

Research on Curriculum Reform of Engineering Cost Major under the Background of Junior College to Undergraduate Education

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Abstract: With the popularization of higher education and the development of vocational education, junior college to undergraduate (JCU) education plays an important role in the training of engineering cost professionals. However, the current curriculum system of the engineering cost major in JCU education has many problems, such as unreasonable course settings, weak practical links, and disconnection from market demand. These issues seriously affect the training quality and employment competitiveness of JCU students. This paper deeply analyzes the current situation and problems of curriculum reform of the engineering cost major under the background of JCU through methods such as questionnaire surveys, interviews, case analysis, and experimental research. It proposes a series of reform strategies and measures, including optimizing the curriculum system, innovating teaching methods, improving practical teaching links, strengthening teacher team building, and innovating evaluation systems. The research results show that these reform measures can effectively improve the professional quality and practical ability of JCU students and provide strong support for cultivating high-quality applied talents for the engineering cost industry. This study not only provides theoretical basis and practical guidance for the curriculum reform of the engineering cost major in colleges and universities but also offers references for education management departments to formulate relevant policies.

Keywords: Junior College to Undergraduate; Engineering Cost; Curriculum Reform; Teaching Methods; Practical Teaching

1. Introduction

With the continuous development of China's education sector, educational reform has become

a key measure to promote education modernization and improve education quality. Against this backdrop, junior college to undergraduate (JCU) education, as an important part of higher education, is of great significance for training high-quality professional talents. The engineering cost major, as a discipline that emphasizes both practicality and theory, faces reform demands in many aspects such as curriculum system, teaching methods, and practical teaching in JCU education.

From the national level, China has issued a series of educational reform policy documents, such as the "General Plan for the Reform of Education Evaluation in the New Era," which emphasizes improving the process evaluation methods for moral, intellectual, physical, aesthetic, and labor education, overcoming one-sided educational practices, and promoting reforms in educational methods, school-running models, management systems, and safeguard mechanisms. These policy documents provide macro guidance and directional leadership for JCU education reform, requiring us to focus on cultivating students' comprehensive qualities and innovating educational and teaching models in curriculum reform to meet the requirements of education development in the new era.

In the Guangxi region, the regional government has also actively responded to national educational reform policies and formulated the "Guangxi Education Development 14th Five-Year Plan." This plan clearly proposes to promote high-quality education development and accelerate the process of education modernization, involving several contents closely related to JCU education, such as the Higher Education Revitalization Development Plan and the Strong Teacher Benefit Teacher Plan. For example, in the Higher Education Revitalization Development Plan, it emphasizes promoting the popularization of higher education, improving the school-running conditions of

colleges and universities, promoting the construction of first-class universities and first-class disciplines, and strengthening the construction of first-class undergraduate courses. These specific measures provide policy support and practical directions for the curriculum reform of JCU education in the Guangxi region. The Guangxi Zhuang Autonomous Region also released the "Guangxi Zhuang Autonomous Region Compulsory Education Curriculum Implementation Measures (2023 Edition)," which emphasizes the need to fully implement the fundamental task of cultivating virtue in people, deepen the reform of compulsory education curriculum, and accelerate the construction of a high-quality compulsory education system. Although this document mainly targets the compulsory education stage, the educational concepts and reform directions it proposes also provide beneficial references for JCU education, especially in cultivating students' core literacy and focusing on practical education, which are highly consistent with the goals of curriculum reform in the engineering cost major.

1.1 Research Background

With the rapid development of China's economy and the continuous upgrading of industrial structures, the demand for high-quality applied talents is urgent. The engineering cost major, as an important branch of engineering management, is of great significance for ensuring the quality and economic benefits of construction projects. In recent years, with the popularization of higher education and the continuous development of vocational education, junior college to undergraduate (JCU) education, as an important educational model, has become an important way to train high-quality applied talents. However, the engineering cost major in JCU education currently faces many challenges and problems that urgently need curriculum reform.

1.2 Current Situation and Problems of Engineering Cost Major in JCU Education

Despite the strong support from national and local policies for the development of JCU education, there are still some problems in the engineering cost major in JCU education that need to be solved urgently. These problems are specifically manifested in the following aspects: Unreasonable Curriculum System: The current curriculum system of the engineering cost major in JCU education has problems such as

unreasonable course settings and the lack of courses like mathematics and English. These issues seriously affect the training quality and employment competitiveness of JCU students.

Insufficient Teacher Team Building: The current status of the teacher team in JCU education is not optimistic. Problems such as single professional background of teachers, insufficient teaching experience, and lack of examination training experience are relatively prominent, affecting the improvement of teaching quality.

Imperfect Evaluation System: The traditional evaluation system focuses on evaluating students' performance in regular exams and practical operation abilities, which is difficult to improve engineering cost students' ability to take JCU exams.

1.3 Literature Review

1. Research Status of Engineering Cost Major Curriculum Reform at Home and Abroad

In recent years, foreign countries have widely studied and explored the junior college to undergraduate (JCU) education model. For example, the UK's Top-Up course allows three-year college graduates to enter the final year of undergraduate studies to obtain a bachelor's degree, emphasizing credit recognition and curriculum connection. The US allows students to obtain a bachelor's degree through credit transfer, focusing on language ability and academic performance. Canada provides credit recognition between colleges and universities, offering students a variety of education paths. Other European countries also have similar JCU models, such as Germany, which requires students to have good language ability and relevant professional background.

These studies and practices show that foreign JCU education focuses on credit recognition, curriculum connection, language ability cultivation, and diversified education paths. China's JCU education can learn from these experiences to improve the curriculum system, optimize the credit recognition mechanism, strengthen international cooperation and exchange, provide students with more learning opportunities and choices, and improve education quality and students' international competitiveness.

2. Research Status of Engineering Cost Major Curriculum Reform in China

In recent years, China's junior college to

undergraduate (JCU) education has developed with policy support. In 2024, the Ministry of Education issued the "Notice on Doing a Good Job in the Enrollment Work of JCU Examinations in Ordinary Higher Education Institutions in 2024" (Teaching Department [2023] No. 15), requiring provinces to reasonably arrange the registration and examination time for JCU based on actual conditions and to steadily advance the JCU examination work. In addition, the Ministry of Education also emphasized the need to arrange for education examinations as early as possible to alleviate the employment pressure on college students and to cultivate well-rounded talents. In terms of enrollment scale, the national JCU enrollment scale has exceeded 800,000 people in 2023. Some provinces, such as Jiangsu and Guangdong, have piloted increasing the JCU admission ratio to more than 30%, with a focus on supporting majors in urgently needed fields such as new-generation information technology and intelligent manufacturing. In 2020, the Ministry of Education and eight other departments jointly issued the "Vocational Education Quality Improvement and Excellence Action Plan (2020-2023)," which pointed out that "the JCU enrollment plan must be moderately expanded to provide opportunities for education for some vocational college (associate degree) graduates who wish to continue their studies."

In terms of examination content and form, the Ministry of Education has proposed reforms to the content and form of JCU examinations and has expanded the enrollment scale of undergraduate institutions in the vocational education college entrance examination. In 2024, provinces such as Sichuan have introduced JCU adjustment plans, implementing unified registration, question setting, examination, marking, and admission, and have imposed restrictions on students' application conditions. In summary, China's JCU education has developed with policy support, with the enrollment scale expanding and the examination content and form optimized. This has provided more opportunities for education for associate degree students and has also promoted the integrated development of vocational education and general education.

3. Current Situation and Problems of Engineering Cost Major Curriculum Reform

Mismatch between Curriculum System and JCU Examinations

The engineering cost major curriculum in junior college does not align well with JCU exam requirements. Vocational colleges focus on practical skills, while undergraduate education emphasizes theoretical knowledge, making it hard for JCU students to connect their learning.

JCU exam subjects like English and advanced mathematics are not closely related to core engineering cost courses, forcing students to review unrelated subjects.

Undergraduate institutions expect a solid theoretical foundation and innovation abilities, which differ from the practical skill focus of vocational colleges, affecting students' adaptation and development.

Monotonous Teaching Methods

Lack of Mathematics Courses: No specialized mathematics courses lead to a weak math foundation, increasing the difficulty of preparing for JCU exams.

Overly Simplified English Teaching: Simple English content lacks comprehensive application ability training, requiring students to supplement a lot during preparation.

Insufficient Emphasis on Construction Engineering Regulations: Limited teaching content requires students to relearn legal knowledge, affecting exam results.

Insufficient CAD Theory Teaching: Focus on software operation without sufficient theory teaching, increasing preparation burden.

Lack of JCU Exam Preparation Guidance: Teachers' lack of understanding of JCU exam requirements results in ineffective preparation guidance for students.

Weak Teacher Team

Teachers' backgrounds are mostly practical, with weak theoretical teaching ability, making it hard to meet JCU exam requirements.

Insufficient understanding of JCU exam content and lack of targeted teaching experience affect teaching effectiveness and students' academic promotion success rate.

Differences in teaching objectives and curriculum systems between vocational and undergraduate institutions make it difficult for teachers to connect and adjust teaching content.

In summary, the engineering cost major curriculum reform faces problems such as mismatch with JCU exams, monotonous teaching methods, and a weak teacher team, which seriously affect the academic promotion

success rate and education quality.

4. Strategies and Measures for Engineering Cost Major Curriculum Reform

Supplementing Basic Courses: Add mathematics and English courses to meet junior college students' needs. Mathematics covers fundamental knowledge for the JCU exam, and English focuses on reading, writing, and translation skills.

Enhancing Professional Courses: Increase theoretical knowledge teaching in CAD courses and class hours for construction engineering regulations to improve students' grasp of laws and regulations.

Innovation in Teaching Methods

Adopting Diversified Teaching Methods: Use flipped classroom and online teaching platforms to improve learning efficiency and self-learning abilities.

Integrating Theory with Practice: Combine theoretical knowledge with practical skills through case analysis and practical projects.

Teacher Team Building

Conducting Teacher Training: Organize regular professional training for teachers to enhance their teaching ability and JCU exam guidance ability.

Introducing Teachers with Training Experience: Recruit industry-experienced teachers to optimize the teacher team structure.

Innovation in Evaluation System

Establishing an Evaluation Method Focused on JCU Examination: Increase the weight of JCU subjects and introduce industry expert evaluations.

Emphasizing Process Evaluation: Evaluate students' learning situation comprehensively through regular assignments, classroom performance, and practical projects.

These strategies can improve the quality of engineering cost major curriculum reform, support junior college students' education, and lay a foundation for their future development.

5. Conclusions and Recommendations

In summary, the curriculum reform of the engineering cost major in higher vocational education under the background of junior college to undergraduate (JCU) education is of great significance for improving the quality of professional talent training and enhancing students' employment competitiveness. By optimizing the curriculum system, innovating

teaching methods, strengthening teacher team building, and innovating the evaluation system, the professional quality and practical ability of associate degree students can be effectively improved. These reform measures not only provide strong support for cultivating high-quality applied talents for the engineering cost industry but also offer theoretical basis and practical guidance for the curriculum reform of engineering cost courses in colleges and universities, as well as references for education management departments to formulate relevant policies.

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