Education Reform and Development, 2025, Volume 7, Issue 6
https://ojs.bbwpublisher.com/index.php/ERD
Online ISSN: 2652-5372
Print ISSN: 2652-5364

Research on the Integration of Econometrics Case Teaching and Curriculum Ideological and Political Education under the Background of New Engineering

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Abstract: This paper focuses on the integration of econometrics case teaching and curriculum ideological and political education under the background of new engineering. It systematically explores the implementation paths, teaching practices, and their impact on students' comprehensive qualities. By introducing the Outcomes-Based Education (OBE) concept, this paper proposes a student-centered, outcome-oriented teaching model. Through carefully designed teaching cases, it integrates econometrics knowledge with ideological and political elements organically, achieving the organic unity of knowledge transmission and value guidance. This provides an effective approach to cultivating high-quality economic professionals who meet the requirements of the new era.

Keywords: New engineering; Econometrics; OBE educational concept; Case teaching; Curriculum ideological and political education

Online publication: July 7, 2025

1. Introduction

With the acceleration of global economic integration and the rapid development of science and technology, higher education is facing unprecedented opportunities and challenges. The construction of new engineering, as an important direction of higher education reform in China, aims to cultivate high-quality engineering and technical talents with innovative spirit, practical ability, and a sense of patriotism. In this context, econometrics, an interdisciplinary comprehensive course that emphasizes both theory and application, is not only an important tool for cultivating students' ability to analyze and solve economic problems but also an important carrier of curriculum ideological and political education. This paper will explore how to achieve the dual goals of knowledge transmission and value guidance in the econometrics course through the integration of case teaching

and curriculum ideological and political education under the background of new engineering [1,2].

2. The background of new engineering construction and curriculum ideological and political education

2.1. The connotation and goals of new engineering construction

The construction of new engineering is an important measure of higher education reform in China. It aims to meet the needs of the new-era scientific and technological revolution and industrial transformation and cultivate high-quality engineering and technical talents with innovative spirit, practical ability, and an international perspective [3]. New engineering emphasizes the interdisciplinary integration, focuses on the cultivation of students' comprehensive qualities, and requires educators to break through the boundaries of traditional disciplines, combine cutting-edge technology with engineering practice, and provide students with a more abundant and diversified learning experience. The core goal of new engineering construction is to cultivate innovative engineering and technical talents who can adapt to future scientific and technological development and social needs. This requires students to not only have a solid professional knowledge but also possess interdisciplinary comprehensive qualities and a strong sense of social responsibility [4,5].

2.2. The fit points between econometrics and curriculum ideological and political education

Econometrics is an interdisciplinary course that integrates economics, mathematics, statistics, and computer technology. It has strong theoretical and practical characteristics, and its core is to use mathematical and statistical methods to analyze economic phenomena and predict economic variables [6]. By combining with fields such as engineering technology and data analysis, econometrics provides students with the ability to solve practical problems, helps students master data analysis and model-building skills, and cultivates compound talents who can adapt to modern scientific and technological development. Through ideological and political teaching in econometrics, students are guided to pay attention to the hot issues of national economic development, and their data-analysis ability and scientific thinking are cultivated, thus achieving the goals of the curriculum's ideological and political education. The fit points between the econometrics course and the curriculum ideological and political education are mainly reflected in the following aspects:

(1) It cultivates students' scientific spirit and innovation awareness through data analysis;

(2) It guides students to pay attention to national policies and social issues through economic model analysis;

(3) It enhances students' sense of social responsibility and patriotism through case teaching [7,8].

3. The integration of the OBE educational concept and the curriculum ideological and political education in econometrics

3.1. An overview of the OBE educational concept

The OBE (Outcomes-Based Education) educational concept is an education model oriented towards students' learning outcomes. It emphasizes a student-centered approach and focuses on the cultivation of students' abilities and the improvement of their comprehensive qualities [9,10]. The core of the OBE concept is to clarify the specific outcomes that students should achieve at the end of the course and ensure the realization of these outcomes through diverse teaching designs and evaluation methods. This educational model is highly consistent with the

goals of new engineering construction and also provides a theoretical basis for the implementation of curriculum ideological and political education in the econometrics course [11].

3.2. The implementation paths of curriculum ideological and political education in econometrics

3.2.1. The setting of teaching objectives

Under the background of new engineering, the teaching objectives of the curriculum, ideological and political education in the econometrics course should include three aspects: knowledge transfer, ability cultivation, and value guidance [12]. Specifically, the knowledge-transfer objective is to enable students to master the basic theories and methods of econometrics; the ability-cultivation objective is to improve students' data-analysis ability and practical problem-solving ability; the value-guidance objective is to cultivate students' understanding and recognition of national economic policies, and enhance their sense of social responsibility and patriotism [13].

3.2.2. The optimization of teaching content

Teaching content is an important carrier for achieving the goals of curriculum, ideological and political education. In the econometrics course, teachers should organically integrate ideological and political elements into the teaching content. For example, when explaining econometric models, teachers can combine actual cases in China's economic development to guide students to think about social responsibility and sustainable development issues in economic development. In addition, practical projects related to ideological and political education can be added, such as analyzing the effectiveness of national poverty-alleviation policies, to cultivate students' understanding and support for national policies [14].

3.2.3. The innovation of teaching methods

The traditional teaching of econometrics mainly relies on classroom lectures, and students' participation is relatively low. Under the background of new engineering, teachers should innovate teaching methods and adopt various forms such as case teaching, project-based teaching, and group discussions to stimulate students' learning interest and initiative [15]. For example, through case analysis, students are guided to master professional knowledge and be influenced by ideological and political education while solving practical problems. Through group discussions, students communicate around hot issues in econometrics and ideological and political topics, which can improve their ideological and political literacy.

3.2.4. The diversification of teaching evaluation

Teaching evaluation is an important means to test the implementation effect of curriculum ideological and political education. Under the OBE educational concept, the evaluation system of the econometrics course should be more diversified, including not only traditional examination scores but also aspects such as classroom participation, practical project reports, and case-analysis papers. This diversified evaluation method can comprehensively reflect students' learning outcomes and continuously improve learning effects and teaching quality through feedback and improvement.

4. The integration practice of econometrics case teaching and curriculum ideological and political education

4.1. The overall idea of the integration of case teaching and curriculum, ideological and political education

Under the background of new engineering, the integration of econometrics case teaching and curriculum ideological and political education should focus on the dual goals of "knowledge transfer and value guidance." Through carefully designed cases, the theoretical knowledge of econometrics is organically combined with ideological and political elements such as national policies, social responsibilities, and scientific and technological hotspots to achieve the following three teaching objectives:

(1) Knowledge and ability objectives: Through case teaching, help students master the basic theories and methods of econometrics, and improve their data-analysis ability and practical problem-solving ability.

(2) Ideological and political education objectives: By integrating ideological and political elements, cultivate students' understanding and support for national policies, and enhance their sense of social responsibility, patriotism, and scientific spirit.

(3) Comprehensive quality objectives: Through diversified teaching methods, cultivate students' innovative awareness, teamwork ability, and practical ability, and improve their comprehensive qualities.

4.2. The specific paths of the integration of case teaching and curriculum, ideological and political education

4.2.1. Case selection and design

Cases are the core of case teaching, and their selection and design should follow the following principles:

(1) Timeliness and reality: Select cases closely related to current economic development, national policies, and scientific and technological hotspots, such as the digital economy, green finance, and artificial intelligence.

(2) Integration of ideological and political elements: In case design, clarify the objectives and entry points of ideological and political education to ensure that cases can not only teach professional knowledge but also guide students to think about social responsibilities and values.

(3) Diversity and hierarchy: Cases should cover different fields and difficulty levels to meet the learning needs of students at different levels.

4.2.2. The innovation of teaching methods

Combined with traditional teaching methods, to improve teaching effectiveness, teachers should innovate teaching methods and can adopt the following forms:

(1) Group discussions: Organize students to discuss around cases to cultivate teamwork ability and critical thinking.

(2) Role playing: By simulating different roles in economic activities, let students understand economic phenomena and the impact of policies in practice.

(3) Field research and practice: Organize students to conduct field research in combination with cases to enhance practical ability and the ability to solve practical problems.

(4) Expert lectures: For the analysis of practical cases, relevant industry experts can be invited to give professional lectures, so that students can better complete the analysis of practical cases when they have a deeper understanding of the development of related industries and policy backgrounds.

4.2.3. The diversification of evaluation methods

To comprehensively evaluate students' learning outcomes, diversified evaluation methods should be adopted, including:

(1) Classroom performance and participation: Evaluate students' performance in case discussions and encourage active participation.

(2) Case-analysis reports: Check students' mastery of knowledge and understanding of ideological and political elements by writing case-analysis reports.

(3) Practical projects and result presentations: Evaluate students' practical ability and comprehensive qualities through practical projects and result presentations.

5. Conclusions

Under the background of new engineering, the integration of econometrics case teaching and curriculum ideological and political education is an important direction of the reform of the econometrics course. By clarifying teaching objectives, optimizing teaching content, innovating teaching methods, and diversifying teaching evaluation, the organic unity of knowledge transfer and value guidance can be achieved, and students' sense of social responsibility and patriotism can be cultivated. The research of this paper provides useful theoretical and practical guidance for the implementation of curriculum ideological and political education in the econometrics course, and also provides new ideas and methods for the reform of curriculum ideological and political education and the construction of new engineering. Future research can further explore how to improve the teaching effectiveness of curriculum ideological and political education through diversified teaching methods and evaluation systems. At the same time, combined with national education policies and cutting-edge scientific and technological hotspots, such as artificial intelligence and big data, the content of case teaching can be further enriched, and its application in curriculum ideological and political education can be explored. In addition, through interdisciplinary cooperation, the scope of implementation of curriculum ideological and political education can be expanded, providing more comprehensive references for higher education reform and new engineering construction.

In the future, with the continuous update of educational concepts and the continuous innovation of teaching technologies, curriculum ideological and political education in the econometrics course will play a greater role in cultivating high-quality economic professionals who meet the requirements of the new era.

Funding

University-level Teaching and Research Reform Project of Xinjiang Agricultural University, "Construction of Case Database for the Course of Econometric Analysis Based on EViews Software" (Project No.: 2023SJKF32)

Disclosure statement

The authors declare no conflict of interest.

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