

# Exploring the Path of Innovative Talents of "Excellent Engineer" in Engineering Management Major of Financial Universities

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## Abstract

Under the background of the new industrial revolution, China's traditional engineering talent training is facing new challenges. Therefore, China has implemented the "Excellence Plan" 2.0 to continuously promote the development of engineering education under the new situation. As a traditional engineering major, the engineering management major actively connects with the "Excellence Plan" 2.0, explores the talent training path from the perspective of the major's school running goals, talent training specifications and curriculum system, realizes the upgrading and transformation of traditional majors, and cultivates outstanding engineers to adapt to the new situation. According to the requirements of the training mode of "outstanding engineers", this paper deeply studies the training program of engineering management major in financial and economic colleges, strengthens students' engineering practice ability, and cultivates students' engineering quality and innovation ability. The optimization path of innovative talent training is proposed from the aspects of talent training goal positioning, curriculum system, teaching mode.

## Keywords

Excellent Engineer; Project Management; Innovative Talents.

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## 1. Introduction

At present, the world is facing unprecedented changes in a century. Scientific and technological innovation has become a strategic support for national economic development and the promotion of comprehensive national strength. As the carrier and provider of innovation, talents play a key role in the construction of an innovative country. As the cradle of cultivating talents, colleges and universities undertake the important task of cultivating innovative talents. Under the background of new engineering, colleges and universities are actively exploring innovative talent training mode, deepening education and teaching reform, and increasing innovative talent training.

Higher education of engineering management is the main channel to cultivate innovative talents of engineering management specialty. Engineering management involves management, economics, engineering technology, information technology, law and other fields. It is a comprehensive, cross cutting and practical discipline. Comprehensive talents with both professional quality and innovative ability are the requirements for the training of engineering management professionals in colleges and universities in the new era. How to take advantage of their own advantages and seize external opportunities to cultivate innovative talents in the socialist engineering management major with Chinese characteristics in the new era who have "access to engineering technology, refined management methods, specialized information technology, strong legal awareness, and engineering

"ethics" has become the focus and difficulty of the training of innovative talents in the engineering management major.

## 2. Analysis on the Cultivation of Innovative Talents of "Excellent Engineers" in Engineering Management Major of Financial Colleges and Universities

On the basis of summing up the historical achievements of China's engineering education and learning from the successful experience of advanced countries, the training of "outstanding engineers" is guided by the needs of the industry and enterprises, the background of engineering practice, and the main line of engineering technology. Through close cooperation between universities and industry and enterprises, the development of talent training standards, the reform of talent training mode, the construction of high-level engineering education teachers, and the expansion of opening up, Efforts should be made to improve students' engineering literacy, cultivate students' engineering practice ability, engineering design ability and engineering innovation ability, and build an engineering education model with Chinese characteristics. The cultivation of innovative talents of "outstanding engineers" in the engineering management major of financial and economic colleges should focus on the cultivation of students' practical ability, innovative ability and entrepreneurial ability. With engineering technology as the main line, it should meet the requirements of the national construction engineering management talents' qualification, constantly optimize the curriculum system and teaching content, strengthen the technical background of engineering projects, attach importance to the practicality and application of projects, and focus on cultivating students' engineering awareness Engineering interest and ability.

Innovative consciousness, innovative spirit, innovative thinking and innovative ability are important characteristics of innovative talents in engineering management. Among them, innovation consciousness is the source, innovation spirit is the power, innovation thinking is the core, and innovation ability is the guarantee. The four characteristics are interrelated and complementary, which together constitute the connotation of innovative talents in engineering management. Under the background of new engineering, financial colleges and universities should give full play to their own advantages, actively seize external opportunities, strive to change internal disadvantages, actively respond to external challenges, and explore the training path of outstanding engineers in engineering management with financial characteristics.

## 3. Problems in the Cultivation of Innovative Talents of Engineering Management Major in Financial Colleges

(1) The construction of professional curriculum system is not perfect.

In terms of curriculum system setting, five categories of courses, namely, engineering technology, engineering economy, engineering management, engineering law and information technology, are the five supporting platforms for engineering management, and are also an integral part of engineering education. They should be integrated into a complete and organic system to form a scientific curriculum system. At present, there are few courses based on engineering technology in the course system arrangement of many financial and economic colleges. The practical teaching is disconnected from the theoretical teaching of the core course of engineering management, and the relevant theories have not been extended to the engineering practice teaching, which is not conducive to the cultivation of students' practical ability. How to integrate engineering technology into the curriculum system of engineering management specialty in a large scale needs further exploration.

(2) There is a shortage of engineering and technical teachers.

Limited by the characteristics of the discipline, it is difficult for financial colleges and universities to establish a research team for engineering and technology teachers, which affects the innovation enthusiasm and career development prospects of such professional teachers. The relative lack of engineering and technology teachers restricts the quality improvement of engineering management professional and technology courses.

(3) The software and hardware of engineering laboratories can not keep up with the demand.

Engineering technology courses have high requirements for laboratories, which are quite different from conventional engineering management training rooms. At present, few colleges and universities have established engineering management related training rooms alone. In order to effectively cooperate with the new engineering management professional curriculum system, it is necessary to establish practice and training sites and software equipment matching the engineering technology courses. At the same time, it is also necessary to actively connect with enterprises and cooperate to establish practice and training bases. Only in this way can we effectively exert the effect of practice and training, meet the teaching needs of engineering technology related courses, and promote students' innovation and practice ability.

#### **4. Exploring the Cultivation Path of Innovative Talents in Engineering Management Major of Financial Colleges and Universities.**

(1) Determine the training objective of "excellent engineers" innovative talents

Financial colleges and universities should give full play to their disciplinary advantages, form the characteristics of the engineering management major of financial colleges and universities from the orientation of training objectives, and cultivate innovative talents in engineering management who "pass engineering technology, refine management methods, specialize in information technology, strengthen legal awareness, and attach importance to engineering ethics". In the orientation of training objectives, it is necessary to clearly put forward to cultivate and master the basic knowledge and professional knowledge and skills of management, economics, law, engineering technology, etc. In combination with the requirements of engineering certification, engineering management professionals should have a clear sense of risk prevention, engineering ethics and integrity service, good professional ethics and a strong sense of social responsibility. To become a professional with all-round development of morality, intelligence, physique, beauty and labor of socialism with Chinese characteristics in the new era.

(2) Strengthening the construction of the curriculum system of engineering management specialty for intelligent construction

In order to meet the demand for engineering education talents in the new era, in the course system design with the training goal of "excellent engineers" in the engineering management specialty, we should appropriately add relevant innovative courses such as smart city and intelligent construction, prefabricated building principles and technology, BIM technology, data mining technology, virtual simulation software and other engineering technology courses, and timely incorporate cutting-edge information into the course training plan. Students are encouraged to actively participate in national BIM graduation design competition, Peiyuan Zhou mechanics competition, advanced drawing competition, engineering project management sand table simulation competition and other disciplines competitions at all levels to provide diversified guarantee for innovative talent training. At the same time, we will strengthen the cooperation between schools and enterprises in production, teaching and research, and enrich the construction of teaching engineering cases and data resource platforms.

(3) Exploring the Multiple Innovative Teaching Mode Based on the "Excellent Engineer" Program

According to the talent training goal of engineering management major in financial and economic colleges, improve the students' innovation ability and practical ability, and constantly improve the teaching quality and teaching effect of engineering management major courses. Give full play to various online and offline teaching modes. Under the epidemic situation, online teaching encourages students to discuss, test and answer questions online. The offline link should combine the characteristics of the engineering management professional curriculum, actively adopt the whole process project teaching method, combine theoretical teaching with practical teaching, combine skill training with discipline competition, enhance students' perceptual knowledge of engineering theory, and highlight the practicality of the engineering management professional curriculum, Stimulate students' thirst for knowledge and improve their ability to analyze and solve problems. At the same

time, we should actively implement ideological and political education in the curriculum, strengthen engineering responsibility and social mission, give full play to the advantages of economics, management, law, statistics, information management and other advantageous disciplines and the advantages of easy design of ideological and political education in the curriculum, effectively use the network teaching platform to overcome the disadvantages of few engineering and technology courses and insufficient teachers, and compare with the training goal of innovative talents in the socialist engineering management major with Chinese characteristics in the new era, Actively explore the diversified innovative teaching mode of engineering management, and explore the innovative talents training path of engineering management major in financial colleges in the new era with characteristics.

## 5. Conclusion

The world has never seen a great change in a century. It is a major practical problem faced by all countries to creatively promote the reform and development of higher engineering education. The training of outstanding engineers plays an increasingly important role in China's development from a manufacturing country to a manufacturing country. The engineering management major in financial and economic colleges must promote the cross integration of majors on the basis of the existing curriculum system, upgrade the connotation of traditional majors, and promote the construction of new engineering disciplines and the reform and innovation of engineering education, Strive to cultivate innovative and outstanding engineers and explore a new way for the reform and development of China's engineering education in the new era.

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