

# Research on the “Three-Dimensional Empowerment” Path of Innovation and Entrepreneurship Capabilities of Vocational Undergraduate Students from the Perspective of Integration of Production and Education

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**Abstract:** Under the strategic background of the country vigorously promoting the high-quality development of vocational education and deepening the integration of production and education, vocational undergraduate education, as a key link connecting higher education and industrial needs, is entrusted with the mission of cultivating high-quality, innovative and entrepreneurship-oriented talents. Against this background, how to explore effective paths for cultivating college students' innovation and entrepreneurship capabilities based on the integration of production and education has become an urgent issue for teachers and vocational undergraduate institutions. While expounding the necessity of cultivating innovation and entrepreneurship capabilities of vocational undergraduate students from the perspective of integration of production and education, this paper discusses the main problems and the “three-dimensional empowerment” path, providing a reference for teachers.

**Keywords:** Integration of production and education; Vocational undergraduate education; Innovation and entrepreneurship; Three-dimensional empowerment

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## 1. Introduction

With the continuous development of China's market economy, society's demand for high-quality, innovative and entrepreneurship-oriented talents is constantly rising. As an important training base for high-quality talents in China, vocational undergraduate education should also take on the responsibility of talent cultivation, especially exploring effective paths for cultivating students' innovation and entrepreneurship capabilities based on the integration of production and education <sup>[1]</sup>. However, it can be seen that from the perspective

of integration of production and education, the innovation and entrepreneurship education in vocational undergraduate institutions still faces problems such as imperfect curriculum systems and insufficient teaching staff, which directly affect the cultivation of students' innovation and entrepreneurship capabilities and their future employment and development. In this regard, it is necessary to explore multi-dimensional innovation and reform paths while identifying the existing problems, so as to comprehensively improve students' innovation and entrepreneurship capabilities and comprehensive quality, and cultivate more high-quality talents with professional skills and innovation and entrepreneurship capabilities for society <sup>[2]</sup>.

## **2. Necessity of cultivating innovation and entrepreneurship capabilities of vocational undergraduate students from the perspective of integration of production and education**

### **2.1. Adapt to economic transformation and promote regional economic development**

At present, we have entered the digital era. The development of technologies such as big data and artificial intelligence has brought new momentum to industrial transformation and upgrading. Against this background, society's demand for innovation and entrepreneurship-oriented talents is also constantly rising <sup>[3]</sup>. The innovation and entrepreneurship education under the integration of production and education enables students of vocational undergraduate institutions to come into contact with more cutting-edge industry knowledge and master more useful practical skills during their studies, which directly improves their employment competitiveness and industry adaptability. At the same time, the cultivation of high-quality, innovation and entrepreneurship-oriented talents can also bring great vitality to social and economic construction, thereby driving the development of related industries, promoting the transformation and upgrading of related industries, and providing effective support for the development of the local economy.

### **2.2. Innovate teaching models and improve education and teaching quality**

In the past talent cultivation process of vocational undergraduate education, there was mostly a problem of "valuing theory" or "valuing skills", which led to insufficient adaptability of talent cultivation, resulting in graduates being unable to adapt to their jobs or meet relevant standards after entering the workplace <sup>[4]</sup>. Under the background of integration of production and education, strengthening the cultivation of students' innovation and entrepreneurship capabilities can also promote the reform and innovation of the entire teaching model. On the one hand, this model can introduce enterprise resources, and provide students with platforms for professional knowledge and skill learning, innovation and entrepreneurship capability improvement and development in combination with enterprise's real project cases and post work processes, which can also strengthen their industry cognition, improve their professional literacy, and lay a foundation for their subsequent employment and development; on the other hand, the development of the integration of production and education model can also promote the innovation and reform of teaching models and teaching staff in vocational undergraduate institutions, which is of great benefit to the improvement of education and teaching quality, as well as the cultivation of students' innovation and entrepreneurship capabilities and their future employment and development.

### **2.3. Inject innovation and entrepreneurship vitality and enhance enterprises' market competitiveness**

Faced with the current background of increasing quality requirements for market talent demand, the cultivation

of innovative talents has become an important goal of vocational undergraduate education<sup>[5]</sup>. The innovation and entrepreneurship education based on the integration of production and education can not only cultivate students' professional literacy but also promote the cultivation of their innovation capabilities and entrepreneurial awareness, thereby transporting more personnel with innovation and entrepreneurship awareness to enterprises, bringing advanced development momentum and vitality to enterprises, and promoting the innovation and reform of enterprises. At the same time, under the integration of the production and education model, enterprises and vocational undergraduate institutions can achieve multi-dimensional cooperation in talent cultivation, which can also help enterprises obtain more outstanding talents, promote the upgrading of enterprise technologies and standards, reduce enterprises' talent recruitment costs, and improve the adaptability of talent cultivation. Therefore, from this perspective, the innovation and entrepreneurship capability education based on the integration of production and education can transport more outstanding talents for enterprises, enhance enterprises' market competitiveness, and lay a foundation for the high-quality development of enterprises<sup>[6]</sup>.

### **3. Main problems in cultivating innovation and entrepreneurship capabilities of vocational undergraduate students from the perspective of integration of production and education**

#### **3.1. Imperfect school-enterprise collaborative education mechanism and lack of practical resources**

Under the background of integration of production and education, the cultivation of innovation and entrepreneurship capabilities of vocational undergraduate students is directly affected by the imperfect collaborative education mechanism. On the one hand, enterprises' participation in innovation and entrepreneurship education needs to be improved. For example, some enterprises are unwilling to invest sufficient financial and human resources in innovation and entrepreneurship education, nor arrange appropriate practical positions for students, which leads to the disconnection of integration of production and education in the process of talent cultivation; on the other hand, some enterprises have insufficient cognition and recognition of innovation and entrepreneurship education, believing that this education should be mainly undertaken by schools, thus lacking sufficient participation awareness<sup>[7]</sup>. In addition, under the background of integration of production and education, the imperfect mechanism of school-enterprise cooperation is also relatively obvious. The cooperation between many enterprises and schools only stays on the surface, and there is no in-depth talent cultivation cooperation, which also affects the realization of the goals of innovation and entrepreneurship and high-quality talent cultivation.

#### **3.2. Disconnection between innovation and entrepreneurship education and professional education, and fragmented content**

The advancement of innovation and entrepreneurship education needs to rely on professional education to form a new system of "integration of professional education and innovation and entrepreneurship education," so as to ensure the quality of education and talent cultivation. However, combined with the actual situation, there is a disconnection between current professional education and innovation and entrepreneurship education in vocational undergraduate institutions, and the educational content is also fragmented, which affects students' growth and development<sup>[8]</sup>. Firstly, in terms of curriculum setting, professional education and innovation and entrepreneurship education are often independent, and the integration of innovation and entrepreneurship

education into professional courses is not systematic enough, which makes the quality of innovation and entrepreneurship education unsatisfactory. Secondly, from the perspective of teaching content, the content of innovation and entrepreneurship education is fragmented, lacking professional cases and practical guidance, which leads to students being unable to learn real knowledge and skills. In addition, the teaching content is disconnected from the current market development situation and industry development trends, unable to meet the current market demand for high-quality, innovative and entrepreneurship-oriented talents, making it impossible for students to use the knowledge they have learned to solve problems after graduation.

### **3.3. Insufficient innovation capabilities of the “dual-qualified” teacher team and low guidance effectiveness**

The construction of “dual-qualified” teachers is the key to improving the quality of vocational undergraduate education under the integration of production and education. However, the innovation and entrepreneurship quality and educational capabilities of the current “dual-qualified” teacher team in vocational undergraduate institutions need to be further improved. Although many teachers have certain practical experience, they lack an in-depth understanding of new industry trends, new employment standards, and new post-work processes, which leads to their inability to use the latest innovation and entrepreneurship education concepts to educate students in practical work, affecting students’ growth and development<sup>[9]</sup>. At the same time, some teachers lack professionalism in innovation and entrepreneurship education capabilities, and the school has not carried out corresponding education and training for this situation, which also affects the effective advancement of innovation and entrepreneurship education. In addition, some teachers use single methods and models in the process of promoting innovation and entrepreneurship education, lacking the application of diverse and modern models and means, which also largely affects the high-quality advancement of innovation and entrepreneurship education under the integration of production and education.

## **4. “Three-Dimensional Empowerment” path of innovation and entrepreneurship capabilities of vocational undergraduate students from the perspective of integration of production and education**

### **4.1. Deepen school-enterprise cooperation and build a new collaborative education mechanism**

Under the background of integration of production and education, the advancement of innovation and entrepreneurship education must first consolidate school-enterprise cooperation and build a collaborative new education platform to provide support for the cultivation of students’ innovation and entrepreneurship capabilities. In this regard, vocational undergraduate institutions should strengthen consultation and cooperation with enterprises to jointly formulate training plans for high-quality, innovation, and entrepreneurship-oriented talents<sup>[10]</sup>. For example, professional teachers from the school can go deep into enterprises to understand the new standards of enterprise talent demand and new steps of post-work processes, and jointly formulate talent training plans with enterprise experts to ensure that the cultivation of students’ innovation and entrepreneurship capabilities is in the same direction as enterprise talent demand.

Secondly, in terms of curriculum design, the proportion of innovation and entrepreneurship-based courses should be increased based on real enterprise post-work<sup>[11]</sup>. For example, schools can cooperate with enterprises to jointly develop innovative project cases based on practice, guiding students to carry out professional

innovative project practice, so as to cultivate their professional and technical capabilities and innovative literacy. Furthermore, both schools and enterprises should make full use of their respective resource advantages to accelerate the construction of practical bases and provide high-quality platforms for students' professional practice and innovation, and entrepreneurship practice.

In this process, real enterprise projects can also be introduced, and school teachers and enterprise mentors can jointly provide practical education and guidance for students to promote the cultivation of their comprehensive professional capabilities and innovation and entrepreneurship capabilities. For example, manufacturing majors can cooperate with local manufacturing enterprises to jointly build training bases, allowing students to carry out mechanical manufacturing production, inspection and maintenance, and other project work in the bases, to strengthen their post-work cognition and provide effective support for the cultivation of their innovation and entrepreneurship capabilities<sup>[12]</sup>.

In addition, both schools and enterprises should accelerate the establishment of a scientific enterprise internship mentor system, such as selecting outstanding enterprise personnel to serve as vocational internship mentors, to provide professional one-on-one guidance for students, strengthen the effect of students' professional practice and innovation and entrepreneurship practice, and escort the improvement of their comprehensive quality and professional competitiveness.

#### **4.2. Promote curriculum integration and build a systematic, innovative curriculum system**

Faced with the problems of disconnection between innovation and entrepreneurship education and professional education and fragmented content in vocational colleges from the perspective of integration of production and education, vocational undergraduate institutions should further promote the integration of professional education and innovation and entrepreneurship education, strengthen the connection between professional courses and innovation and entrepreneurship education, and build a systematic curriculum system integrating professional education and innovation and entrepreneurship education.

Firstly, in terms of curriculum setting, based on their own professional conditions and market demand, actively set up interdisciplinary innovation and entrepreneurship curriculum systems to lay a foundation for the integration of professional education and innovation and entrepreneurship education<sup>[13]</sup>. For example, for management majors, interdisciplinary innovation and entrepreneurship courses such as "Innovation Management and Entrepreneurship Practice" can be offered, jointly taught by teachers from management, marketing, financial management and other majors, so as to lay a foundation for students' learning and practice of integrating professional education and innovation and entrepreneurship education and promote the improvement and development of their comprehensive quality.

Secondly, it is necessary to further promote the integration of professional education and innovation and entrepreneurship education courses. That is, in the process of professional teaching, teachers should dig deep into the innovation and entrepreneurship education elements based on the teaching content, guiding students to carry out knowledge exploration and practice in innovation and entrepreneurship while learning professional knowledge, to promote the coordinated improvement of their professional capabilities and innovation and entrepreneurship capabilities. For example, relevant enterprise innovation and entrepreneurship cases can be introduced based on professional course teaching content, guiding students to analyze and discuss the cases, and cultivating their innovative awareness and entrepreneurial thinking. For another example, in the practical link, some innovative practice projects for post-work can be designed, guiding students to carry out innovation and

entrepreneurship practice using professional knowledge, thereby promoting the cultivation and development of their comprehensive quality.

Furthermore, it is necessary to actively integrate various resources to build a resource library for integrating professional education and innovation and entrepreneurship education, providing materials for the cultivation of students' innovation and entrepreneurship capabilities<sup>[14]</sup>. For example, digital technology can be used to build an innovation and entrepreneurship education resource library, including teaching cases, teaching videos, and entrepreneurial projects, guiding students to independently select content for learning according to their own professional characteristics and interests. On this basis, students' learning situation can be tested through digital platforms, and students can be guided to interact and communicate with classmates, teachers, and enterprise personnel, thereby stimulating their learning interest, improving their learning quality, and leading the improvement and development of their innovation and entrepreneurship capabilities.

### **4.3. Strengthen teacher team construction and forge a “dual-qualified” innovation guidance team**

Teachers are the foundation of education. In the process of promoting the cultivation of students' innovation and entrepreneurship capabilities under the integration of production and education, it is necessary to do a good job in the construction of the teaching team, build a high-quality “dual-qualified” innovation guidance team, and provide more professional educational services and guidance for students<sup>[15]</sup>.

Firstly, vocational undergraduate institutions should actively provide teachers with opportunities to practice in enterprises, enabling them to learn more new industry changes, trends, and standards, master enterprises' actual needs and work processes, to improve their ability to promote innovation and entrepreneurship education, introduce more practical knowledge and cases in the education process, and ensure the effect and quality of innovation and entrepreneurship education.

Secondly, enterprise personnel can be actively introduced to serve as part-time teachers, giving play to their advantages in practical education, enabling them to form complementary advantages with professional school teachers, and jointly guiding students to participate in innovation and entrepreneurship competitions and projects, to effectively improve students' innovation and entrepreneurship capabilities.

Furthermore, teachers and enterprise personnel can be organized to form teaching and research groups on innovation and entrepreneurship education under the integration of production and education, regularly exchanging and analyzing practical problems in the cultivation of students' innovation and entrepreneurship, and exploring scientific methods and schemes to promote innovation and entrepreneurship education. In addition, schools should actively connect with relevant experts to provide training services on innovation and entrepreneurship education for teachers, so as to broaden teachers' professional horizons and improve their innovation and entrepreneurship capabilities.

Finally, schools can also encourage teachers to participate in innovation and entrepreneurship competitions by themselves or with students, and promote the improvement of teachers' innovation and entrepreneurship education capabilities and comprehensive quality through the method of “learning through competitions.”

## **5. Conclusion**

In summary, from the perspective of integration of production and education, the cultivation of students' innovation and entrepreneurship capabilities has become an important part of the talent cultivation work

of vocational undergraduate institutions. In this regard, we should deeply grasp the necessity and practical problems, and on this basis, continuously explore multi-dimensional reform and practice paths, comprehensively improve students' innovation and entrepreneurship capabilities and comprehensive quality, lay a foundation for their better employment and development, and at the same time transport more high-quality, innovation and entrepreneurship-oriented talents for society.

## Disclosure statement

The author declares no conflict of interest.

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