Research on the Teaching Reform of the Course "Civil Engineering Construction Organization and Management" under the Background of New Engineering

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Abstract: In the current context of new engineering, the teaching of the course "Civil Engineering Construction Organization and Management" should be targeted and focused. In terms of setting up the course content, schools need to engage in extensive communication and cooperation with enterprises and industry associations, and integrate more practical education elements into the teaching methods to ensure that students can achieve a unity of knowledge and action; In relevant course teaching, teachers should also introduce more ideological and political elements to improve students' ideological and moral literacy. This article analyzes and explores the teaching reform of the course "Civil Engineering Construction Organization and Management" in the context of the new engineering discipline.

Keywords: New Engineering; Civil Engineering Construction Organization and Management; Reform in Education

1. Introduction

In the context of the new engineering discipline, the teaching of the course "Civil Engineering Construction Organization and Management" should introduce new standards and requirements proposed by the country, industry, and enterprises for relevant applied talents in the new era, focus on improving the comprehensive literacy, innovation, and practical abilities of relevant professional talents, and inject more fresh blood into the development of relevant industries.

2. Analysis of the characteristics and teaching needs of the course "Civil Engineering Construction Organization and Management"

In the current curriculum and teaching system of civil engineering majors in Chinese universities, "Civil Engineering Construction Organization and Management" holds a relatively core position. This course mainly explains to students the technical and economic principles that construction companies and construction units should follow in the implementation process of related projects, and combines scientific and reasonable scheme design and construction organization to achieve dynamic supervision and control of the entire engineering project process, in order to improve the economic benefits of construction enterprises, reduce construction costs, optimize corresponding construction schedules, and thereby improve the quality of the entire construction project as well as enhance the satisfaction of the owner.

In the existing curriculum and corresponding teaching requirements, the course has a wide range of knowledge in the content setting layer, and the professional standardization of relevant knowledge is relatively high. Students need to master the key points and key points of the knowledge contained in it. At the same time, the relevant course content also closely follows the development trend of the contemporary construction industry and the current pace of development of the construction industry, integrates multiple new technologies, new requirements, and new norms, and makes relevant teaching work more targeted and focused, so as to allow students to quickly immerse themselves in the corresponding work after completing the relevant courses. For example, in the course content of "Civil Engineering Construction Organization and Management", the concept of engineering standardization and the situation of

digital engineering management were introduced, with a focus on introducing actual teaching cases and construction projects to students, it can enable them to master and manage them more quickly understand the core elements explained in relevant course knowledge, so that they can effectively and properly solve corresponding construction problems in subsequent engineering management work by applying relevant knowledge points.

3. Analysis of measures for curriculum reform

In the context of current supply side structural reform, the demand for innovative talents in society is also constantly increasing. Therefore, the construction industry also has a corresponding demand for applied and innovative talents. The teaching of courses related to "Civil Engineering Construction Organization and Management" should also focus on cultivating students' innovative and creative abilities, and enable them to effectively integrate knowledge theory and practice. Specifically, the measures include the following aspects.

3.1 Adhering to the teaching value orientation of the course and completing the preparation of course content

New engineering refers to the development, innovation, and transformation of today's new industries and technologies. For example, China's current artificial intelligence, cloud computing, and big data technologies are all included in the concept of new engineering; At the same time, it also involves the development and upgrading of traditional engineering majors, such as materials, architecture, machinery, etc. As a pillar industry of China's national economy, the construction industry is also facing corresponding opportunities and challenges in the current process of development and transformation. Therefore, the development of related industries also conforms to the characteristics of the new engineering discipline. Based on the development needs of the new engineering discipline, the teaching of the course "Civil Engineering Construction Organization and Management" should closely adapt to the development needs of today's social industries, introduce the normative requirements proposed by the state for the construction industry, and emphasize the characteristics of the development of relevant industries, innovate and create various materials, equipment, technologies, management concepts, methods, and strategies used in civil engineering construction management, so s to cultivate new architectural engineers in the new era, improve the professional qualities and abilities of relevant talents, and cultivate students' innovative spirit.

In order to achieve the corresponding teaching objectives, in the process of constructing and reforming relevant courses, enterprises and schools should form an effective cooperation mechanism to ensure that the content of relevant courses is targeted and focused, and meets the development needs of today's industry. Specifically, enterprises should carry out a talent cultivation model of industry education integration with schools, and schools should dispatch corresponding teacher teams to conduct on-site research and inspection in the enterprise to understand the actual work situation of the current construction industry and related construction enterprises, in order to complete the writing and creation of teaching materials; At the same time, the construction industry should also play a leading role in this process, and introduce industry standards, such as clarifying the specific quality requirements for students to obtain architect qualification certificates after completing relevant courses, as well as the knowledge and skills they need to master. Schools should optimize and improve the existing curriculum system based on the certificate admission standards formulated by relevant industries, and enable students to obtain relevant qualification certificates normally after completing relevant courses, in order to improve their employment rate. Therefore, in the current context of new engineering, the construction of the course "Civil Engineering Construction Organization and Management" should integrate the development suggestions of industry associations and enterprises, effectively develop the existing course content, and ensure that relevant course teaching can keep up with the times.

3.2 Integrating into practical education

In the current process of teaching and cultivating applied talents, schools and teachers need to focus on cultivating talents' professional practical abilities, as well as their ability to master and use relevant knowledge and theories. In the context of the new engineering discipline, the cultivation of applied talents should have practical educational characteristics, ensuring that relevant talents can integrate the knowledge they have learned and effectively implement and improve related work after completing their studies. In response to the teaching reform of the course "Civil Engineering Construction Organization and Management", teachers should also

change the previous "cramming" theory teaching form, shift the teaching focus from the original single knowledge theory to practical teaching content, and uphold the idea that practice is the test of knowledge correctness. In order to achieve this teaching management goal, teachers should integrate more practical teaching cases and actively cooperate and communicate with enterprises in the process of setting up relevant course content

3.3 Integrating diverse knowledge content

In the current technological era, the development of various industries needs to combine science and technology as the corresponding driving force to achieve their own development breakthroughs. For example, in the current construction industry, it is necessary to combine BIM technology, big data technology, 5G technology, large-scale equipment, super engineering and other related technologies to improve the quality and efficiency of related construction operations, and achieve dynamic management of the entire process of civil engineering. Therefore, it is far from enough for students to master a single knowledge from the original textbook alone. In the current context of new engineering, students majoring in architecture should try their best to face the industry, the development trends and future development patterns of the construction industry, and complete the learning and reserve of their own knowledge and skills in advance to meet the challenges faced in the subsequent work management process.

Specifically, professionals in the civil engineering industry today need to learn data analysis, cost accounting, management coordination, and also need to achieve technological innovation to improve their business level. "Civil Engineering Construction Organization and Management" should also integrate more cutting-edge technologies of the times and cultivate students' diversified knowledge and abilities; In addition, in the long-term development process of our country, there is still a lack of figures with the spirit of a great country craftsman. Relevant courses should also further cultivate students' unity and cooperation abilities as well as the spirit of excellence in the teaching process; At the same time, in the construction management process, there are also a large number of legal and economic matters involved. Relevant professionals need to possess diverse knowledge and skills, and should also adhere to the principle of sustainable development to complete the improvement and optimization of current engineering projects.

4. Conclusion

Overall, in the context of the new engineering discipline, the teaching of the course "Civil Engineering Construction Organization and Management" should achieve students' all-round growth and development. In this process, teachers should introduce diverse teaching elements, focusing on improving students' practical learning ability and mastery of diverse knowledge. At the same time, teachers should also improve students' ideological and moral literacy, cultivate their craftsmanship spirit, and input more vitality into the development of related industries.

References

[1] Tian Q, Zhou J. Zhou J. Research on the Teaching Reform of the Course "Civil Engineering Construction Organization and Management" under the Background of New Engineering [J]. Science and Technology Style2020;(18):74.

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