From Classroom to Market: Ecological Construction of Entrepreneurial Education in Vocational Undergraduate Programs from the Perspective of Industry-Education Integration

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Abstract: This study explores the construction of an entrepreneurial ecosystem in vocational undergraduate education from the perspective of industry-education integration. The paper begins by analyzing the current status and policy context of vocational higher education, emphasizing the profound impact of industry-education integration on talent cultivation models. A deeper discussion follows on core elements such as project-based teaching, faculty development, and innovation resource platforms. Specific strategies are proposed, including the synergistic construction of curriculum systems and practical teaching, as well as the bidirectional integration of faculty and industry mentors. The paper presents an implementation pathway for building an entrepreneurial ecosystem, highlighting the significant role of institutional support, collaborative educational models, and dynamic optimization mechanisms in the sustainable development of entrepreneurial education. Through these measures, vocational universities can provide students with entrepreneurship education that is more competitive in the market.

Keywords: Industry-education integration; vocational undergraduate; entrepreneurial education; ecological construction

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Introduction

Vocational undergraduate education holds a crucial position within China’s higher education system, with its primary objective being the cultivation of application-oriented talents who possess practical abilities and innovative spirit, thereby contributing to economic development. Against the backdrop of economic transformation and industrial upgrading, traditional vocational education faces immense pressure to undergo reform, especially in the field of innovation and entrepreneurship education. Industry-education integration, as an effective approach to bridging education and industry, is increasingly becoming the key solution to this challenge. This paper aims to explore the ecological construction of entrepreneurship education in vocational undergraduate programs from the perspective of industry-education integration, analyzing how elements such as curriculum systems, faculty development, and innovation platforms can optimize entrepreneurship education models. The paper also proposes concrete implementation strategies, with the goal of providing theoretical foundations and practical guidance for the educational transformation of vocational undergraduate institutions.

1 The Transformation Needs of Vocational Undergraduate Education under Industry-Education Integration

1.1 Current Status and Policy Background of Vocational Undergraduate Development

As an emerging type of higher education, vocational undergraduate education has rapidly developed in recent years under the guidance of the national strategy of "integration of vocational and academic education, industry-education integration." Since 2021, the Ministry of Education has launched pilot programs for vocational undergraduate education, continuously expanding enrollment and promoting educational reforms. Unlike traditional applied undergraduate

programs, vocational undergraduate programs emphasize a dual-drive model of "employment orientation + technical skills," aiming to construct a practice-oriented talent cultivation system. However, in reality, issues such as the disconnect between curriculum systems and job market demands, as well as imbalanced educational resources, persist. On the policy level, documents such as the "National Vocational Education Reform Implementation Plan" and the "Opinions on Promoting High-Quality Development of Modern Vocational Education" have been introduced, clarifying the development direction for vocational undergraduate education. Yet, the successful implementation of these initiatives still requires systematic institutional support and the effective realization of high-quality school-enterprise cooperation mechanisms.

1.2 The Impact of Industry-Education Integration on Talent Cultivation Models

At its core, industry-education integration aims to break down the barriers between education and industry, achieving a deep coupling of the education and industrial chains. This model has reshaped the talent cultivation logic of vocational undergraduate education, no longer relying solely on classroom teaching, but instead emphasizing practice-oriented and project-driven approaches. Through the joint construction of courses, training bases, and "dual mentor" mechanisms between schools and enterprises, students can engage with industry scenarios early on, creating a cyclical process of "learning by doing, doing by learning." At the same time, the participation of industries in the educational process drives continuous updates and iterations of course content, better aligning with market demands. Compared to traditional education pathways, the most significant transformation brought about by industry-education integration lies in its enhancement of students' professional adaptability and entrepreneurial potential, making talent output more accurate and effective. This shift is fundamentally significant for the unique development of vocational undergraduate programs.

1.3 Practical Challenges of Innovation and Entrepreneurship Education in the New Era

With the deepening of the "Double Innovation" policy and the rapid development of the digital economy, vocational undergraduate programs face unprecedented opportunities for entrepreneurial education. However, as students transition from the classroom to the market, they generally encounter shortcomings in project identification, resource integration, and business logic. On one hand, some institutions' innovation and entrepreneurship education is superficial, lacking systematic design and long-term mechanisms; on the other hand, the proportion of faculty with practical entrepreneurial experience remains relatively low, hindering the formation of a genuine entrepreneurial ecosystem. Furthermore, entrepreneurial support policies tend to be concentrated in high-level research universities, while vocational undergraduate institutions possess relatively weak resource acquisition capabilities. These practical challenges constrain the effectiveness of entrepreneurial education and call for joint efforts in institutional innovation and multi-dimensional cooperation mechanisms to create a vocational undergraduate entrepreneurial ecosystem that is both deeply practical and market-oriented.

2 Core Ecological Elements in Entrepreneurial Orientation of Vocational Undergraduate Programs

2.1 Synergistic Construction of Curriculum Systems and Practical Teaching

The construction of an entrepreneurial-oriented curriculum system hinges critically on the seamless integration of theoretical instruction and practical capabilities. On one hand, it is essential to promote the organic fusion of specialized courses with innovation and entrepreneurship curricula, establishing project-based courses that are anchored in real-world problem-solving. These should encompass mandatory components such as entrepreneurial case studies, business model design, and product prototype development. On the other hand, a robust, multi-stage practical teaching system should be reinforced, incorporating a holistic "classroom experiments — on-campus training — enterprise internships — entrepreneurial incubation" framework. By collaborating with businesses to co-develop training courses and inviting industry mentors to serve as course evaluators, the content of these courses can remain closely aligned with industry dynamics. Furthermore, the exploration of a "credit bank" system would allow students' entrepreneurial achievements, competition results, and other outcomes to be incorporated into credit management, thereby enhancing the integration of

coursework and practical achievements.

2.2 Bidirectional Integration of Faculty Teams and Enterprise Mentors

The establishment of a composite teaching team is a pivotal strategy supporting the entrepreneurial education ecosystem within vocational undergraduate programs. First, a joint cultivation mechanism for university faculty and enterprise mentors should be developed. This could involve creating "entrepreneurial mentor studios" where experienced entrepreneurs and business leaders are invited into the classroom to enrich the teaching with real-world insights, thus enhancing the market relevance of the instruction. Second, it is vital to institutionalize the process of "faculty enterprise immersion," where teachers regularly engage with enterprise practices, thereby deepening their understanding of industry trends and entrepreneurial logic. This could be facilitated by government-supported special programs that enable faculty to participate in enterprise projects, thus enhancing their ability to guide practical teaching. Additionally, a "dual-hire, dual-evaluation" mechanism should be established to enable mutual recognition of qualifications between academic faculty and enterprise mentors, as well as to share outcomes, fostering a dynamic and collaborative teaching environment.

2.3 Optimization of Innovation Resource Platforms and School-Enterprise Cooperation Mechanisms

The construction of the entrepreneurial ecosystem in vocational undergraduate programs is fundamentally dependent on the efficient integration of innovation resource platforms and stable school-enterprise cooperation mechanisms. First, an open and shared innovation and entrepreneurship resource platform should be established, consolidating resources such as incubators, venture capital institutions, and government services to create a comprehensive support chain from idea generation to project realization. Universities can leverage local industrial parks to co-create an "on-campus incubation + off-campus acceleration" support system, achieving a three-dimensional collaboration of space, funding, and policy. Second, the institutionalization of school-enterprise cooperation should be deepened, encouraging enterprises to participate deeply in curriculum design, project incubation, and the commercialization of results, thus forming a virtuous cycle of "projects entering the classroom, and outcomes entering the market." By establishing "joint entrepreneurial funds" or "co-constructed incubation project repositories," the partnership's cohesiveness and shared risk-bearing capacity can be enhanced, achieving a true win-win scenario where both schools and enterprises collaboratively cultivate entrepreneurial talent and co-build an entrepreneurial ecosystem.

3 Pathway Reconstruction from Classroom to Market and Mechanism Innovation

3.1 Aligning Project-Based Teaching with Real Entrepreneurial Environments

Project-based teaching serves as a vital pathway for bridging the classroom with the market, particularly in vocational undergraduate institutions, where it is essential to leverage enterprise needs and entrepreneurial projects to cultivate students' market-oriented thinking and innovative capabilities. Specific strategies include incorporating real-world business projects or industry pain points into the curriculum, encouraging students to engage in market research, business plan writing, product design, and other hands-on activities. Collaborations with local businesses can provide students with practical projects that ensure classroom content is closely aligned with industry trends. Through interdisciplinary team collaboration, students not only enhance their practical skills but also develop teamwork and problem-solving abilities. To maximize the practical value of these projects, schools should implement a "project mentor system," inviting industry experts to guide students and deepen their understanding of the entrepreneurial environment. This project-based teaching approach helps students grasp the complexities and challenges of entrepreneurship, thereby laying a solid foundation for their entrepreneurial journey.

3.2 Expanding the Role of Entrepreneurial Incubation Platforms in Vocational Undergraduate Institutions

Entrepreneurial incubation platforms are essential infrastructure for supporting student innovation and entrepreneurship, serving as a key link between the classroom and the market. In vocational undergraduate institutions, these platforms should evolve from mere office spaces into multifunctional entrepreneurial service systems. The strategy is

to develop the platform into a comprehensive innovation hub that integrates resources, business guidance, financial support, and policy consultation. Universities should collaborate with local governments, industry associations, and investment institutions to promote resource-sharing, providing one-stop support for entrepreneurs from the seed stage to growth. The platform should also focus on imparting practical business experience, regularly hosting entrepreneurial competitions, salons, and industry networking events to help students showcase their ideas and connect with investors. Furthermore, the platform should strengthen industry-academia-research cooperation, integrating academic achievements and accelerating market conversion, thus enhancing the platform’s market adaptability. Through diversified support, the incubation platform can serve as a bridge for students transitioning from classroom learning to market engagement, assisting them in accumulating practical experience and mitigating entrepreneurial risks.

3.3 Building a Mechanism for Result Transformation and Market Feedback Loops

The outcome transformation mechanism is a crucial element in ensuring that entrepreneurial education is effectively translated into market practice. Vocational undergraduate institutions should establish robust mechanisms for transforming innovative outcomes generated in the classroom into practical, market-ready products or services. This involves creating platforms for deep integration of industry, academia, and research, fostering collaborative research between students and enterprises. Through the co-building of laboratories and R&D centers, academic achievements can be translated into real-world applications. Simultaneously, a market feedback mechanism should be established to align enterprise demands with classroom teaching, ensuring that innovative outcomes are competitive in the market. Schools should also establish connections with local industrial parks and venture capital institutions, offering innovation funds and outcome transformation incentives to guide students in taking their innovations to market. By establishing long-term incentive mechanisms, universities not only cultivate entrepreneurial talent with a market-oriented mindset but also ensure a virtuous interaction between academia, society, and the market, thus promoting the healthy development of industry-academia-research collaborative innovation.

4 Implementation Pathways and Support Systems for Building the Entrepreneurial Ecosystem in Vocational Undergraduate Education

4.1 Improving Institutional Support and Incentive Mechanisms

The construction of an entrepreneurial ecosystem within vocational undergraduate programs requires a foundational institutional framework, with the incentive mechanism serving as the core driving force. Universities should establish dedicated innovation and entrepreneurship management bodies that oversee curriculum development, project incubation, and resource integration, thereby fostering standardized and streamlined management processes. Additionally, an evaluation system linked to entrepreneurial practices should be established, incorporating factors such as project participation and outcome quality into students' comprehensive assessments, effectively promoting a "creativity-driven learning" model. From the perspective of faculty, the performance weight of innovation and entrepreneurship guidance should be explicitly defined, with the outcomes of mentorship contributing to faculty title evaluations and annual assessments. Special reward funds should be set up to incentivize faculty involvement in deepening their engagement with entrepreneurial projects. Furthermore, the establishment of student entrepreneurial scholarships and seed funds is encouraged, stimulating students to initiate experimental projects during their academic tenure.

4.2 Promoting the Practical Advancement of a Multidimensional Collaborative Education Model

To transcend the intrinsic limitations of campus-bound instruction, vocational undergraduate entrepreneurship education must pivot toward an open, co-creative framework involving multiple stakeholders. Universities are urged to form strategic alliances—commonly conceptualized as "university-government-industry-community" (UGIC) consortia—that facilitate the co-development of resources, the co-utilization of platforms, and the co-cultivation of entrepreneurial talent. Within this framework, educational programs should promote integrative learning experiences that merge the classroom, enterprise environments, and community settings, thereby embedding students in authentic industrial and

social contexts that hone both their problem-oriented thinking and market sensitivity. Additionally, the inclusion of entrepreneurial mentors and distinguished alumni in project advisory roles and resource brokering serves to diversify experiential pathways and amplify students' access to real-world innovation networks. By instituting systemic coordination mechanisms across these entities, the pedagogical environment becomes a seamlessly interwoven landscape of learning, innovation, and societal engagement — one that enhances students' entrepreneurial competencies across the entire innovation lifecycle.

4.3 Continuous Monitoring and Dynamic Optimization of the Ecosystem

Building an entrepreneurial ecosystem is not a one-time endeavor but requires ongoing monitoring, evaluation, and optimization. Vocational undergraduate institutions should establish a comprehensive monitoring system that tracks key metrics such as curriculum quality, project outcomes, and resource utilization efficiency throughout the process. By constructing a data platform that integrates student entrepreneurial activities, mentor feedback, and market responses, a data-driven decision-making mechanism can be formed. In addition, a regular evaluation mechanism should be established, inviting both internal and external experts, as well as industry representatives, to conduct entrepreneurial ecosystem audits. This process would facilitate the identification of issues, consolidation of lessons learned, and strategic optimization. Moreover, an "ecosystem updating mechanism" should be implemented, periodically iterating course content and incubator resource allocation based on technological advancements, industry shifts, and student feedback.

5 Conclusions

The construction of an entrepreneurial ecosystem within vocational undergraduate education requires the in-depth advancement of the integration between education and industry. The various strategies proposed in this paper, such as the synergistic construction of curricula and practical teaching, the bidirectional integration of faculty teams and enterprise mentors, and the optimization of innovation resource platforms, can effectively enhance students' innovation and entrepreneurial abilities. At the same time, the establishment of sound institutional support and incentive mechanisms, the promotion of school-enterprise cooperation, and the dynamic optimization of the ecosystem will contribute to the continuous improvement of educational quality and social contributions in vocational undergraduate institutions.

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