

Promoting Education through Competition: Exploration of the "Six in One" Teaching Model for Innovation and Entrepreneurship in Vocational Colleges

-- Based on the Perspective of College Students' Innovation and Entrepreneurship Competition

Jinsheng Qi

Changchun Technical University of Automobile, Changchun 132000, China

Abstract

Innovation and entrepreneurship have become important forces driving economic development and social progress. Strengthening innovation and entrepreneurship education not only helps to enhance students' employment competitiveness, but also provides a continuous source of talent for the construction of an innovative country, promoting industrial innovation and economic development. There is relatively little research on the teaching mode of innovation and entrepreneurship education in China, and an effective collaborative education mechanism has not been formed. This article deeply studies the collaborative mechanism and integration strategy of each element in the "six in one" teaching mode, and proposes an effective operating mechanism to provide a more systematic, comprehensive, and operable teaching mode for vocational colleges' entrepreneurship education, which has good demonstration and promotion.

Keywords

Six in one teaching mode, Operating mechanism, Multivariate evaluation system.

1. Introduction

As an important battlefield for cultivating high-quality technical and skilled talents, vocational colleges shoulder an important mission in the field of innovation and entrepreneurship education. At present, there is relatively little research on the in-depth exploration of innovation and entrepreneurship education in vocational colleges in China, and the collaborative mechanism and integration strategy between various elements in the teaching mode have not formed an effective synergy for educating students. Compared with existing research, this article takes the college student innovation and entrepreneurship competition as a unique perspective, deeply analyzes the impact of the competition on the innovation and entrepreneurship teaching mode of vocational colleges, constructs a "six in one" teaching mode, clarifies the direction and focus of teaching mode reform, deeply studies the collaborative mechanism and integration strategy of various elements in the "six in one" teaching mode, proposes specific implementation paths and guarantee measures, and provides a more systematic, comprehensive, and operable teaching mode for innovation and entrepreneurship education in vocational colleges, which has strong innovation and practical guidance significance.

2. The Connotation of The "Six in One" Teaching Mode

The "six in one" teaching model refers to the teaching team, curriculum, textbooks, competitions, research, and incubation, which are interrelated and mutually reinforcing, forming an organic whole^[1].

2.1. Team Building

The teaching team is the core element of the teaching model, and is the implementer and guide of innovation and entrepreneurship education. Establish a comprehensive performance evaluation system for full-time and part-time teachers, establish a teacher certification standard assessment and evaluation system with leading and demonstrative functions, create a team of full-time and part-time innovative teachers, introduce enterprise experts to campus, industry seminars and other forms, attract enterprise part-time teachers with rich practical experience and industry resources, integrate the latest innovative and excellent concepts and methods into teaching, provide practical case analysis, project guidance and entrepreneurial experience sharing, etc., and improve students' practical and innovative abilities.

2.2. Course Construction

Curriculum is an important carrier of innovation and entrepreneurship education, and the main way to impart knowledge and skills of innovation and entrepreneurship. Building a comprehensive innovation and entrepreneurship curriculum system aims to cultivate students' innovation awareness, entrepreneurial spirit, and basic entrepreneurial abilities, organically integrating innovation and entrepreneurship education with professional education, and cultivating students' innovation and entrepreneurship abilities in their professional fields. The practical ability project focuses on cultivating students' practical and hands-on abilities. Through entrepreneurship training, project practice, and other methods, students can accumulate experience in practice and improve their innovation and entrepreneurship abilities. By connecting with major projects of enterprises, jointly building bases through school enterprise cooperation, and closely connecting with new technologies, processes, norms, and standards in the industry, dynamically updating course resources, transforming enterprise training resources, and constructing high-quality core courses that serve "capacity development".

2.3. Teaching Materials

Textbooks are an important reflection of course content and an important basis for students' learning. The content of entrepreneurship and innovation textbooks is closely integrated with market demand and industry development trends, highlighting the practicality and pertinence of innovation and entrepreneurship education. Establish a textbook development team composed of enterprise experts, professional teachers, etc., and improve the mechanism of "school teaching+enterprise training" for jointly building and sharing teaching resources between schools and enterprises. Following the growth law of high-tech and high skilled talents, using real production projects, typical work tasks, engineering practice cases, etc. as carriers, we aim to create a new type of teaching material that adapts to "layered", "task driven", "project-based" and other forms, meeting the needs of classroom model innovation such as school enterprise dual teacher interaction. It includes rich case analysis, practical projects, and entrepreneurial guidance, guiding students to actively think and practice, and cultivating their innovative thinking and entrepreneurial abilities.

2.4. Competition Platform

Competitions are an important platform for testing students' innovation and entrepreneurship abilities, as well as an effective means to stimulate their enthusiasm for innovation and entrepreneurship. Build an innovative practice platform, improve experimental equipment and

facilities, and corresponding software and hardware conditions^[2]. Based on the platform, improve the selection and training mechanism of innovative clubs, cultivate student teams for technological innovation and application, and cultivate college students' entrepreneurial brands. Taking the world competition as a starting point, we will strengthen the in-depth communication and cooperation between the team and domestic and foreign universities, research institutions, and high-tech enterprises, continuously enhance the innovation awareness, entrepreneurial ability, and comprehensive quality of student innovation teams, strengthen students' confidence and sense of achievement, and stimulate their enthusiasm for innovation and entrepreneurship.

2.5. Scientific Research

Scientific research is an important driving force for the development of innovation and entrepreneurship education, as well as an important way to cultivate students' innovative abilities. We will carry out multi-party cooperation on common key technologies, technical standards and specifications, and technological process innovation in the industry, targeting the needs of small and medium-sized enterprises and entrepreneurial enterprises, and providing services such as scientific and technological research and development, technical services, technology transfer, technical consulting, and pilot testing^[3]. Emphasize the transformation of technical service projects into teaching projects, apply real work cases from production to the teaching of structured curriculum systems, and cultivate students' engineering practice and innovation abilities. By introducing scientific and technological innovation and professional certification standards, we aim to continuously enhance the innovation awareness of teachers and students.

2.6. Project Incubation

Incubation is an important step in transforming innovative and entrepreneurial projects into practical results, and is a critical stage in cultivating students' entrepreneurial abilities. By establishing a comprehensive entrepreneurial incubation mechanism, we provide support and services in terms of venue, funding, technology, management, and other aspects for students' innovation and entrepreneurship projects. Utilize the advantageous resources of the industrial and educational park, select domestic and international high-quality manufacturing enterprises, jointly build an integrated industrial and educational training base with win-win cooperation, and form an advanced manufacturing practice base group that integrates engineering research and innovation. By introducing investment institutions, entrepreneurial mentors, and other resources, we provide financial support and guidance services for students' innovation and entrepreneurship projects, helping them transform these projects into actual enterprises or products, and realizing the transformation and application of innovation and entrepreneurship achievements.

The six elements in the "six in one" teaching model are interrelated and mutually reinforcing. The teaching team provides professional guidance and support for courses, textbooks, competitions, scientific research, and incubation; Courses and textbooks provide students with learning resources for innovation and entrepreneurship knowledge and skills; Competitions provide a platform for students to practice and showcase, promoting the application of learned knowledge to practical situations; Research provides theoretical support and innovative motivation for innovation and entrepreneurship education, promoting the updating of teaching content and methods; Incubation transforms students' innovation and entrepreneurship projects into practical results, achieving the ultimate goal of innovation and entrepreneurship education. Only when the six elements develop in synergy and form a joint force can a complete and efficient innovation and entrepreneurship education and teaching model be constructed, cultivating high-quality talents with innovative spirit, excellent quality, practical ability, and entrepreneurial consciousness.

3. The Operating Mechanism of The "Six in One" Teaching Mode

The effective operation of the "six in one" teaching model relies on a sound organizational management mechanism, scientific teaching implementation mechanism, and timely evaluation and feedback mechanism.

3.1. Establish and Improve The Teaching Management System

Strengthen the management of innovation and entrepreneurship course teaching, formulate teaching outlines, textbook writing standards, and teaching quality evaluation standards for innovation and entrepreneurship courses, and strictly control teaching progress and quality. Based on the transformation and upgrading of traditional industries in the region, as well as the demand for professional talents from international high-end industries and industry enterprises, a series of teaching standard systems will be formed based on vocational and job standards and national education and teaching standards. A high standard vocational undergraduate talent training standard system will be constructed, and an industry recognized talent training standard system will be established.

3.2. Strengthen The Management of The Teaching Staff

Develop a plan for the construction of the teaching staff, establish a full chain mechanism for the recognition, introduction, training, and evaluation of high-level teachers, promote the two-way flow of enterprise engineering and technical personnel, high skilled talents, and college teachers, and form a long-term mechanism for the construction of teams that are mutually employed by schools and enterprises^[4]. Selecting teachers to participate in production, research and development in enterprises, promoting industry university research cooperation through scientific and technological innovation and services, and enhancing teachers' management, scientific and technological innovation, and entrepreneurial abilities. Regularly organize teachers to participate in innovation and entrepreneurship training courses, invite industry experts and successful entrepreneurs to give lectures at the school, and broaden teachers' horizons and ideas.

3.3. Implement Diversified Teaching Methods and Tools

By utilizing high-quality teaching resources and application services provided by various platforms, we will promote the "AI+vocational education" teaching reform, reshape the teaching space with digital technology, explore interactive teaching models based on generative artificial intelligence, carry out virtual entrepreneurship practice teaching, and enable students to engage in entrepreneurial practice in a virtual environment, thereby improving their practical and innovative abilities^[5]. Establish a database for student learning and growth, dynamically collect student learning data, promote the digital transformation of teaching evaluation, and establish a sound internal quality assurance system for professional groups. Based on the characteristics of innovation and entrepreneurship education and the actual needs of students, practical teaching activities such as entrepreneurial case analysis and entrepreneurial project planning will be added to deepen students' understanding and mastery of entrepreneurial knowledge through practical operations.

3.4. Establish Diversified Evaluation System

Build a "parallel double closed loop" talent cultivation diagnosis, evaluation, monitoring, and rectification system, and comprehensively evaluate the comprehensive quality of students^[6]. Invite enterprise experts to participate in the evaluation, assess the project from market prospects, business models, technical feasibility, and other aspects, and provide professional guidance and suggestions for students. The evaluation system includes process evaluation and final evaluation. Process evaluation mainly focuses on students' learning process, including

classroom performance, project practice process, etc; Summative evaluation mainly focuses on students' learning outcomes, including exam scores, project presentations, etc.

4. Conclusion

This study takes the perspective of the College Student Innovation and Entrepreneurship Competition to deeply explore the "six in one" teaching mode of entrepreneurship and innovation in vocational colleges. Through a comprehensive analysis of the current situation of entrepreneurship and innovation education in vocational colleges, it clarifies the problems existing in teaching philosophy, curriculum system, teaching staff, practical platforms, etc., as well as the positive and negative impacts of the College Student Innovation and Entrepreneurship Competition on entrepreneurship and innovation education in vocational colleges, providing a practical basis for the construction of subsequent teaching modes.

Acknowledgements

This research was funded by the 2023 Jilin Province Vocational College Innovation and Entrepreneurship Education Teaching Guidance Committee Project "Research and Practice of the 'Six in One' Teaching Model for Innovation and Entrepreneurship in Vocational Colleges from the Perspective of College Students' Innovation and Entrepreneurship Competition" (ProjectNo: CXCYZH2023036)

References

- [1] W.Liu: Research on the Comprehensive Evaluation of the Innovation Ability Training System for New Engineering Graduate Students from the Perspective of "Six in One"(Higher Architecture Education, China 2024),p.23-31.
- [2] J.R.Wang: New Exploration of Innovation and Entrepreneurship Curriculum Reform under the Background of the "Double Innovation" Competition(Knowledge Window (Teacher Version),China 2024), p.77-79.
- [3] Q.Wang, D.S.Tao: Research on the Path of Promoting Research Management Reform through Think Tank Construction in Vocational Colleges(Yunnan Science and Technology Management, China 2024),p.44-47.
- [4] K.Li: Thoughts on the Construction of Innovative and Entrepreneurial Teaching Staff in Higher Vocational Colleges under the Background of Digital Transformation (Public Relations World, China 2025),p.73-75.
- [5] J.Hu, Z.D.Wang, W.Hu, Z.J.Chen: Exploration and Practice of the General Course Construction of "Overview of Integrated Circuits"(Journal of Electrical & Electronic Education, China 2024),p.60-62.
- [6] X.L.Zhao: Research on the Construction of Diversified Evaluation Index System for Craftsman Talent Cultivation in Vocational Colleges in the Industry 4.0 Era(Chinese Educational Technology Equipment, China 2024), p.124-127.