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Research on the Construction of Course Evaluation System Based on OBE Concept and the Background of Curriculum Thinking and Politics

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Abstract

Curriculum thinking politics is becoming more and more important in the ideological and political work of colleges and universities, and the development of engineering curriculum thinking politics is a difficult point in the process of promoting curriculum thinking politics in colleges and universities. In this paper, we selected the course of concrete structure design principles for research and analysis, and found that the course thinking politics of engineering majors is facing real difficulties such as insufficient attention, the cognitive bias, of course, thinking politics among teachers of professional courses, and the complexity, of course, thinking politics increased by the diversified development of students. Through the practice of the reform of the curriculum of the principle of concrete structure design, we summarize the paths of the effect of the curriculum of engineering courses in colleges and universities, deepen the importance of the curriculum of engineering courses, enhance the coupling of engineering professional education and the curriculum of political education, and provide reference significance for the curriculum of engineering majors to carry out the reform of the curriculum of political thinking.

Keywords: curriculum civics, engineering majors, civics elements

1. Introduction

Through the development of curriculum thinking politics, it can help college students closely link their knowledge with the realization of self-price and social value, cultivate their sense of responsibility and commitment and improve their ideological and moral, spiritual character and humanistic qualities in all aspects. To sort out the content of professional courses, you can use relevant cases as well as content lectures, combine professional knowledge with Civic Theory, cultivate students' patriotism, national pride and self-esteem, help students establish a correct world view, outlook on life and values, and cultivate students' socialist artisan spirit.

In order to thoroughly implement the speech of General Secretary Xi Jinping at the National Conference on Ideology and Politics of Universities, which said "we should use classroom teaching as the main channel, and the ideological and political theory course should be

strengthened in the process of improvement, enhance the affinity and relevance of ideological and political education, and meet the needs and expectations of students' growth and development, and all other courses should keep a good channel and plant a good field of responsibility, so that all kinds of courses and the ideological and political theory course can go in the same direction and form a synergistic effect", we should continue to promote the "Curriculum Civics" reform of engineering courses. Civic education in professional courses means integrating education on ideals and beliefs, core socialist values, patriotism and traditional Chinese culture in the teaching of professional courses, spreading the positive energy of patriotism, love for the Party and positivity, and cultivating the spirit of science and artisanship, etc. To achieve expansion in the goal of education, so that students can "learn and master the essence of the 'great craftsman spirit. The ideological and political education is integrated into the whole teaching process, and students are guided to understand the importance of their professional knowledge and cultivate a sense of professional honor and mission.

2. Information of This Course and Teaching Objectives

2.1 Basic Information of the Course

Principles of Concrete Structure Design" is an important professional core course for civil engineering majors. It is taken by undergraduates in civil engineering, and plays a role in the whole course system. On the one hand, it is based on mechanics of materials, structural mechanics and other courses; on the other hand, it is the basis of engineering structure seismic, concrete structure design, high-rise building structure and other courses; the course provides the necessary basic knowledge and calculation methods for the subsequent courses.

2.2 Teaching Objectives of This Course

The National Conference on Ideological and Political Work in Colleges and Universities requires that we should insist on making moral education the central link, and carry out ideological and political work throughout the whole process of education and teaching, so as to realize the education of people in the whole process and in all aspects. Contemporary engineering students are the main force for the modernization of the country, so they must strengthen their awareness of responsibility, mission and commitment, and realize the integration of "knowledge transfer" and "value guidance". Based on this educational concept, the course group of concrete structure principles has formulated the course ideological objectives with the nature and content of the course, and deeply explored the course ideological elements to achieve the teaching objectives in the form of cases in the teaching process.

(1) Course knowledge goal: concrete structure design the principle is a professional core course with strong integration in civil engineering. Through this course, students master the basic design principles of different force members in concrete structures, including the design and calculation of the structure, to be able to carry out force calculations and section design of each member of the basic concrete structure. After studying this course, students should have a systematic understanding of the basic contents specified, and master the basic concepts, basic principles and basic methods.

(2) Emotional and political objectives: This course is designed through the "course political thinking = knowledge points + social hot spots + sublimation points" mode of integration of the course political thinking, with the professional knowledge of concrete structure design as the carrier, based on vivid cases, the knowledge points required by the curriculum standards and engineering cases, social hot spots and sublimation to socialist core values. Through the integration and mapping of related contents in the course, students can master the basic professional knowledge and have a profound theoretical understanding of the four self-confidence, craftsmanship, Chinese power and love for work, improve their professional ethical awareness, cultivate their serious and rigorous working attitude, and help them establish a love for work. It also helps students to establish the values of love for work and dedication, and motivates them to be practical and study hard, so as to pave the way for national rejuvenation and build bridges for the construction of the motherland. In this way, we can realize the integration of "knowledge transfer" and "value guidance" and achieve the ultimate goal of teaching and educating people.

3. Design of Civic Education for Professional Courses

In-depth excavation and refinement of the cultural information and value embodied in the course, the use of a variety of teaching methods to integrate political education with professional education, in order to achieve a better effect of the course political thinking, to achieve the organic unity of "knowledge transfer" and "value leadership". Only to find the right entry point for the course of thought politics, so that the concrete structure design course and thought politics natural integration, to achieve the moist and silent, subtle internalization of thought politics education in the heart, so that the students can go into society in the future to do externalization in the form, to achieve the real purpose of teaching and educating people. Concrete structure design principles course knowledge and Civic elements can be integrated from the following perspectives.

(1) Take the idea of ancient architecture design as the integration point. Take the design ideas of ancient architecture as the integration point to strengthen students' cultural confidence. Chinese ancient architecture is the display of Chinese traditional culture and the spiritual gene of socialist culture with Chinese characteristics. Through the carrier of ancient architecture, students' patriotic feelings are stimulated and their national and cultural self-confidence is strengthened. Students are guided to understand how the Chinese sons and daughters overcame difficulties, pioneered and created miracles in the ancient times when there was no higher mathematics and university physics, no steel and concrete, and use such deeds to inspire students' patriotism and strengthen their national and cultural self-confidence.

(2) Use the stories of typical characters as the integration point. Take the stories of typical characters as the integration point to cultivate students' craftsmanship. Luban is a famous craftsman in China's traditional culture and the originator of the civil engineering industry. The spirit of Luban represents the spirit of painstaking research, excellence, aggressiveness and innovation. The spirit of Luban is not only a demonstration of China's excellent traditional culture, but also a concrete expression of the socialist value system. In the course of the course, through the interspersed introduction of the story of learning the art of Luban, the general knowledge of the Luban Award for construction projects and the spirit of Luban and craftsmanship, students' professional knowledge is broadened and their understanding of the spirit of Luban is deepened, so that they can always adhere to the spirit of Luban and craftsmanship in their own workplace and hold up the "Chinese dream" of the construction industry with our concrete actions as civil engineers. The students will deepen their understanding of the spirit of Luban and the spirit of craftsmanship in their workplace, so that they can hold up the "Chinese dream" of the construction industry with our concrete actions as civil engineers.

(3) Integrate typical cases of Chinese super projects as a point. In the introduction of typical engineering applications to highlight China's socialist construction achievements, reform and opening up over 30 years, China has built the world's largest highway network from scratch, erected many of the world's most technically difficult bridges, built the world's longest high-speed railroad mileage, built the world's longest cross-sea bridge both the world's longest immersed submarine tunnel - Hong Kong-Zhuhai-Macao Bridge, and the Shanghai Center Tower, the dream of Shanghai, which is the first time that Chinese have built a building over 600 meters and is the tallest green super skyscraper in the world. Through the analysis of cases and data, students will understand the responsibility and mission of a civil engineering career, cultivate a serious and rigorous working attitude, raise their awareness of professional ethics, and help them establish the value of love and respect for their work.

(4) Post-disaster reconstruction as a point of integration. By taking post-disaster reconstruction as the integration point, the knowledge points related to the destructive effects of various disasters are combined with the destruction of the Wenchuan earthquake, Jiuzhaigou earthquake and Yushu earthquake to illustrate the forms of destruction of frame structural members and the problems to be paid attention to in design, and by analyzing the super projects and refining the value embodied in them, the construction deeds of Chinese super projects are transformed into an effective teaching carrier of Chinese power and Chinese spirit. Through photos and videos, we can show students the new style of China's speed. As an important force in the construction of socialism, university students must unswervingly adhere to and develop the road of socialism with

Chinese characteristics, and constantly discover, create and advance in practice.

(5) Integrate dialectical materialism theory as a point. Introduce dialectical materialism theory of thought in learning, for example: concrete with high compressive strength and poor tensile strength, how to solve the tensile problem in the structure becomes the main contradiction. Method one, the organic combination of steel and concrete, gave birth to reinforced concrete structures; method two, the application of pre-pressure to the tensile zone, gave birth to prestressed concrete structures. The thinking element is incorporated: applying materialistic dialectics, concrete analysis of specific problems and solving the main contradiction. The characteristics of prestressed concrete structures. Thinking political elements into: when the span is large gradually increase, the crack and deflection control of reinforced concrete structure becomes more and more difficult, and finally it cannot be used to cope at all, to use prestressed concrete to solve the problem, this is a typical example of quantitative to qualitative change. The conversion from quantitative to qualitative change is a basic law of the contradictory movement of things revealed by the material dialectic.

4. Teaching Methods and Teaching Means

(1) Case study teaching. The civil engineering profession has strong engineering practice characteristics, and applied undergraduate training also emphasizes the emphasis on practice, so the concrete structure design course content is also a summary of engineering practice, it comes from practice, used in practice. The main content of the course is mostly typical engineering problems and their design practice, this feature has laid the foundation of the knowledge system for the case teaching reform of this course. Through vivid cases to create the atmosphere of the engineering site, while helping students to form an independent solution to engineering problems, so that students understand the importance of working in civil engineering, cultivate students' sense of social responsibility and sense of mission, and help students to establish the value of love and dedication to work.

(2) Participatory teaching. In order to adapt to the characteristics of cultivating civil engineering talents in applied undergraduate programs and further improve the effectiveness of the course Civics, participatory teaching is adopted in the course Civics teaching process of this course. The teaching concept of participatory teaching emphasizes the joint participation of teachers and students in the teaching process so that teachers and students can participate, stimulate and promote each other between "teaching" and "learning", and give full play to teachers' "teaching" and students' "learning". "The concept emphasizes the participation of teachers and students in the teaching process. In the classroom, we encourage students to pay attention to the current affairs and social hotspots related to this course after class, and use the library and the Internet to collect and organize the political thinking elements and materials related to concrete structure design, so as to change from passive political thinking to active political thinking, and actively explore the political thinking elements with Qinghai characteristics and discover the political thinking points embedded in this course from students' perspective. We actively explore the political thinking elements of Qinghai characteristics and discover the political thinking points embedded in the course from the students' perspective. Through participatory teaching, we can effectively stimulate students' interest in learning and improve the teaching effect of the course, and achieve the goal of educating people through students' exploration and teachers' guidance.

(3) Task-driven teaching. Adopt task-driven teaching method, combine the content of concrete structure design course and the characteristics of the course of Civic Science, purposely and selectively arrange students to watch some representative and rich Civic Science documentaries such as "The Secret of the Forbidden City", "Ancient Chinese Architecture", "Hong Kong-Zhuhai-Macau Bridge", etc. after class, and ask students to complete their post-viewing feeling and harvest experience, and finally make appropriate comments and summarize. Through task-driven fully mobilized students' enthusiasm and initiative, cultivated students' ability of independent thinking and independent innovation, opened up students' professional vision, active students' engineering thinking, strengthened students' comprehensive quality, and also saved teaching time and improved the teaching effect and efficiency of the course

Civics.

5. Reflection on Teaching

5.1 Problems in Teaching Civics of Professional Courses

The main executor of the course Civics is the professional course teachers, for a long time the classes are to explain professional knowledge, and ignore the Civics theory explanation. In the background and requirements of the ideological and political work through the whole process of education and teaching, new requirements are put forward for professional teachers, and the following problems may exist in this process.

(1) Insufficient understanding of the ideology and politics of the curriculum. Because for a long time, professional teachers are accustomed to teaching professional knowledge in class, what content is basically fixed in each class, coupled with the current many professional courses themselves have serious compression of class time, the amount of class time is not enough, so there may be a lack of understanding of the development of the course thought politics.

(2) Course Civics is in form, and the classroom effect is poor. At the same time, for a long time, teachers of professional courses generally have their own research direction, usually more research on professional knowledge, but not much contact with ideological and political theory, the concept of thinking and politics is more lacking, and the relevant theory is not completely eaten, so even if called on professional courses to carry out the course thinking and politics education, more is also in the form, specifically for thinking and politics and thinking and politics. Cannot be well integrated with the political theory and professional knowledge, so the teaching process is very abrupt, students also feel very strange, resulting in the poor effect of the course thinking politics.

(3) The lack of supporting system and policy is related to the course of thinking politics. The purpose of "curriculum thinking politics" in colleges and universities is to build a large thinking politics education system in which thinking politics education and professional education "go in the same direction and collaborate to educate people", so that curriculum thinking politics will inevitably lead to the adjustment and improvement of relevant course outlines and teaching contents. At the same time, the relevant teaching system and title evaluation system have not established an effective supervision and evaluation mechanism and incentive system for the course thinking politics, more by interest or mandatory completion of the task, there is no incentive for the construction of the course big thinking politics pattern, which may cause teachers to carry out the course thinking politics work motivation is insufficient.

5.2 Improvement Methods and Strategies

(1) In response to this situation, schools need to carry out special training to raise the awareness of professional teachers about curriculum thinking politics, so that professional teachers really realize the important significance and role of curriculum thinking politics. Through training, professional teachers can understand that carrying out curriculum thinking politics can guide students' positive values and refresh students' spirit, which can promote the teaching effect of professional courses and have an important position for talent cultivation.

(2) Colleges and universities need to set up relevant departments to explain relevant ideological and political theories for professional teachers and form some cases so that professional teachers know how to integrate ideological and political theories with professional knowledge organically, and then actively build up a case bank of ideological and political theories for each major.

(3) Schools and colleges should establish a reasonable and effective supervision and evaluation mechanism and incentive system to encourage professional teachers to carry out the construction of course ideology and politics, further increase the incentives and special funds for funding the construction of ideology and politics cases, and support teachers to go out to practice to collect cases.

6. Conclusion

Through the teaching reform of the concrete structure design principles course, the objectives, support points and integration paths of the course Civics teaching are discussed. Civil engineering courses have similarities at the structural level and content level. The introductory part mostly covers the course overview, engineering applications, development history and learning methods. This part can be explored and integrated with the Civic Science elements in two dimensions:

political identity and national consciousness, character cultivation and professional ethics. The part of professional knowledge points can be explored and integrated into the Civic and Political elements of the dimensions of academic aspiration and scientific spirit by collecting research literature and classical experiments of each knowledge point. Through the above-mentioned path, we can find the teaching point between the professional courses and the Civics of the curriculum, so as to achieve the effect of educating people with no sound.

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References

Shen Pusheng. (2012). *Principles of Concrete Structure Design,* Higher Education Press.

Li Qiao. (2013). *Principles of Concrete Structure Design*, China Railway Publishing House.

Tong Yuesheng, Liang Xingwen, He Ruoquan. (2011). *Fundamental Principles of Concrete Structures,* Chongqing University Press.

People's Daily Online. (2017). Xi Jinping stressed in the national conference on ideological and political work in colleges and universities: to put ideological and political work through the whole process of education and teaching to create a new situation in the development of China's higher education. *Practice (Ideological and Theoretical Edition)*, (2), 30-31.

Han Xianzhou. (2020). On several basic questions in the construction of curriculum thinking politics - what is it, why, how to do it, and how to see it. *Beijing Education (Higher Education)*, (5), 48-50.

Ministry of Education of the People's Republic of China. Guidance outline for the construction of curriculum thinking and politics in higher education [EB/OL]. [2020-06-28].

Gao Jianhua. (2020). Exploration and practice of teaching Civics in construction colleges and universities under the dimension of engineering ethics. *Journal of Higher Education, 17*, 154-156.

Zhong Botao, Wu Haitao, Tao Canyuan, et al. A review of the current status of research on engineering ethics education based on knowledge mapping. *Higher Architectural Education, 29*(2), 122-129.