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Original Paper

Practice and Application of Blended Teaching in the Course Construction Laws and Regulations Based on the BOPPPS + Case Teaching Mode

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Abstract

Construction Laws and Regulations is a compulsory course for the major of engineering management in Civil Engineering College. It aims to cultivate compound talents with theoretical basis and practical ability. In order to improve the teaching effect of Construction laws and regulations course, the teaching content, teaching mode and teaching method are innovated. The BOPPPS + Case teaching mode is adopted to optimize the course teaching system, reconstruct the teaching content, realize the multi-dimensional process evaluation, integrate the ideological and political elements, and combine the theoretical teaching, practical skills and ideological and political education. Strengthen the construction of online resources, use the online and offline hybrid teaching mode to carry out innovative practice, and form a multi-dimensional collaborative curriculum with the interconnection of theory and practice, the interaction between cases and the present, and the mutual increase of knowledge and ability. Through the verification of teaching practice, this model is helpful for students to understand the construction laws and regulations in a structured and systematic way, improve students' ability to solve engineering legal problems, and has a good teaching effect. It provides an innovative reference path for further optimizing and improving the construction of curriculum group to realize the "innovation, high-level and challenge degree" of courses under the background of new engineering.

Keywords

Construction laws and regulations, BOPPPS+Case, online and offline hybrid, teaching innovation

Construction Laws and Regulations is a theoretical compulsory course for engineering management major in Civil Engineering College, which is offered in the second semester of sophomore year. The training objectives mainly focus on improving students' professional quality, practical ability and comprehensive quality, so as to adapt to the increasingly complex legal environment and management needs of the construction industry. This course takes engineering practice ability as the core, attaches importance to curriculum ideology and politics, establishes the goal of cultivating applied talents, and should achieve the coordination and unification of knowledge, ability and accomplishment after learning.

1. Curriculum Innovation Background

1.1 Excessive Textbook-Based Teaching and Insufficient Practical Integration; Overemphasis on Knowledge Imparting and Inadequate Intellectual Inspiration

The Construction laws and regulations course has many legal provisions and large knowledge capacity. The teaching activities rely too much on the content of teaching materials. The teaching process emphasizes too much on knowledge indoctrination, and lacks the combination of legal knowledge and practical problems or cases. It is difficult for students to apply the knowledge they have learned to the actual situation, resulting in the castle in the air of knowledge. Students' thinking is trapped in a fixed mode. Students lack the motivation for independent learning, and their interest in learning is not high, which affects students' comprehensive quality and problem-solving ability.

1.2 Teacher-Centered Teaching and Insufficient Student Interest Stimulation; Heavy Teaching Tasks and Inadequate Teaching Design

The traditional teaching method is mainly based on lecture method, while the flipped classroom, case teaching method, heuristic teaching, role playing method, situational deduction method, project teaching method and other teaching methods are less used. In terms of teaching methods, PPT teaching is mainly used, online learning platform is less used, and Superstar system is not fully utilized.

1.3 Single Teaching Evaluation Method and Low Student Participation

The traditional assessment mode is adopted for the course of Construction laws and regulations, which mainly focuses on the evaluation of students' ability to master the basic knowledge of laws and regulations. The total score of students is composed of final exam (70%) and usual score (30%). The evaluation model is single. Under this evaluation mechanism, students obviously lack motivation to improve their comprehensive practical application ability and analyze practical cases of engineering law.

2. Teaching Innovation Method

In view of the problems of many legal provisions and boring content in the course of Construction laws and regulations, the teaching method of BOPPPS + Case is adopted to establish a horizontal knowledge point path, and the teaching content is case-based, modularized, integrated. The teaching content, reasonable arrangement of the chapter order, teacher-led, student-centered, based on the case of engineering construction laws and regulations, supported by modern information technology, a new interactive learning system, and ultimately improve classroom participation, stimulate interest, trigger thinking, cultivate students' quality and knowledge ability, so that the course teaching effectively approaches the goal of talent training.

2.1 Construction of the BOPPPS + Case Teaching Mode

According to the characteristics and teaching needs of the Construction laws and regulations course, modern teaching methods are reasonably used to develop and construct high-impact multimedia courseware. The BOPPPS + Case teaching classroom teaching mode is adopted, and the actual engineering case is taken as the core, and the teaching methods such as flipping classroom, role-playing and mock court are integrated to create an interactive classroom.

The course content is integrated into seven project tasks of two modules: "Civil Code" and "Construction Laws and Regulations". Each project task is guided by actual engineering cases and studied by independent inquiry mode. The civil code module adopts the methods of flipping the classroom, role playing, and script continuation to make the teaching of the civil code more vivid and interesting, and enhance students' understanding and application ability. While improving students' learning motivation, cultivating critical thinking and teamwork ability will help students better use the knowledge they have learned in future legal practice.

The construction of laws and regulations module takes the laws and regulations applicable to the project life cycle as the linear context, cultivates students to build a complete, clear, standardized, standardized and professional logical thinking, and guides students to use such thinking and perspective to pay attention to engineering, society and country. The use of simulated court teaching methods to guide students to solve the problem of invalid construction contracts has improved students' ability to solve practical engineering problems.

2.2 Strengthening the Construction of Online Resources and Realizing Online and Offline Hybrid Teaching

This course fully excavates the respective characteristics of learning app and Superstar Fanya learning platform, and pays attention to students' autonomous learning ability. In particular, the learning app with rich real-time interactive functions enables online classroom discussions, assignments, and project tasks to be transformed into online operations, becoming the main position of classroom teaching. In view of the key points and difficulties of this course, 30 teaching video segments were recorded for a total of 420 minutes, which were uploaded to the Superstar Fanya learning platform in the form of

micro-lesson video. Create a wealth of online micro-course resources, students can use their spare time to listen to the key content of personalized, to help students further consolidate the digestion, better improve teaching efficiency, improve teaching effectiveness, to create a comprehensive three-dimensional curriculum resources. Carry out digital test database construction, update test forms and contents every year, increase unit module test and final test, students can randomly select test questions, carry out self-test, and help students' learning timeliness feedback.

Online resources include modules such as course introduction, knowledge points, micro-courses, in-class exercises, and extracurricular expansion. Accumulate professional qualification examination questions analysis, construction project actual cases, construction project construction contract model text, construction project construction contract judicial interpretation and other content to expand the teaching content. To realize the sharing of teaching resources of Construction laws and regulations in the school, and give full play to the radiation function and leading role of the course.

2.3 Full Integration of Curriculum Ideological and Political Concepts into Teaching Practice

2.3.1 Establishing Curriculum Ideological and Political Education Objectives

According to the teaching quality standards, talent training programs and curriculum characteristics of the engineering management major, the teacher team will establish the following three aspects of the ideological and political goals of the construction law course: First, firm ideals and beliefs. Through course learning, students constantly improve their understanding of construction laws and regulations, enhance the awareness and ability of the rule of law in engineering construction practice, and further build up the ideal and belief of the rule of law to rejuvenate the country. Second, build a solid legal bottom line. Students further strengthen the legal bottom line through the application of professional knowledge of construction laws and regulations in domestic related cases and case-based teaching. Third, the curriculum integrates moral education. In addition to emphasizing professional knowledge, the course teaching also pays attention to the cultivation of students' practical ability, integrates professional ethics into the whole process of course learning, and cultivates students' excellent quality.

2.3.2 Refining Curriculum Ideological and Political Elements

Combined with the course characteristics of Construction laws and regulations and the knowledge points of different chapters, the ideological and political elements are excavated from the actual cases of engineering construction, relevant qualification examinations, social hot events, industry development and transformation. On this basis, the seven ideological and political elements of the course are further condensed, namely, rule of law awareness, values, social responsibility, rule of law thinking, professional ethics, environmental awareness and sustainable development. The teacher team actively explored and built a case base and multimedia courseware with ideological and political connotation.

2.4 Refined Process-Based Evaluation

Establish a diversified evaluation system for process-oriented and autonomous learning ability, refine the process evaluation, and integrate the evaluation of curriculum ideological and political content into each evaluation link. The evaluation of students' personal performance = 50 % of final scores + 20 % of project scores + 15 % of classroom participation + 15 % of task completion.

The final examination forms are diversified, from a single final examination to a diversified assessment method: including case analysis practice report, participation in discussion, in-class test, classroom display, role playing and other ways. Among them, the results of case analysis are evaluated by teachers, inter-group evaluation, intra-group mutual evaluation, self-evaluation and so on.

The test paper library of the network platform is used for testing, and the separation of teaching and testing is implemented. Improve the dynamic monitoring, evaluation and feedback mechanism of students' academic process, and correct the deviation in the process of "teaching" and "learning," so as to achieve the purpose of promoting teaching and learning by examination.

Through this evaluation system, it can effectively extend the classroom face-to-face tutoring and supplement the deficiencies of classroom teaching and teaching materials, fully understand and master the students' learning process and learning effect, so as to strengthen the effective monitoring of students' autonomous learning.

3. Curriculum Teaching Innovation Achievements

3.1 BOPPPS + Case Teaching Assisted By Information Technology Realizes a Virtuous Circle of Students' Learning

BOPPPS teaching mode focuses on participatory learning. Through questioning, classroom discussion, case analysis, situation simulation, group activities, role-playing and other teacher-student interaction and student-student interaction, it can effectively mobilize students' interest and enthusiasm in learning, so as to achieve effective classroom teaching. Using modern information technology to assist teaching, promote the efficiency of multimedia technology application classroom, highlight the student-centered teaching concept, the course content keeps pace with the times, and reflects the characteristics of the times. Improve students' ability of autonomous learning, and build a discipline knowledge system and literacy system for the construction of laws and regulations courses. Focus on curriculum feedback, to achieve a virtuous cycle of student learning.

3.2 The Curriculum Evaluation Model Is Multi-Dimensional and Perfect, and Students' Learning Initiative Is Improved

The comprehensive evaluation of the course is carried out by combining the process evaluation and the final evaluation, paying attention to the students' classroom performance and daily evaluation, and promoting the students' continuous attention to the construction law course. The group project, unit evaluation, etc. are included in the evaluation category, breaking the traditional narrow model that only

attaches importance to theoretical learning, making the curriculum evaluation dimension more diverse, and improving the reliability and validity of the evaluation. The process assessment uses the online platform for data collection and processing, and conducts multi-dimensional evaluation through classroom interaction, homework, chapter testing, case discussion, and group display on the daily platform. Through the platform to set up the project and weight, the platform automatic statistical data, objective and fair. Through these implementations, students' active participation and autonomous learning ability have been significantly improved. Change students' learning from passive to active, from the traditional "I have to learn" to "I want to learn" mode.

3.3 Improvement of the Comprehensive Quality of the Teacher Team

A team of construction law teachers with strong business ability and high teaching level has been built. The teacher training mode combining "please come in" and "go out" has been used to broaden the professional vision of teachers, promote the continuous development of curriculum with the times, form innovative curriculum in the new era, and construct modern curriculum under the background of information technology.

Through curriculum innovation, the construction of laws and regulations curriculum has realized the renewal of teaching mode from single teaching to diversified teaching mode, the evaluation method from single evaluation to diversified evaluation system, the students' learning motivation from achievement driven to value pursuit, the learning attitude from passive to active, and the students' achievement from static increase to dynamic growth.

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