

Original Paper

Exploration on the Reform of Civic Science Teaching in the Course of “Principle of Project Quota and List Valuation”

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Abstract

Higher education should not only cultivate students' professional skills, but more importantly, pay attention to students' ideological and political education. In order to give full play to the effect of ideological and political education of professional courses, this paper takes the course “Principle of project quota and list valuation” as an example, briefly describes the course positioning and teaching objectives. This paper deeply analyzes the existing teaching problems after the integration of ideological and political goals in the curriculum, and puts forward improvements from multiple perspectives such as the optimization of ideological and political education goals, teachers' teaching skills, teaching methods, and evaluation methods of learning effects. Practice has proved that by digging deeply into ideological and political elements, reforming teaching methods, and integrating curriculum knowledge with students' post ability and quality, students can generally establish professional feelings and professional beliefs, and achieve the objectives of curriculum ideological and political teaching.

Keywords

curriculum civics, engineering costs, teaching reform

1. Introduction

At present, curriculum thinking and government has become an important part of the educational reform of major universities in China, and many schools are actively carrying out curriculum thinking and government education in various majors. Engineering cost professional course Civic Education is a necessary means to cultivate the all-round development of cost professionals, who need practitioners with rigorous, serious, persistent and innovative spiritual qualities, with good professional ethics, quality and professional skills. Permeating the artisan spirit of meticulousness and rigor in all areas of

teaching. Students in this major are required to have the professional sensitivity of “a hair’s breadth of difference” and the dedication of “doing one’s job with love” in their future positions. Cultivate students’ sense of identity, pride and mission for the costing industry, and their determination and enthusiasm to join the construction industry and devote themselves to the costing career. Since some of the knowledge points of the relevant professional courses are current and regional, students are exercised to pay attention to the development of the relevant disciplines, keep abreast of the frontier of technological development, adapt to the level of technological development throughout their lives, establish a sense of innovation and cultivate the spirit of innovation. Cost estimators may be tempted in many ways in their work, so it is important to cultivate students with the basic ethics of obeying the law, being honest and trustworthy, and consciously abiding by the national and industry norms, systems, and standards of professional ethics. Cultivate highly skilled personnel who meet the needs of social development.

“Principle of project quota and list valuation” is the core compulsory course of engineering cost major. According to the talent training mode of “task-driven, independent exploration, discussion inside and outside the classroom, process evaluation”. The typical tasks and working processes of cost management positions are taken as the background, and the main lines are motivation, cognitive conflict, social construction, self-monitoring and application transfer. Taking the 5 course experiments as the starting point, students are required to achieve the knowledge goal, ability goal and ideological and political goal through the study and experience of this course. Curriculum ideological and political practice teaching needs the participation of many disciplines, rather than the ideological and political education curriculum to complete the education function. The participation of multiple disciplines means that the ideological and political elements of the curriculum are fragmented and complicated, especially many disciplines in the field of architecture lack strong correlation with each other, which leads to the failure to make full use of resources in the ideological and political practice teaching of the cost major course, and it is difficult to form a “ideological and political force”. Therefore, there are still many problems in the actual teaching process of the ideological and political courses of the cost major, and teachers need to carry out teaching reform and innovation constantly.

2. Course Overview

In the cost management activities of engineering construction, the calculation of project cost is very tedious and complicated, and it is very easy to make mistakes and has a high difficulty factor. “Principle of Engineering Quotas and List Pricing” is a compulsory course for engineering cost and engineering management majors, which is a follow-up course for students after learning “housing construction and decoration project measurement”, and also a core course for students to generate the ability of engineering valuation. The course mainly briefly describes the principle of the quota, the classification of the quota, the preparation method of various types of quotas, the duration of the quota and the application of the price quotas, the preparation of the tender bill of quantities, tender control

price and the preparation of tender quotations, etc., is engaged in bidding, cost clerk, budget clerk and other positions necessary professional skills, but also the national cost engineer licensing exam must be tested. The course knowledge is complicated and closely linked with some of the prerequisite courses, which requires students to have certain practical skills. The relevant norms and documents are time-sensitive and regional, which requires students to pay attention to policy updates and understand the development of the industry.

Curriculum teaching objectives are divided into three aspects, namely, knowledge objectives: ability objectives and ideological and political objectives. Knowledge objective: Under the background that the competent department of industry construction will gradually cancel the issuance of valuation quotas, through studying the Principle and Practice of Construction project quotas, students can lay a good foundation for the preparation of enterprise quotas and meet the needs of business development of construction enterprises. Ability goal: Through learning “Construction Engineering Quantity Bill Valuation Standards”, 2020 “Sichuan Province Construction Engineering Quantity Bill Valuation Quota” and related supporting documents, students can independently prepare: bill of quantities, bidding control price, bidding quotation; Ideological and political goals, shaping the value orientation of prudence and diligence, creating value for the society, developing a rigorous and meticulous attitude, and laying the groundwork for entering the society and the industry in the future.

3. Problems of Teaching Curriculum Civics

Civic education is indispensable in the teaching of engineering costing, and the professional competence and ethics of costing personnel are important to the carrying out of construction projects. The “ideology of the curriculum” will not only optimize the existing teaching system, but also improve the ideological and moral level of the students in the program. Integrate the ideological and political education into the teaching process of engineering pricing principle and list price course, explore the ideological and political education resources in engineering costing profession, spread correct values, outlook on life and worldview, and cultivate students “craftsmanship spirit”.

The spirit of ideology and politics in the teaching of the curriculum should have a positive impact on students implicitly, from the past teaching there are still some problems. First, the lack of novel ideas and perspectives, the lack of innovation in curriculum thinking and political education, and the low degree of integration with course content. In the course of Civic Education, it is important to integrate Civic Education with the teaching mode of this major. In the course teaching, if the traditional classroom is used to instill the content of course Civics to students for course Civics education, it is difficult for students to substitute themselves into the corresponding scenarios due to their experience and the limitation of their knowledge, and the participation degree is reduced, and the teaching effect cannot be achieved.

Second, the lack of scientific integration education concept, due to the strong practical operation of this course, some teachers of professional courses pay more attention to the explanation of professional

concepts and practical operation, and lack the awareness of combining professional knowledge with ideological and political education. In the teaching ideology lack of deep excavation of the elements of Civics, Civics content is too rigid, lack of attention to the integration of course Civics and course content. The lack of teaching content makes it difficult to effectively integrate the course of “engineering quota principle and list price” with ideological and political education.

Third, the curriculum Civic Education lacks personalization and individualized consideration for different students. Each student is an individual, and different educational backgrounds and upbringing lead to differences among students. Professional course Civic Education should also consider the needs of different students, multi-dimensional analysis to develop teaching, so it is difficult to achieve the requirements by the teacher alone, can consider the inclusion of different subjects.

4. Reform Measures

The form of Civic Education in professional courses is to integrate Civic elements into the teaching of course knowledge points, so that students’ thoughts and understanding of this profession can be influenced in a subtle way. The proposal of Curriculum Civics effectively combines knowledge impartation, value shaping, and ability development. However, at present, the teaching of Civics in professional courses is difficult to integrate the three effectively due to multiple reasons. This paper proposes some reform measures, as follows:

Optimize the objectives of Civic Education by combining the characteristics of this course. The teachers should combine the characteristics of the course, refine the objectives of teaching Civics of “Engineering Quotations Principles and List Pricing”, take Xi Jinping Thought on Socialism with Chinese Characteristics in the New Era as the guide, and insist on combining knowledge transfer and value leadership. Introduce the content of the course through classic cases to introduce the content of Civics, and drive students to take the initiative to collect successful cases and materials of large-scale construction projects during the teaching process. Invite students to briefly share the inspiration brought by the case, not only to exercise students’ expression ability, inspire students to take the initiative to think, and lay the foundation for the combination of teaching objectives and Civic Education. When teaching the course “Principle of project quota and list valuation”, teachers must actively explore. For example, when explaining various types of quotas, this part can be combined with the “Sun Tzu” in the Art of War, “so soldiers are impermanent, water is impermanent, and those who can win due to changes in the enemy are called gods” to derive the changes in the cost industry over time or regions. The rules of measurement and pricing will also change accordingly. How to achieve “win because of the changes of the enemy” is to ask students to develop good learning habits, consciously build a knowledge system, and master skills, so as to flexibly use professional knowledge and skills to solve ever-changing problems. The ideological and political teaching contents of some courses are shown in Table 1.

Table 1. Part of the Course Ideological and Political Teaching Content

Teaching knowledge point	Teaching form	Ideological and political education teaching effect
The concept and classification of engineering management norm, engineering norm, preparation of engineering norm and method of making engineering norm	Students collect information to share, teachers summarize	From the development of engineering cost industry, China's engineering cost system, quota development, relevant policies and norms, we can cultivate students' love for occupation, stimulate students' love for occupation, and establish students' love for occupation
Budget quota preparation students group discussion	Students discuss in groups and teachers summarize	Cultivate students to abide by professional ethics, establish a sense of responsibility, the pursuit of excellence craftsman spirit
The calculation of the comprehensive unit price of the list	Heuristic teaching, teachers teach, students practice	Enumerate practical engineering cases and guide students to actively explore solutions and apply their knowledge
Preparation of bill of quantities	Case teaching, student practice	Guide students to combine theory with practice, study the details of drawings, be diligent in thinking, and seek truth clearly
Preparation of bid control price and bid quotation	Teachers teach and students practice	In the industry, there are industry rules to follow, in our daily life and future work, everything to speak of rules, to abide by the rules and regulations of the school in school, in society to abide by the constraints of social norms of behavior, requiring students to have normative awareness now, and gradually internalize norms into their own behavior habits.

Diversified teaching methods and contents. To promote the reform of curriculum thinking and politics, the primary concern is the ideological and political, professional knowledge and teaching ability of teachers, the awareness of the importance of curriculum thinking and politics education, and effectively improve the teaching and education skills of teachers in order to promote the reform of curriculum thinking and politics education and teaching. Therefore, teachers should actively participate in training related to ideological and political education, and course team teachers should actively discuss and

share teaching methods and cases of ideological and political elements. The school should create a good learning atmosphere, provide a platform for teachers to learn and communicate, and develop incentives to encourage and guide faculty and staff to pay attention to national events, take the initiative to study relevant policy documents, and improve their ideological awareness and thinking and political work ability.

Open up new ways and paths of learning and provide online resources. Teachers make short videos of knowledge points, and record videos explaining key chapters or important knowledge points to provide a way for students with poor foundation to learn in. Online resources are now easily accessible, but this course is time-sensitive and regional, so some online resources are not suitable for this course. If you let students learn blindly, it is likely to mislead them, so the video recorded by the teacher can accurately correspond to the knowledge points that students do not understand, improve learning efficiency, and ensure the learning handover and teaching quality. In addition, the course itself is relatively limited in knowledge, but the areas of expertise it covers are very diverse. Since it is difficult for students to understand and apply what they have learned through this course and classroom lectures alone, teachers can provide online resources that. Such as biographies, engineering construction cases, and course-related materials to supplement what is learned in the classroom, to really achieve the unity of knowledge and action, moral and intellectual, and to diversify development.

Improve methods for evaluating student learning outcomes. With the addition of the Civics element, the course objectives change, and as a result, the course assessment criteria change as well. Students are not only required to master professional knowledge and have certain professional skills, but also, more importantly, to produce certain value guidance for students to achieve a multi-faceted and comprehensive evaluation system of course teaching effectiveness. Therefore, the course team uses an evaluation of students to test the effectiveness of course thinking. The evaluation of students includes both process and level evaluation, which is reflected in the active answering of questions in class, the sharing of Civics element materials, the completion of assignments, course study tips, and the final test. Multi-faceted and coordinated education. In order for students to form good professionalism and excellent professional skills, in addition to the study of this course, it should be combined with professional skills competition and enterprise production practice. To enhance students' ability of practical operation, to test students' learning effect from multiple angles, to cultivate the ability of independent discovery and problem solving on the basis of consolidating learned knowledge and enhancing perceptual understanding, and to deeply understand the scientific frontier and development prospect of engineering costing profession.

5. Conclusion

The course of engineering pricing principles and list price is the core professional course of engineering costing, and it is very necessary to integrate the ideological and political elements of the course while teaching knowledge and skills. This paper discusses the curriculum thinking and politics

teaching reform countermeasures of the course, using the new era of political thought theory to guide students' active and comprehensive development, and achieving the goal of combining curriculum thinking and politics culture with professional knowledge education. Cultivate students with good professional conduct, love of work, rigorous and realistic, responsible and responsible engineering cost practitioners, in order to achieve the effect of course "education".

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