

Teaching Reform of Descriptive Geometry and Civil Engineering Drawing Based on Curriculum Ideology and Politics Education

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Abstract: *Implementing the course education is an effective way of fostering virtue through education. Combined with the course characteristics of descriptive geometry and civil engineering drawing, this paper analyzed the results of course education reform from condensing the goals of course ideological and political teaching, improving teachers' ideological quality, and exploring the mode of curriculum education teaching. Based on the course ideological and political education, the teaching reform expands the connotation and extension of the course teaching, plays a leading role in the ideological value of students, and has a certain reference value for the engineering courses.*

Keywords: *Course Ideological and Political Education, Descriptive Geometry and Civil Engineering Drawing, Value Guidance*

1. Introduction

In 2016, President Xi Jinping delivered an important speech at the National College Ideological and Political Work Conference, pointing out: "Classroom teaching should be well used as the main channel, courses ideological and political theory should be strengthened through improvement, and ideological and political education affinity and pertinence should be enhanced to meet the growth and development needs and expectations of students. Other courses should guard a good canal and plant a good responsibility field, thus all kinds of courses and ideological and political theory courses are in the same direction, forming a synergistic effect" [1]. From then on, how to carry out curriculum ideological and political education? The majority of front-line teachers have been used to the teaching methods for many years, and now they are required to join the curriculum ideological and political education, which is hard to start [2]: What does the curriculum ideological and political education do? How to do? We discussed with readers about the teaching objectives of ideological and political education, professional teachers' ideological and political literacy, and ideological and political teaching methods, in order to draw some inspirations.

Descriptive geometry and civil engineering drawing, a basic course of engineering major, integrates theoretical knowledge and practical operation in higher learning institutions. Engineering graphics, as a primary medium of definition, expression and transmission of architectural information, plays an important role in technology work and management work. Descriptive geometry and civil engineering drawing is called as a required engineering language [3]. Combined with our teaching practice for many years and the return visits of graduates, this course is generally characterized by more abstract theoretical content, fewer engineering cases, inactive classroom atmosphere and single teaching method [4-6]. Therefore, teaching reform of this course has been come into being in the current wave of curriculum ideological and political development in national colleges and universities.

2. Determine the Course Objectives of Course Ideological and Political Education

Descriptive geometry and civil engineering drawing, published by higher education press, consists of 19 chapters and two modules, namely descriptive geometry module and civil engineering module. Based on the teaching concept of OBE and fully embodying the student-center, knowledge objectives of this course require students to master the projection knowledge and application of point, line, surface and body, and cultivate students' spatial logic and image thinking ability of 3D bodies and related

positions. Ability objectives are to cultivate students' graphic ability of spatial geometry problems, and develop students' ability to illustrate spatial geometry problems, cultivate the preliminary ability of drawing and reading projection maps and related professional maps. While the value goals cultivate the students' professional consciousness of being serious and responsible, rigorous and realistic, dialectical materialist philosophy view and craftsman spirit of keeping improving. Table 1 shows the mined mapping point of curriculum ideology and politics education.

Table 1. Integration of ideology and politics education of the course

Chapter	Course content	Mapping of course ideology and politics education
Introduction	History of Curriculum	Present of the loyal, firm in their ideals, persistent in their beliefs, indifferent to fame and wealth, high in virtue, and conscientious in their dedication of many excellent cartographers
Projection of point line and plane	Projection law and application of point, line and plane	Real line is real, dotted line is dotted, striking comparison should be conspicuous. Train students to be rigorous and realistic craftsman spirit.
Surface and body	Intersection of the surface bodies	Reveal special things are unique and need special treatment
Axonometric projection	Classification of axonometric projections	Reveal things need to be analyzed from multiple dimensions.
Three-sided diagram of the combination	Body analysis, line and surface analysis	Enlighten to grasp the main contradiction and ignore the secondary contradiction; while dealing with the problem, need to grasp the details, details determine success or failure.
Draw a larger version	Drawing	Enlighten students to follow the law of the development of things, and train students' ability of independent learning.
Construction drawing recognition	Read the construction map	Cultivate students' professional consciousness of excellence and engineering spirit of responsibility.

3. Improve Teachers' Ideological and Political Literacy

If teacher want to do well the course ideological and political education, one should first have strong ideological and political consciousness. As an educational concept that aims to cultivate people through moral education, curriculum ideological and political education guides by socialist core values, and makes all kinds of courses and ideological and political theory courses work in the same direction, so as to realize the whole process of educating people. The course ideological and political education of descriptive geometry and civil engineering drawing is conducive to strengthening the educational orientation of civil engineering professional, promoting the ideological and political course and curriculum ideological and political course in the same direction, and realizing the overall pattern of the whole staff education, the whole process of education and all-round education. As the main course education teachers, we should obligatorily carry out the course education, artfully integrate the knowledge imparting, ability cultivation and value guidance together, and lead the value guidance elements and the connotation subtly blending in the original classroom teaching, which has very good value guidance function, and makes the course full of humanistic care.

The specific ways to improve the ideological and political literacy of professional teachers are showing as follows: firstly, constantly improve their ideological consciousness and broaden their horizons, enhance the awareness of teaching and educating people. Secondly, during the actual teaching process, before class prepare lessons carefully; explain professional knowledge and value guidance conscientiously in class; after class summary serious reflection, sum up experience and lessons. Last but not the least, enhance students' participation with blended teaching mode. Only in this way, knowledge imparting, ability cultivation and value guidance are integrated into the classroom silently to achieve the teaching goal of curriculum education imperceptibly

4. Explore the mode of Course Ideological and Political Education

There should be a proper way to do well in course ideological and political education. Based on years of practical experience, we classified curriculum ideological and political education into prepared and unprepared types [2].

4.1 Prepared type

The prepared course ideological and political education, integrating course content, mines some relevant course ideology and politics elements, and then put in the courseware. For example, when learning the introduction, we applied some typical projects, such as National stadium bird's nest, Hong Kong-Zhuhai-Macao bridge, Wuhan Huoshenshan hospital, to cultivate students' national confidence, to improve students' professional feelings, and to cultivate students' spirit of being a great country craftsman, which lay a solid foundation for learning the course knowledge in future.

The prepared course ideological and political education mode not only enriches the professional knowledge background, but also carries out the course ideological and political mode, which can be regarded as an effective course ideological and political education way.

4.2 Unprepared Type

The unprepared course ideological and political education refers to explain professional knowledge while improvising into a few sentences. At an appropriate time, maybe before class, during class or after class, teacher can talk to students about a few words of heart or off-topic. It is obvious that this is prepared, and not unprepared. We usually applied this way.

In the fall semester of 2019, when learning polyhedral cross each other, we wrote the steps to solve the problem on the blackboard and drew the drawing process with three kinds of colored chalk. Many students took photos with their mobile phones, exulting that "The drawing is so beautiful that I want to take a picture of it". We think the purpose of quietly leading the students to do serious things is naturally achieved. In the fall semester of 2020, while learning the linear surface intersection - special position line and general position plane intersect, there still have to further determine the virtual or actual line after obtaining the intersecting line, timely we talked about "life need to distinguish between the actual situation, seek truth from facts, we should be an honesty person", "as a trained student, one should have a strict truth-seeking spirit ". In the spring semester of 2021, while learning the combination of three view map recognition, we explained the methods of the body analysis and linear plane analysis, in the meantime, we inspired students to grasp the main contradictions and ignore the secondary ones when dealing with problems. Furthermore, if one wants to do things perfectly, one needs to pay attention to the details, because the details determine success or failure.

As a matter of fact, this kind of curriculum ideological and politics education based on the situation seems unintentional, but in fact intentional. Therefore, we think this kind of imperceptibly, moisten things silently course ideological and political effect is better.

5. Conclusions

Descriptive geometry and civil engineering drawing is an important professional basic course for civil engineering major. In the teaching process, we should not only pay attention to the study of theoretical knowledge, but also pay attention to the integration of ideological and political education. We adhere to the teaching concept of students as the main body, closely around the curriculum and political goals of "moral cultivation, ability improvement, value guidance", constantly improve the ideological and political quality of professional teachers, and explore the teaching method of curriculum ideological and political education. Through the way of "spring breeze, moisten things silently", it is definitely to achieve the goal of curriculum education.

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