

Research on ideological and political teaching reform of civil engineering major curriculum

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Abstract: The core of curriculum ideological and political education is the whole process and all-round education. The ideological and political education is integrated into all kinds of curriculum teaching, so that ideological and political education and curriculum teaching move in the same direction, build a new mode of collaborative education, and further improve students' moral sentiment. Civil engineering teachers in colleges and universities should actively promote curriculum ideological and political construction, use the Internet to explain Chinese traditional ancient architecture culture, and enhance students' national pride and cultural self-confidence; Collect related laws and regulations of construction industry to enhance students' awareness of rule of law; Integrate the concept of green building into the experiment of building materials to cultivate students' awareness of green environmental protection; Ideological and political education is integrated into teaching to cultivate students' craftsman spirit and comprehensively improve the quality of ideological and political teaching in civil engineering courses.

Key words: Civil engineering major in universities; Curriculum ideology and politics; Importance; Teaching path

With the acceleration of China's urbanization process, the construction industry has risen suddenly, and the construction engineering, bridge engineering, road engineering, water conservancy engineering, subway tunnel underground engineering and other rapid development, with the spirit of innovation, the spirit of craftsmanship, the spirit of rule of law and superb professional skills and other good professional quality civil engineering talents demand has grown rapidly. In order to further improve the training quality of civil engineering professionals, teachers should "grasp" ideological and political education and professional course teaching, and take patriotism, craftsman spirit, legal education, green building and cultural confidence as the entry point, and integrate ideological and political education with courses such as architectural mechanics, structural mechanics, civil equation drawing, water conservancy engineering, civil engineering and building materials experiment. Let students receive ideological and political education edification while learning professional knowledge of civil engineering, implement the ideological and political concepts of the course, and achieve a win-win situation between ideological and political education and civil engineering education.

1. The importance of ideological and political teaching reform of civil engineering courses in colleges and universities

1. It is conducive to improving the quality of civil engineering personnel training

The curriculum ideology and politics has changed the teaching concept of civil engineering teachers in colleges and universities, urging them to fully penetrate ideological and political education while doing a good job in the teaching of professional courses, excavating the ideological and political elements contained in each professional course such as patriotism, craftsman spirit and labor education, integrating ideological and political education with the teaching of professional courses, urging students to learn the advanced deeds of craftsmen in major countries and traditional architectural culture. To further enhance their moral sentiments. At the same time, the combination of ideological and political education and civil engineering courses is conducive to promoting the integration of humanities education and engineering teaching, improving the interest of professional courses teaching, helping students master complex and abstract professional knowledge such as architectural mechanics, drawing and modeling, so as to improve the quality of talent training.

2. It is conducive to improving students' moral sentiment

The ideological and political reform of civil engineering courses is conducive to urging teachers to infiltrate ideological and political education in the whole process, all staff and all aspects, allowing ideological and political education to run through the theoretical and practical teaching of civil engineering majors, allowing students to accept the influence of patriotism, rule of law education and craftsman spirit, creating a "silent" ideological and political education effect, so as to improve students' moral quality. Civil engineering courses contain rich ideological and political elements, such as national construction industry laws and regulations, green building and traditional architectural culture, etc. These materials can not only deepen students' understanding of legal knowledge, energy conservation and emission reduction and traditional culture, but also help to cultivate students' law-abiding, green environmental protection and love for the motherland and other beautiful virtues, and further enhance their employment competitiveness.

3. It is conducive to improving the teaching quality of professional courses

Curriculum ideological and political construction is conducive to promoting the teaching reform of civil engineering majors in colleges and universities, further implementing the mission of moral education and educating people, urging teachers to create civil engineering specialty characteristic ideological and political education cases, thereby improving the construction of civil engineering courses and improving the professional curriculum system. At the same time, curriculum ideological and political education can inject new vitality into the teaching reform of civil engineering major, accelerate the penetration of ideological and political education in the theoretical courses, practical courses and graduation design and other links, expand the teaching content of various professional courses, enhance the humanistic and interesting teaching of engineering courses, stimulate students' enthusiasm for independent learning, so as to improve the teaching

quality of civil engineering major.

2. The reform of ideological and political teaching of civil engineering courses in colleges and universities is difficult

1. It is difficult to excavate the ideological and political elements of the curriculum

Civil engineering is an engineering major, and the teachers are logical and thoughtful, but the education of humanistic feelings is relatively weak, which brings great challenges to the mining of ideological and political elements in the course of this major. Although some teachers understand the ideological and political connotation of the course, their exploration of ideological and political elements in the textbooks is relatively simple and superficial. For example, they are limited to the explanation of specific laws and regulations of the construction industry, ignoring the explanation of relevant political news and cases related to the safety of construction projects, and the explanation of ideological and political elements is not deep enough, which is difficult to stimulate the enthusiasm of students to learn ideological and political knowledge.

2. Ideological and political education is not closely integrated with specialized courses

Civil engineering teachers in colleges and universities have not fully interpreted the ideological and political connotation of the curriculum, limited to the theoretical level, ignored the design of ideological and political education cases, and did not integrate the ideological and political education and professional course knowledge well, resulting in the phenomenon of “two skins” in ideological and political education and civil engineering education, which affects the development of the ideological and political construction of the curriculum. In addition, the ideological and political construction channels of civil engineering courses are relatively simple, mainly based on theoretical courses such as building mechanics, housing architecture and civil engineering drawing, and the integration with practical courses such as building materials experiment and engineering geology practice is relatively small, and no whole process and all-round ideological and political education system has been formed, which affects the effect of ideological and political education.

3. Lack of information-based ideological and political education platform

With the advent of the “Internet +” era, micro-classes, MOOCs and blended teaching have become hot topics in the teaching reform of civil engineering majors. However, many teachers ignore the use of the Internet to promote curriculum ideological and political construction, and it is difficult to extend ideological and political education to students’ independent learning after class, social practice and campus life. For example, some teachers neglect to use the Internet to collect news about important construction projects such as the Guangdong-Hong Kong-Macao Bridge and the venues of the Beijing Winter Olympics, which is difficult to inspire students’ national pride. They also neglect to use the online teaching platform to push advanced stories of craftsmen in the construction industry to students, and it is difficult to give full play to the advantages of short video and online teaching platform in ideological and political education.

3. The path of ideological and political teaching reform of civil engineering major courses

1. Online explanation of traditional architectural culture to enhance students’ cultural confidence

Civil engineering teachers can use the online teaching platform to carry out ideological and political education, broaden the channels of ideological and political education penetration, and implement the ideological and political concepts of the curriculum. For example, teachers can use the course “Building Architecture” to explain traditional Chinese architectural culture, use online teaching APP to carry out teaching, import videos of the Forbidden City, the Great Wall and Fujian tulou in advance, show the charm of traditional architecture in an all-round way, and design online test questions to prepare for online teaching. First of all, teachers can lead students to appreciate the ingenious ancient Chinese buildings online. For example, the ancient wooden building the Forbidden City still stands after thousands of years of wind and rain, demonstrating the unique construction method of ancient Chinese buildings -- the advantages of mortise and tenon structure. The Great Wall is a world-renowned earth and stone building. Through these cases, students can experience the ancient Chinese architectural culture, feel the wisdom and creative spirit of the ancestors, and enhance their patriotic enthusiasm and cultural confidence. Secondly, the online test mainly focused on ancient architectural drawings. Students were asked to use civil engineering drawing software to draw drawings of the Forbidden City, the Great Wall and Fujian tulou, and they were also asked to share their drawing experience and understanding of ancient architectural culture. Teachers can comment on the drawings submitted by students online, point out problems, and organize online discussions to encourage students to speak freely. The online teaching platform has opened up a new path for civil engineering courses on ideology and politics, leading students to experience ancient Chinese architecture and further enhancing their national pride and cultural confidence.

2. Fully infiltrate the education of rule of law to enhance students’ legal awareness

Civil engineering is closely related to construction safety, and is closely related to the safety of people’s lives and property. Compliance with discipline and law is also one of the basic professional qualities of employees in the construction industry. Civil engineering teachers should actively carry out legal education, in-depth explanation of relevant laws and regulations in the construction industry, further enhance students’ awareness of law learning, law-abiding and law-protecting, and further enhance their professional ethics. For example, teachers infiltrate the rule of law education in the “Construction Engineering Regulations”, explaining the construction engineering safety production, quality standards, bidding regulations, construction license system, construction engineering related enterprise qualification system and other laws and regulations, so that students can fully understand the construction industry laws, so that they can personally experience the relationship between law and the construction industry. First, teachers can collect cases related to the basic knowledge of construction engineering laws and regulations, and use the cases of construction enterprises to explain the knowledge of project bidding, construction

permits and construction engineering safety regulations, so as to make the dull and abstract legal knowledge more intuitive, further stimulate the enthusiasm of students to learn legal knowledge, enhance their legal awareness, and lay a good foundation for their future employment. Second, teachers can also introduce construction engineering safety-related news, introduce the state's emphasis on construction engineering quality and safety, as well as the firm crackdown on illegal construction, construction projects and other illegal acts, so that students can realize the importance of law to construction workers, enhance their sense of social responsibility and legal awareness, so as to improve the quality of civil engineering talent training.

3. Optimize the experimental teaching of building materials and infiltrate green environmental protection education

With the gradual popularization of the concept of green building, it provides new materials for the ideological and political construction of civil engineering courses. Teachers can infiltrate environmental protection education in the experimental teaching of building engineering materials to enhance their awareness of energy saving and emission reduction and environmental protection. First of all, teachers can emphasize the control of the amount of experimental materials in the experiment process, avoid wasting experimental materials, do a good job in the collection of experimental waste and waste, strictly abide by the experimental operation standards, and reduce the pollution of the laboratory environment. For example, in the concrete hardness and frost resistance experiment, teachers should emphasize that students control the amount of cement, stone and sand, do a good job of recording experimental data, standardize the treatment of experimental concrete materials, and reduce the generation of construction waste. Secondly, teachers can introduce green and environmental protection building materials to students, such as new wall materials, organize new wall material production experiments, encourage students to use industrial waste to make new wall materials, and deepen their understanding of green and environmental protection materials. Through the experiment of building materials, students can deeply understand the performance of various building materials, understand the advantages of new environmentally friendly building materials, further enhance their environmental awareness, and apply the concept of green building to their future work.

4. Integrate the spirit of craftsman into teaching to improve students' professional ethics

First, civil engineering teachers can collect the deeds of famous architects in China, show the craftsman spirit of excellence, rigorous and serious, pioneering and innovative, willing to contribute and bear hardships, set a good professional example for students, and further improve their professional ethics. For example, teachers can introduce the advanced deeds of the famous Chinese architects Liang Sicheng and Lin Huiyin. Mr. Liang Sicheng devoted his life to the protection of ancient Chinese architecture and cultural heritage, participated in the design of the Monument to the People's Heroes, the National emblem of the People's Republic of China and other works, and personally visited ancient buildings all over the country, making outstanding contributions to the protection of ancient buildings in China. Lin Huiyin and her husband Liang Sicheng traveled to 15 provinces in China, surveying and mapping many ancient buildings, such as Yanfu Temple in Wuyi and Yingxian Wooden Tower in Shanxi Province. This spirit of selfless dedication, hard work and excellence is worthy of civil engineering students to learn. Second, teachers can integrate the craftsman spirit into the practical teaching of architectural model making, encouraging students to make ancient architectural models, so that they can feel the craftsman spirit in practice. For example, some students made a wooden model of the Forbidden City, experienced the mortise and tenon structure, and experienced the architectural art of the ancient architectural craftsmen's strict sewing, excellence and pursuit of perfection, which further standardized the steps of building model making, reduced the size error of the model, further improved their personal ability of civil engineering model making, and inherited and carried forward the spirit of artisans.

4. Conclusion

Civil engineering teachers should comprehensively promote the ideological and political construction of courses, excavate the ideological and political elements contained in each professional course, lead students to explore the ancient architecture art with a long history and unique characteristics, show the spirit of ancient architecture craftsmen, enhance students' cultural confidence and national pride, use online teaching platform to carry out ideological and political education, and promote the integration of civil engineering education and ideological and political education. At the same time, teachers should explain the laws and regulations of the construction industry in depth, cultivate students' awareness of abiding by rules and regulations, enhance their sense of social responsibility, carry forward the spirit of craftsmanship, cultivate students' spirit of rigor, excellence and hard work, and further improve the teaching quality of civil engineering.

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