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Construction and Practice of a Blended Teaching Mode for "Engineering Economics" Based on the "OBE+Ideological and Political Education" Concept

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Abstract: This paper explores the construction and practice of a blended teaching model for "Engineering Economics" based on the "OBE + Ideological and Political Education" concept. By analyzing the core principles of the OBE concept and its integration with ideological and political education, a new teaching model is proposed, aimed at enhancing students' understanding and application of the "Engineering Economics" course while strengthening their sense of social responsibility and value education. The article details the design principles, implementation process, and effectiveness analysis of this teaching model, emphasizing the integration of course content, innovation in teaching methods, and the penetration of ideological and political education. Finally, the paper looks ahead to the future development of this model and offers recommendations to further improve and optimize teaching practices.

Keywords: OBE concept; Ideological and Political Education; Engineering Economics; Blended Teaching Model; Teaching Innovation

Introduction

With the continuous advancement of educational reform, achieving both knowledge transfer and the enhancement of students' overall competencies in higher education has become a critical issue in university teaching reform. In this context, the Outcome-Based Education (OBE) concept, as an innovative teaching approach, is being increasingly adopted across various university courses. The OBE approach emphasizes designing and evaluating teaching activities based on student learning outcomes, focusing on the cultivation of students' abilities and practical skills. Meanwhile, under the new educational paradigm, ideological and political education has been progressively integrated into the curriculum framework, becoming an essential component in nurturing students' comprehensive development. Particularly in the teaching of engineering disciplines, how to effectively integrate the OBE concept with ideological and political education has emerged as a significant topic for in-depth exploration.

Engineering Economics is a highly practical and application-oriented course within engineering disciplines. Its primary objective is to develop students' skills in economic analysis and decision-making, laying a solid foundation for their future engagement in engineering project management and economic analysis. However, the mere transmission of professional knowledge often falls short of meeting the diverse demands of society in the new era. Therefore, exploring a blended teaching model based on the "OBE + Ideological and Political Education" concept holds substantial significance. This approach not only enhances students' professional capabilities but also embeds ideological and political education into the teaching process, contributing to the improvement of students' overall competencies, strengthening their sense of social responsibility, and fostering their innovation capabilities.

1. Integration of the OBE Concept with Ideological and Political Education

The core of the Outcome-Based Education (OBE) concept lies in designing curricula and evaluating teaching activities around students' learning outcomes. OBE emphasizes the clear definition of students' learning goals and outcomes to guide instructional activities, focusing on cultivating students' autonomous learning and practical skills beyond the classroom. The implementation of this concept facilitates the integration of theoretical knowledge and practical skills, enhancing students' ability to solve real-world problems. In the teaching of *Engineering Economics*, the application of the OBE concept not only prioritizes students' comprehension of economic principles but also emphasizes the application of this knowledge in real engineering projects and decision-making in complex engineering environments.

Ideological and political education, on the other hand, integrates socialist core values into the educational process through various teaching methods, aiming to cultivate students' sense of responsibility and social accountability. Particularly in engineering-related courses, ideo-

logical and political education extends beyond the dissemination of professional knowledge to assist students in establishing correct values, worldviews, and life perspectives. It provides theoretical guidance and value-based support for their future societal engagement and practice. Integrating ideological and political education into the teaching of *Engineering Economics* not only fosters students' professional competence but also supports them in making socially responsible decisions in the context of engineering economic decision-making.

The integration of the OBE concept with ideological and political education requires educators to clearly define students' professional competency goals while also enhancing their ideological and political quality. This integration reflects the comprehensiveness and coherence of education, offering students a multidimensional learning framework that enables them to develop a positive ideological and political consciousness alongside their professional studies.

2. Design of the Blended Teaching Model for *Engineering Economics*

Traditional teaching of *Engineering Economics* is predominantly lecture-based, characterized by a single instructional approach with low levels of student engagement, which often fails to effectively stimulate students' interest and practical capabilities. To address the evolving demands for talent cultivation in the new era, this paper proposes a blended teaching model based on the "OBE + Ideological and Political Education" concept. This model integrates traditional teaching methods with modern information technology, aiming to enhance students' autonomous learning and practical application skills through a combination of online and offline learning, while also embedding ideological and political education.

Firstly, in terms of curriculum design, guided by the principles of the OBE concept, course content should be systematically structured around student learning outcomes. By clearly defining the learning objectives and outcomes, instructors can continuously adjust their teaching strategies to ensure that every student achieves the intended learning goals by the end of the course. To this end, the course content should not only include traditional *Engineering Economics* theories but also incorporate case studies closely related to societal practices, enabling students to better understand the application of knowledge in real-world scenarios.

Secondly, regarding teaching methods, the blended teaching model emphasizes the integration of classroom instruction with online learning. In the classroom, instructors should adopt an inquiry-based teaching approach, incorporating discussions and analyses of real engineering cases. This method encourages active student participation, fostering critical thinking and teamwork skills. For extracurricular learning, online platforms should provide relevant learning resources and case studies, allowing students to engage in self-directed learning and discussions at their own pace, thereby enhancing their ability to independently learn and solve real-world problems.

Thirdly, the integration of ideological and political education is another essential component of this model. Instructors can introduce topics related to social responsibility and ethical issues during lectures to inspire students to reflect on economic decision-making within engineering projects. For instance, by addressing real-world issues such as resource waste and environmental pollution in engineering projects, instructors can guide students to consider how to achieve economic efficiency while making socially responsible decisions. This form of ideological and political education is not merely theoretical indoctrination but is achieved through the analysis of practical cases, helping students develop correct values and a strong sense of social responsibility.

3. Implementation Process of the Blended Teaching Model for *Engineering Economics*

The implementation of this blended teaching model begins with meticulous curriculum design by instructors. Teachers must thoroughly understand the principles of the OBE concept and design appropriate teaching objectives and learning outcomes based on the syllabus, the actual conditions of the students, and the demands of modern engineering education. This requires the identification of specific competencies that students are expected to acquire, including technical knowledge, analytical skills, and ethical decision-making abilities. Furthermore, instructors should incorporate value-based educational content aligned with the requirements of ideological and political education, ensuring that the curriculum fosters students' awareness of their societal responsibilities alongside professional development.

Next, the implementation of classroom teaching must emphasize active student engagement and participation. During instruction, teachers should adopt an inquiry-based teaching approach, combining traditional lectures with innovative methods such as group discussions, peer reviews, and case analyses to enhance interaction among students. This approach not only strengthens their understanding of the subject matter but also develops critical thinking and communication skills. Additionally, instructors should leverage modern information technology by providing online learning platforms, offering a variety of multimedia resources such as videos, quizzes, and interactive exercises. These tools enable students to extend their learning beyond the classroom, participate in collaborative projects, and seek clarification on complex topics, thus fostering a supportive and flexible learning environment.

Finally, the evaluation of teaching outcomes is equally critical to the success of the model. Teaching assessment guided by the OBE concept not only focuses on students' mastery of knowledge but also places greater emphasis on their skills development and holistic competence improvement. This involves a multifaceted evaluation process that considers students' performance in assignments and examinations alongside other indicators such as their problem-solving abilities, sense of social responsibility, teamwork skills, and capacity for independent learning. To achieve this, teachers can incorporate diverse assessment methods, such as reflective essays, project presentations, and peer evaluations, ensuring that students are evaluated comprehensively and fairly across all dimensions of their growth.

4. Challenges and Countermeasures in Teaching Practice

The implementation of the blended teaching model for *Engineering Economics* based on the "OBE + Ideological and Political Education" concept faces several challenges. First, the integration of teaching content is particularly complex. Combining professional knowledge of engineering economics with ideological and political education requires instructors to possess strong interdisciplinary teaching skills and keen educational insight. Second, the development and integration of teaching resources also present significant difficulties. The creation and coordination of online platforms, textbooks, instructional videos, and other teaching materials demand considerable effort and investment. Third, students exhibit diverse learning habits and abilities, making it a pressing issue to ensure that every student achieves the desired learning outcomes.

To address these challenges, instructors can continuously optimize teaching design and enhance classroom interaction to increase students' engagement and motivation. Moreover, by providing diverse learning resources and evaluation methods, educators can support students at varying proficiency levels, ensuring that all learners achieve meaningful progress within the course.

5. Conclusion

The construction and practice of the blended teaching model for *Engineering Economics* based on the "OBE + Ideological and Political Education" concept represents an innovative advancement over traditional teaching approaches. By integrating the OBE concept with ideological and political education, this model not only enhances students' professional competencies but also contributes to the improvement of their overall qualities. Although challenges arise during implementation, the adoption of well-designed curricula, innovative teaching methods, and diversified assessment strategies can significantly improve teaching effectiveness. Looking ahead, with the continuous development of educational technologies and the enrichment of teaching resources, this teaching model holds great potential for further optimization and broader application. It offers strong support for cultivating engineering professionals equipped with a sense of social responsibility and innovative capabilities.

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