriously affects the practical ability of engineering students. This type of practice mainly stays in the observation or listening stage during the practice, so the effect of the practice is not significant.

4.2. College students' lack of understanding of production practice

In the production practice link, college students fail to deeply understand the importance of the practice, which is also a subjective factor that the current college students' practice effect is very poor. Many college students take the form of going through the motions in the practice session, thinking that the practice is just college life. The purpose of the internship is very unclear, and some people even misunderstand that the purpose of the internship is to complete the internship in order to receive the credits of the internship stage. It will deviate from the requirements of the rules and regulations stipulated by the enterprise, and even cause many failures to the normal production of the enterprise.

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4.3. Contradictions between enterprise production technology and training objectives

After entering the 21st century, various high and new technologies have been applied to the production and life of enterprises, and each process of the company has softened a lot of professional knowledge.[2]Therefore, when students practice the operation process, they often feel that the professional knowledge is not enough. Secondly, due to the workload and efficiency requirements of production factories, it is difficult for manufacturers to allow students to conduct teaching experiments on the whole process one by one in the current environment. In the end, due to the limitation of factory production safety requirements, many production products need to strictly control the cleanliness of the environment, the temperature and the number of personnel, and large-scale students are not allowed to visit.[3]

4.4. Internship instructors have limited energy

In the production and practice process, there are a large number of intern students, but there are often insufficient intern teachers. One intern teacher is often responsible for the entire internship process of a class of students.[4] Communication, it is difficult to achieve all-place guidance for each student, and ultimately it is difficult to take into account the effect of each student's practice. As a result, students' theoretical knowledge and practice are not closely combined during the internship.

4.5. Internship management lacks normative

Management needs to have a sound and standardized system to ensure the normal operation of an activity. The formulation of rules and regulations for student internship management should include all aspects of the entire process of student internships. It involves not only the links of students' internship work but also the links of students' life and leisure. Through a comprehensive and perfect management system, the efficiency of the students' internship process can be improved.

4.6. Safety issues of production practice

Safety production is the top priority of the whole practice process. Practice production should be based on safety production. Before the practice, students should have an overall understanding of the practice environment. There may be safe operation steps involved in the operation process. Before the operation, emphasize to the students to understand, to prevent some accidents from happening.

5. The proposed solution strategy

5.1. The course practice teaching is reformed with the concept of OBE

In view of the problems existing in the current course practice teaching, the OBE concept should be applied to reform the entire existing teaching, cultivate the technical level and requirements of the talents needed by the enterprise, improve the students' independent innovation ability, and maximize the limit in the teaching process.[5] Use existing software and tools, such as the Internet, big data, artificial intelligence and other advanced technologies to carry out soft teaching, stimulate students' interest in learning through novel teaching methods and advanced teaching concepts, and finally achieve interactive education and learning. process.

In order to take into account the students at all levels, the combination of online and offline teaching forms are carried out. Online teaching can use multimedia and network tools, and use video and animation for special cases to arouse students' interest in inquiry, ask questions in vivid and interesting practical application scenarios, and guide students to think and learn relevant knowledge points. For students with poor basic knowledge, online teaching can reduce the learning pressure of students, and the part that they do not understand can be watched repeatedly, read to check the information and fill the gaps, and accelerate the progress.[6] At the same time, students with strong learning ability can set up optional special cases for independent learning, increase students' learning platform, and encourage students to study independently. In offline teaching, teachers can explain the principles and methods of artificial intelligence technology, and analyze in-depth the special content of online teaching, so that students can experience the specific application of knowledge points. We can also let the students participate in the explanation, and practice the student-centered teaching concept.

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5.2. Improve students' awareness of production practice

Students are deeply aware of the importance of production practice, which is the subjective guarantee for students to achieve good results. In the case of students' lack of awareness, teachers need to instill the importance of production practice into students thoughtfully and meticulously. Some ideological conscious, fully aware of the importance of internship, teachers of various colleges and universities can also enhance students' attention to production internship by strengthening the assessment of the internship process.

5.3. Explore the school-enterprise cooperation mode to build an internship platform

In order to promote students 'practice and promote the optimization of curriculum teaching design, we should actively explore to build more practice platforms for students, promote the continuous improvement of students' practice skills, and pay attention to school-enterprise cooperation around professional construction. The ultimate goal of school-enterprise cooperation work is to continuously improve the professional and technical level, and promote the high-quality development of the school with high-quality professional development.[7] At present, some vocational colleges still have three problems in the current school-enterprise cooperation work, such as unbalanced development, unoutstanding landmark achievements, and insufficient focus of goals.withal, Relevant colleges and universities should fully borrow their wisdom and strength, Constantly improve the top-level design ability and the industry discourse level; To increase the depth of cooperation with the head enterprises, chain main enterprises, With the industrial college as the starting point, Comprehensively improve the construction of teachers, courses, curriculum construction, scientific and technological service capabilities, Promote the high-quality development of professional groups and key majors; To give full play to the role of industry professors and vice president of science and technology in school-enterprise cooperation, Dig deeply and make good use of all kinds of resources provided by enterprises; To further clarify the responsibilities of the Office of the Social Cooperation and Service Committee and the school-enterprise cooperation of each colleges, Compact the responsibility, straighten out the relationship, Advance various tasks in order; To strengthen the publicity and promotion, Continuously expand the influence of school-enterprise cooperation work. Vocational colleges and universities departments and enterprises should intensify efforts to deepen cooperation, in the case of each characteristic, closely around the enterprise teaching integration, training enterprise demand of professional talents to carry out university-enterprise cooperation work, complete professional teaching plan and talent training goals, efforts to improve the quality of school education teaching and talent training quality.

5.4. Develop some training simulation websites or software

Due to various factors in the practice process, it is difficult for the practice to have a good effect. Various colleges and universities can develop some training software to simulate the practice. The technical level and comprehensive quality that can be achieved in the process will improve the teaching level of China, and finally cultivate high-tech talents that meet the requirements of enterprises. These simulation systems mainly include practice training website, virtual simulation training system, etc. The main function of the practice training website is to introduce the operation steps used in the practice process and the usage of the production equipment used in the practice process.[8]

6. Conclusion

The new engineering is a new requirement put forward by China's education to meet the new national strategy for engineering students in China. Under the background of the new engineering, it is necessary for the majority of college teachers and students in China to make continuous adjustments around the requirements of the new engineering. At the same time in this big environment China's engineering education and teaching level will achieve great development, and the society's innovative and creative ability will be further enhanced.

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