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Government, Universities, and Businesses Working Together for the Integration of Professional Education and Innovation Entrepreneurship Education

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Abstract: The integration of innovative entrepreneurship education and professional education is a new educational concept and model. This article demonstrates the necessity and feasibility of integrated specialized entrepreneurship education, analyzes the core issues of deep integration in this context, and proposes a collaborative educational model involving the government, universities, and businesses to address the pain points of integrated specialized entrepreneurship education.

Keywords: Dual Innovation Education; Integration of Specialization and Innovation; Co-construction and Co-management; Deep Integration.

1. Introduction

Since the release of the "Opinions of the State Council on Accelerating the Development of Innovation and Entrepreneurship Education" in 2015, innovation and entrepreneurship education in China has undergone nearly a decade of vigorous development, with significant progress made in both theory and practice. The deep integration of innovation and entrepreneurship education with professional education (referred to as integrated education in the following text) is gradually being recognized and agreed upon by scholars engaged in innovation and entrepreneurship education teaching, research, and practice. However, universities face many difficulties in implementing integrated education, with some institutions, especially local colleges, exhibiting a phenomenon of "dual identity" in professional education and entrepreneurship education. In these cases, aspects such as course design, teaching content, assessment methods, and faculty composition are disconnected from innovation and entrepreneurship education, and some institutions even engage in innovation and entrepreneurship activities solely to comply with the requirements of higher authorities regarding innovation and entrepreneurship education.

2. The Importance and Feasibility of Innovative Blended Learning.

2.1. The Importance of Innovative Integrated Education Integration

First and foremost, the scientific development of innovative entrepreneurship education inevitably requires integration with expertise. This is because entrepreneurial education not only demands students to have entrepreneurial awareness and capabilities but also necessitates a strong foundation of professional knowledge and skills.

Innovation supported by professional knowledge: Innovation and entrepreneurship must be based on a solid foundation of professional knowledge. Only by mastering industry expertise and skills can individuals identify and solve problems effectively, and create products or services that are competitive in the market.

Innovation and entrepreneurship require professional skills: During the entrepreneurial process, various professional skills such as marketing, financial management, and teamwork are essential. Only by mastering these skills can entrepreneurs effectively transform innovative ideas into business success.

The importance of professional education in enhancing students' overall quality: Through professional education, students can develop logical thinking, problem-solving, and innovation abilities, which are crucial in the entrepreneurial process.

Integration of education system with market demands: Innovation and entrepreneurship education should be integrated with market demands to nurture professionals who meet industry development needs. Only by aligning with market demands can we better promote the development of innovation and entrepreneurship education.

Secondly, the reform of the talent training model in universities requires the implementation of specialized and integrated education. China's higher education has already entered a massification stage. In order to improve the quality of talent training in universities and better adapt to social development and talent needs, universities must carry out reforms in education and teaching methods, curriculum design, and evaluation systems.

In terms of curriculum design, universities can adjust the curriculum to meet actual needs, offer professional courses closely related to market demands, and provide more practical skill training.

In terms of practical abilities, it is necessary to strengthen practical teaching elements to cultivate students' practical and problem-solving skills, allowing students to learn and improve themselves through practical operations.

In terms of teaching methods and tools, utilizing new technologies such as the internet and artificial intelligence to innovate teaching methods is essential to enhance teaching effectiveness and improve students' learning experience.

Regarding education and teaching evaluation, establishing a scientific evaluation system that emphasizes the comprehensive development of students, including knowledge, skills, and ethics, is crucial to truly reflect

students' overall quality.

In terms of cultivating employability, it is important to enhance cooperation with enterprises, research institutions, and other entities to promote the transformation of teaching and research achievements, making it easier for students to find employment and adapt to job requirements.

The integration of innovative entrepreneurship education with professional education is not only beneficial for universities to strengthen their internal development and enhance students' comprehensive quality, but also a critical lever for reforming the talent training model in universities. Therefore, universities should shift from the traditional teaching concept of "emphasizing theory and neglecting practice" to one that is focused on social needs, innovating the talent training model, actively adjusting the curriculum, and effectively integrating the cultivation of innovative and practical abilities into professional education, transitioning the relationship between the two from "disconnected" to "organically integrated."

2.2. Feasibility of Innovatively Integrating Education

The integrated education aims to cultivate individuals with both professional expertise and innovative entrepreneurial awareness and capabilities, which is conducive to promoting students' comprehensive development, meeting market demands, driving the integration of technological innovation and application, promoting interdisciplinary fusion, and advancing national innovation development. Therefore, it is highly feasible and is mainly reflected in the following aspects:

Comprehensive Development: Integrated education fosters students' overall development by providing a solid foundation of professional knowledge while nurturing innovative thinking and entrepreneurial skills, enabling students to have broader development opportunities.

Market Adaptability: Talents nurtured through integrated education possess professional competence and innovative entrepreneurial skills, making them more adaptable to market demands, more competitive, and better positioned for advancement in the workplace.

Integration of Technological Innovation and Application: Integrated education encourages students to combine professional knowledge with innovation skills, making technological innovations more practically applicable and facilitating the transformation of technological achievements and industrial upgrading.

Promotion of Cross-disciplinary Integration: Integrated education facilitates cross-disciplinary integration, stimulating innovative cooperation among students in different fields, and cultivating globally competitive talents.

Driving National Innovation and Development: Professionals developed through integrated education possess both professional skills and innovation capabilities, playing a proactive role in national innovation and development. They can drive the enhancement of national scientific and technological innovation levels and promote sustainable economic and social development.

3. Issues with the Integration and Development of Colleges and Universities

In order to better analyze the problems of the integration of innovation and entrepreneurship education in universities, the research group designed a survey questionnaire focusing on the current situation of the integration of innovation and entrepreneurship education with professional education in universities. The survey was conducted from four dimensions: students, teachers, educational administrators, and employers. The questionnaire was designed based on four aspects: the cognition of the relationship between innovation and entrepreneurship education and professional education, the degree of curriculum integration, the support level of faculty resources, and the market recognition.

- Students: This section includes the acceptance of students towards the integration of innovation and entrepreneurship education, the mastery of professional knowledge and innovation and entrepreneurship abilities, feedback on educational practices, and suggestions.
- Teachers: This section includes the level of teachers' cognition of the integration of innovation and entrepreneurship education, evaluation and opinions on specific teaching plans, and views on cultivating students' comprehensive abilities.
- Educational administrators: This section includes the understanding of educational administrators on policies and systems related to the integration of innovation and entrepreneurship education, opinions and suggestions on school educational and teaching reforms, and views on educational resource allocation and support.
- Employers: This section includes the evaluation of employers on the education of students in the integration of innovation and entrepreneurship, the demand and views on employees' professional knowledge and innovation and entrepreneurship abilities, and the degree of recognition of graduates' comprehensive qualities.

The survey questionnaires were distributed online to multiple universities' faculty members, undergraduate students, and nearly 50 employers. 300 student questionnaires were distributed, with 286 valid responses received, yielding an effective response rate of 95.3%; 100 teacher questionnaires were distributed, with 92 valid responses received, resulting in an effective response rate of 92%; and 50 employer questionnaires were distributed, with 48 valid responses received, resulting in an effective response rate of 96%. Based on the results of the survey questionnaires, the following conclusions were drawn.

3.1. Low Awareness

The survey results indicate that 68.57% of students believe that there is a close relationship between innovation and entrepreneurship education and professional education. 31.43% of students think there is a relationship, but it is not significant. 2.60% of students believe there is no relationship between innovation and entrepreneurship education and professional education. Additionally, 8.90% of students still express that they are unaware of the relationship between the two. Among the surveyed students, 40.30% feel that although the school offers entrepreneurship elective courses, they are not closely integrated with professional knowledge courses and are only considered general education. This reflects that the implementation of innovation and entrepreneurship education in schools is not comprehensive enough, leading students to have a narrow understanding, particularly in terms of employment education.

3.2. Low Student Engagement

Research results show that students of the same gender and major but different grades have varying levels of entrepreneurship intentions. Regarding innovation and entrepreneurship knowledge in professional courses, 14.1% of students show strong interest, 34.4% are very enthusiastic, 42.6% have a general response, 2.6% are not interested, and 6.2% are either indifferent or unclear. Despite active promotion of the integration of innovation and entrepreneurship education with professional education, students are not actively engaged. Students are the primary audience for the integration of innovation and entrepreneurship education with professional education, and their low participation directly affects the effectiveness of this fusion.

3.3. Insufficient Curriculum Design and Content Support

Although universities offer innovation and entrepreneurship education courses, they overlook the professional needs of students at different academic levels. When professional teachers promote the integration of entrepreneurial education and professional education, the lack of practical experience leads to a rigid integration of innovation and entrepreneurship qualities into professional course knowledge modules without practical relevance, failing to meet students' needs for innovation and entrepreneurship. This hinders the effective integration of innovation and entrepreneurship education with professional education. Most universities have a disconnect between professional education and innovation and entrepreneurship education. Innovation and entrepreneurship education only appear as a few courses such as "Career Guidance," "Entrepreneurial Practice," "Undergraduate Innovation and Entrepreneurship Training," and "Entrepreneurship Management" offered close to graduation, which does not effectively cultivate students' innovation and entrepreneurship qualities. This issue is not solely related to teaching methods but is more constrained by the curriculum system.

3.4. Inadequate Faculty Support to Meet Demands

Due to the recent emergence of innovation and entrepreneurship education in China, university teachers lack both theoretical research and practical experience in this field. Most university teachers primarily focus on teaching and lack entrepreneurial experience, making it challenging to impart practical entrepreneurial experiences to students. Innovation and entrepreneurship education require teachers to integrate multiple disciplines, abilities, and technologies. Currently, most teachers responsible for innovation and entrepreneurship education come from administrative or ideological and political education backgrounds, lacking systematic professional knowledge. Whether full-time or part-time, these teachers possess strong theoretical knowledge in entrepreneurship but have limited entrepreneurial experience, lacking practical experience in enterprise operations, management, and business. The contradiction between the high comprehensive quality requirements for innovation and entrepreneurship education teachers and the weak faculty support has become a bottleneck restricting the improvement of innovation and entrepreneurship education quality.

3.5. Low Market Recognition

Employers are more concerned about graduates' performance in terms of professional knowledge, practical application abilities, innovation and entrepreneurship potential, teamwork, and communication skills, as well as their alignment with company job requirements. Employers have expressed intentions to collaborate with universities in the integration of innovation and entrepreneurship education, aiming to enhance industry-academia cooperation to improve the employability and adaptability of graduates.

4. Strategies for Collaborative Development of Integration of Innovation and Entrepreneurship Education

Based on the analysis results, the issues arising from the integration of innovation and entrepreneurship education mainly stem from talent cultivation in higher education institutions, curriculum design, and faculty concerns. To fundamentally address these issues, it is essential for the government, businesses, and universities to break their organizational boundaries and collaborate synergistically, enabling the exchange of respective advantageous resources and maximizing resource utilization.

4.1. University Leadership

As the main entities responsible for professional education, universities play a crucial role in implementing the integration of innovation and entrepreneurship education. To advance this integration in collaboration with the government and businesses, universities can consider the following measures:

- Development Planning: Universities can formulate development plans outlining the goals, key areas, and specific measures for the integration of innovation and entrepreneurship education. Through negotiations with the government and businesses, collaborative frameworks and division of tasks can be established to clarify responsibilities and tasks for all parties to drive synergy.
- Establishing Collaboration Mechanisms: Universities can establish collaboration mechanisms with the government and businesses to facilitate information sharing, resource integration, and project alignment. Special coordination bodies or working groups can be set up to coordinate cooperative relationships, drive project implementation, and ensure smooth collaboration.
- Enhancing Faculty Resources: Universities can strengthen faculty development by nurturing teachers with innovation and entrepreneurship capabilities and practical experience. Through teacher training and academic exchanges, continuous improvement of teaching standards and innovation and entrepreneurship abilities can be achieved to align educational content with market demands.
- Setting up Innovation Bases: Universities can establish innovation and entrepreneurship practice bases or incubators to provide platforms and resource support for students and businesses engaging in innovation and entrepreneurship. Involving corporate experts, investors,

and government officials in the construction and operation of these bases can facilitate resource sharing and collaborative innovation.

- Promoting Successful Cases: Universities can actively promote successful innovation and entrepreneurship cases to inspire more students and teachers to participate in the integration of innovation and entrepreneurship education. Hosting innovation and entrepreneurship competitions, seminars, and other activities to showcase outstanding projects and results can attract more attention and engagement from potential partners.

4.2. Government Support

The government can play a significant role in advancing the development of the integration of innovation and entrepreneurship education by implementing policies and providing financial support. By fostering collaboration between universities and businesses and encouraging industry-academia-research projects, the government can drive the implementation of innovation and entrepreneurship education. The government can support the development of integration of innovation and entrepreneurship education in universities through the following specific measures:

- Policy Support: The government can establish relevant policies such as tax incentives and funding support for innovation and entrepreneurship projects to encourage universities to engage in the integration of innovation and entrepreneurship education. Setting up special funds to support practical projects, innovation competitions, and other activities in universities can also be beneficial.
- Building Innovation and Entrepreneurship Ecosystem: The government can participate in creating an innovation and entrepreneurship ecosystem by promoting collaborations among universities, businesses, research institutions, and other stakeholders to facilitate resource sharing and collaborative development. Encouraging companies to participate in universities' practical teaching projects by providing internship opportunities and project support can enhance the ecosystem.
- Enhancing Teacher Training: The government can allocate funds to support universities in conducting teacher training programs to enhance teachers' teaching standards and innovation and entrepreneurship capabilities. Organizing training sessions conducted by experts can help teachers update their teaching concepts and methods to better meet the needs of the integration of innovation and entrepreneurship education.
- Strengthening Evaluation and Supervision: The government can establish specialized agencies or guiding departments to strengthen the evaluation and supervision of the integration of innovation and entrepreneurship education in universities to ensure educational quality and effectiveness. Developing relevant standards and evaluation systems to guide universities in implementing innovation and entrepreneurship education and conducting assessments to monitor educational quality can be beneficial.
- Encouraging Interdisciplinary Collaboration: The government can encourage universities to engage in interdisciplinary collaboration to promote the integration and cross-disciplinary exchange of different fields, fostering the development of innovative and entrepreneurial talents with diverse skills and comprehensive abilities. Establishing reward mechanisms to incentivize universities to undertake interdisciplinary innovation projects and teaching activities can further promote collaboration.

4.3. Corporate Participation

By participating in specialized and innovative integrated education in universities, enterprises can discover talents, promote innovation, achieve deep cooperation between industry, academia, and research, and promote industrial transformation and upgrading. The specific approach is as follows:

- Provide practical opportunities: Enterprises can collaborate with universities to provide opportunities for student internships, practical training, and project practice. Through practical activities, students can be exposed to real work environments and problems, and improve their problem-solving abilities and practical skills.
- Participate in course design: Enterprises can participate in the course design of universities, provide industry needs and practical cases, and help teachers carry out practical and market-oriented courses. Enterprises can also provide expert lecturers to share practical experience and cutting-edge industry knowledge.
- Carry out collaborative projects: Enterprises can collaborate with universities to carry out innovative research projects, technology transfer projects, industry university research cooperation projects, etc. Through project collaboration, students can be exposed to the latest technological achievements and business practices, enhancing their innovation and entrepreneurship abilities.
- Funding scholarships and competitions: Enterprises can establish scholarships, scholarships, and scholarships to encourage students to actively participate in innovation and entrepreneurship activities. Enterprises can also sponsor students to participate in innovation competitions or practical projects, providing resource support and professional guidance.
- Recruitment and training: Enterprises can participate in recruitment activities at universities, establish connections with outstanding students, and reserve future talents. Enterprises can also provide employee training and career guidance to help students better adapt to the requirements of the workplace.

5. Conclusion

The development of specialized and innovative integrated education is difficult to achieve results solely through the implementation of universities. It must be closely coordinated among the government, enterprises, and universities to better meet the needs of society and the market, cultivate talents with innovative and entrepreneurial spirit, and promote the continuous improvement and development of the talent training system. The government, universities, and enterprises should play their respective functions. As professional educational institutions, universities provide students with the cultivation of professional knowledge and skills, while also paying attention to the development of their practical and innovative abilities. The government should play its role in policy supply and resource allocation, provide public services and supervision and management, and promote the standardized development of integration of

expertise and innovation. Enterprises should fully recognize the importance of knowledge innovation for their development, actively assume educational responsibilities, and build a new corporate culture suitable for the deep integration of schools and enterprises.

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