Analysis of Issues and Countermeasures Regarding the Integration of Professional Education and Innovation and Entrepreneurship Education in Applied Undergraduate Universities

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Abstract: As the economy develops, society's demand for high-quality talent also increases. As the primary base for cultivating high-quality applied talent, applied universities need to combine professional education with innovation and entrepreneurship education to create an integrated "professional and innovative and entrepreneurship education" model, explore new ways to cultivate high-quality talent, and provide the necessary talent for social development. This paper focuses on talent development in applied undergraduate universities, combining collaboration theory and innovation ecosystem theory to analyze the necessity of integrating professional education with innovation and entrepreneurship education. The aim is to provide some ideas and methods for applied undergraduate universities to cultivate high-quality applied talent.

Keywords: Professional Education; Integration; Innovation and Entrepreneurship Education

1. Introduction

Regarding innovation, we must adhere to the principle that science and technology are the primary productive forces, talent is the primary resource, and innovation is the primary driving force. We must deeply implement the strategies of science and education for national development, talent-driven national development, and innovation-driven development, open up new fields and tracks for development, and continuously shape new momentum and advantages for development. With the rapid development of China's economy, innovation plays a crucial role in social development. To keep pace with national development, the importance of innovation and entrepreneurship education in higher education systems has become increasingly evident. On one hand, innovation and entrepreneurship education in higher education serves as a vital bridge between universities and society. On the other hand, implementing such education helps align university talent cultivation objectives with societal and market demands, ensuring that graduates possess stronger social adaptability and are better equipped to meet corporate recruitment requirements. [1] At the same time, professional education is the foundation for learning knowledge and skills. In the new educational landscape, innovation and entrepreneurship education is closely intertwined with professional education, complementing one another. From the perspective of professional education, it provides students with the necessary knowledge base to support innovation and entrepreneurship initiatives. From the perspective of innovation and entrepreneurship, such education further facilitates the implementation of educational practices, thereby expanding students' innovative thinking and enhancing their innovation and entrepreneurship capabilities.

2. Literature Review

2.1 Professional Education

In the 1970s, based on his own research and by comparing the educational systems of different countries, Ben David pointed out that professional education is education aimed at cultivating individuals to engage in a specific profession. As research progressed, Jarvis argued that professional education aims to cultivate practitioners capable of performing professional tasks. It not only equips students with professional ethical values and a profound understanding of what constitutes exemplary practice and service, but also provides them with

sufficient knowledge and skills while fostering and developing their critical thinking and awareness. [2] However, Li (2020) [3] argues that the essence of professional education is constantly expanding. In the process of China's social development, it has undergone a series of external environmental changes, such as reform and opening up, economic transformation, and institutional reform. China's higher education professional education model has also been "updated and iterated," continuing to evolve and reconstruct. China's professional education model has primarily undergone three stages: first, emulating the Soviet professional education model characterized by vocational orientation; second, a professional education model based on liberal arts education that combines vocational and academic characteristics; and third, a professional education model that integrates innovation and entrepreneurship education on the basis of both vocational and academic characteristics.

2.2 Innovation and Entrepreneurship Education

In 1991, the International Conference on Innovation and Entrepreneurship Education held in Tokyo defined innovation and entrepreneurship education as the cultivation of talent with individual thinking, innovative spirit, entrepreneurial ability, and management skills. Under the influence of economic development, innovation and entrepreneurship education has gradually been integrated into the educational reform and development of higher education institutions. Meanwhile, the connotation of innovation and entrepreneurship education has been further enriched and supplemented. Wang et al. (2022) [4] argue that innovation and entrepreneurship education, as a new educational philosophy, aims to cultivate talent with innovative spirit and entrepreneurial capabilities. Enterprises, governments, and other social organizations collaborate with schools to foster students' innovative awareness, help them develop innovative capabilities, and stimulate their entrepreneurial motivation and skills. Teng et al. (2022) [1] argue that innovation education lies in mobilizing students' subjective initiative in cognition and practice, emphasizing the development and cultivation of students' innovative awareness, personality, spirit, and skills to meet the needs of their full development and adaptation to future societal development. The cultivation of innovative awareness, spirit, thinking, personality, and creative abilities in entrepreneurship education is the ultimate goal of innovation education.

2.3 Integration of Professional Education & Innovation and Entrepreneurial Education

In 2021, the State Council issued the "Guiding Opinions on Further Supporting College Students' Innovation and Entrepreneurship," which put forward new requirements for the integration of professional education and innovation and entrepreneurship education in universities. This integration model is not only about combining professional education with innovation and entrepreneurship education, but also about forming a process of complementary advantages. Regarding research on the integration of professional and entrepreneurial education, Wu et al. (2022) [5] argue that the "integration of professional and innovation and entrepreneurial education" model aims to cultivate comprehensive applied talents by strengthening the integration of professional theoretical knowledge with practical case studies at different stages, enabling students to transition from passive knowledge acquisition and memorization to active exploration and application of innovation and entrepreneurship issues, and striving to apply learned knowledge to solve complex social problems. It can be seen that the essence of integration model is the application of knowledge to practice, making knowledge take root in practice.

Based on the research of the aforementioned scholars, this paper argues that professional education and innovation and entrepreneurial education integration is an innovative educational model aimed at cultivating applied talent, achieving efficient educational value to meet societal development needs, and effectively integrating professional education with innovation and entrepreneurship education to achieve synergistic development.

2.4 Theoretical Foundation

In exploring the integration of professional education and innovation and entrepreneurship education, it is first necessary to clarify the practical significance of implementing the integration of professional education and innovation and entrepreneurship education. As mentioned earlier, the integration of professional education and innovation and entrepreneurship

education is a complementary process in actual implementation, and this integration process requires the participation of multiple stakeholders to jointly create new value. Collaboration emphasizes the linkage and complementarity of resources among all parties, while the innovation ecosystem refers to a dynamic balanced system formed through the interaction between innovation communities and innovation environments, with value creation as the goal and collaborative innovation as the primary activity. [6] Therefore, in the process of writing this paper, we adopt collaboration theory and innovation ecosystem theory, analyze the issues in the integration of professional and innovation and entrepreneurship education from the micro, meso, and macro levels, and provide corresponding suggestions based on these issues in the subsequent sections.

3. Issues in the Integration of Professional Education and Innovation and Entrepreneurship Education

In recent years, applied undergraduate universities have also been exploring innovative education models to meet the demands of social development for talent. Although the integration of professional and innovation and entrepreneurship education has been promoted in universities with the support of relevant policies, differences among universities have inevitably led to issues in the actual implementation process. Specific analysis will be conducted from the micro, meso, and macro levels:

3.1 Lack of Integration at the Micro Level

Currently, in the process of constructing university course systems, teaching processes are critical, and the most important entities within these processes are undoubtedly teachers and students. From the teachers' perspective, the attention and effort they invest in teaching implementation directly impact the quality of course development. According to collaboration theory, coordination emphasizes the complementary advantages of multiple resources. Therefore, it is essential to highlight teachers' professionalism during implementation. However, considering the course integration education implementation process, the pace of university course implementation is relatively tight. Teachers may neglect their professional growth due to focusing on their assigned tasks. Additionally, based on current feedback from teachers regarding teaching, professional characteristics can also influence the implementation of integration models, especially when linking liberal arts disciplines with innovation and entrepreneurship education. During implementation, there may be a greater emphasis on theoretical guidance. Although diverse teaching methods under the current model are applied, the overall academic performance of students shows limited effectiveness. From the students' perspective, they have not developed a deep understanding of the professional education and innovative and entrepreneurship education integration model. Based on students' feedback on course learning, they are more concerned with outcomes than processes. Due to the differing nature of course tasks, time resources are relatively limited. Although the implementation process incorporates necessary individual reflection and group collaboration to broaden the scope of course learning, constrained by personal time allocation, students often settle for mechanically completing tasks, leaving room for improvement in the depth of knowledge integration.

3.2 Inefficient Coordination at the Meso Level

Currently, the integration of professional education and innovation and entrepreneurship education models needs to be implemented in course development. The purpose of integration is to better facilitate practical application, and course development must be grounded in practical implementation. The common approach for universities and enterprises to implement the integration of professional and innovation and entrepreneurship education models is through collaboration. From the perspective of integration, professional education should be led by subject-specific instructors, while innovation and entrepreneurship education should be led by instructors with industry backgrounds. Both parties should also develop a shared understanding of the integration of professional education and innovation and entrepreneurship education. However, given the current situation, professional teachers, who lack extensive corporate work experience and systematic training, struggle to effectively integrate professional knowledge with innovation and entrepreneurship education in their teaching. Additionally, due to limitations in the corporate resources available to universities, the teaching quality of external corporate mentors varies

significantly, making it difficult to grasp the pace of students' learning and limiting their professional understanding of disciplinary knowledge. Furthermore, in practical teaching components, some university-industry collaboration projects have not yet transcended superficial interaction models such as student visits and short-term internships. The depth of corporate involvement in talent cultivation is insufficient, and it has not achieved organic integration with the professional curriculum system. [7] In summary, the incomplete collaboration between universities and enterprises results in inefficient integration processes, leading to overall weak implementation outcomes.

3.3 Insufficient Safeguards at the Macro Level

The construction of talent cultivation mechanisms at applied universities is a necessary condition for ensuring the effective implementation of the integration of professional education and innovation and entrepreneurship education. According to innovation ecosystem theory, the innovation ecology is a model of integration between professional education and innovation and entrepreneurship education, where various educational entities collaborate based on shared values and interests to achieve innovative integration through multiple institutional arrangements, thereby ensuring the coordinated and orderly operation of the integration model. Given the current achievements in this area, the effective operation of such mechanisms requires guidance from effective institutional frameworks. Currently, at the policy level, the government has indeed made comprehensive policy considerations for the integration of professional education and innovation and entrepreneurship education at the macro level. However, local governments lack overall planning for the operation of the integration model, and their guidance methods are relatively monotonous. Under the current model, they typically rely on directly issuing relevant documents and indirectly promoting activities through publicity, without establishing a comprehensive policy support system. This has led to issues in the subsequent mechanism construction of applied local universities, primarily manifesting in two aspects: first, a lack of coordination in objectives, as the multiple stakeholders involved in the professional-innovation and entrepreneurship education integration model have differing interests and objectives, making it difficult to form an effective collaborative force. Second, the operational mechanism is incomplete, as while there is institutional guidance, the standards for specific implementation processes still need to be further refined.

4. Strategies for Integrating Professional Education with Innovation and Entrepreneurship Education

Based on the current development status of the integration of professional education and innovation and entrepreneurship education in applied undergraduate universities, this paper analyzes the aforementioned issues. On this basis, this paper will combine collaboration theory and innovation ecosystem theory in the policy analysis section to conduct targeted policy analysis at the macro, meso, and micro levels, thereby providing comprehensive and systematic recommendations for the integration of professional education and innovation and entrepreneurship education. The specific analysis is as follows.

4.1 Micro Level: Reconstructing the Teacher-Student Innovation and Entrepreneurship Practice System

In the teaching implementation phase of integrated professional education and innovation and entrepreneurship education, we must adhere to the goal of cultivating comprehensive applied talents, place students at the center of integrated education, and fully leverage the guiding role of teachers. In actual teaching, we should use disciplinary course issues as entry points to ensure the practical implementation of hands-on activities. In this process, universities should provide teachers with necessary learning platforms and specialized training to ensure they not only consolidate existing professional knowledge but also keep pace with knowledge updates. By integrating professional theoretical foundations with practical case studies in line with societal development trends, subsequent teaching phases can employ problem-based scenario-driven instruction, blended online and offline course integration, enhanced interactive discussions, and case-based practical experiences to boost students' autonomy and engagement. Additionally, students should be encouraged to actively adapt to societal changes,

align with market demands, and, based on course assignments, develop entrepreneurial plans according to their own ideas. These plans can then serve as the foundation for participating in relevant innovation and entrepreneurship competitions. Through the organic collaboration between teachers and students, a seamless chain is formed, linking professional knowledge foundations to the practical implementation of innovation and entrepreneurship plans.

4.2 Meso-Level: Accelerating Organizational Collaboration and Resource Integration

At the organizational level, drawing on innovation ecosystem theory, to achieve higher educational value, universities should accelerate collaboration with external enterprises. University-industry joint training programs should be aimed at knowledge application, supporting innovation and entrepreneurship practices, and conducting integrated training programs in an orderly manner. This will deepen the breadth and depth of course learning, strengthen university-industry collaboration, enhance teacher collaboration, and build team-based, multidisciplinary cooperation across diverse backgrounds. This will drive course-based practical projects and improve the efficiency of collaboration between on-campus and off-campus entities. Meanwhile, applied undergraduate universities should strengthen close ties with enterprises. Enterprises should actively collaborate with universities while fulfilling their social responsibilities. On one hand, enterprises can provide practical platforms for universities, encouraging students to participate in enterprise innovation projects to enhance their innovation and entrepreneurship capabilities and innovative thinking, and create integrated innovation and entrepreneurship course practical experiences. On the other hand, through university-enterprise collaboration, enterprises can cultivate and reserve talent resources for their future development, supporting enterprise construction and achieving efficient growth. Ultimately, this will achieve effective integration of both parties' resources and improve the collaborative mechanisms for organizational coordination.

4.3 Macro Level: Achieving Institutional Guarantees and Ecological Cultivation

Institutions are the foundation and guidance for the implementation of mechanisms, and establishing a sound policy support system is a prerequisite for ensuring the effective operation of mechanisms. At the policy level, further strengthen policy support for innovation and entrepreneurship education, refine policy implementation standards, not only to ensure the thorough implementation of innovation and entrepreneurship policies, but also to ensure the implementation of start-up funding. Second, provide timely and orderly start-up training to create an atmosphere of innovation and entrepreneurship education, stimulate students' creative enthusiasm, and strengthen innovation integration. Additionally, considering the interdisciplinary nature of the field, it is important to respect the interests of all stakeholders, collaborate effectively, and build an innovation ecosystem. Under the guidance and support of the government, universities should strengthen educational outreach efforts on the integration of professional education and innovation and entrepreneurship education, facilitate multi-party collaboration, and advance the construction of integrated platforms to comprehensively promote the fusion of professional education and innovation and entrepreneurship education.

5. Conclusion

The integration of professional education and innovation and entrepreneurship education is a key driver for the development of applied undergraduate universities. By analyzing the issues at the micro, meso, and macro levels, this paper demonstrates how universities can effectively combine professional education with innovation and entrepreneurship education while maintaining a focus on the former. Given the challenges that have emerged in the integration process, this paper also proposes corresponding strategies to address these issues. In future research, we will continue to monitor the development of the integrated education model and propose strategies that are more aligned with the needs of applied undergraduate universities.

References

[1] Wenwen Teng, Q Z. Research on the Teaching Reform Path of Innovation and Entrepreneurship Education Courses in Local Undergraduate Universities [J]. International Journal of Education and Humanities, 2022, 5(3): 39-44.

[2] Jarvis P. Professional Education (1983) [M].

Routledge, 2018.
[3] Li Penghu. Historical Changes and Development Paths of Professional Education Models in Chinese Universities: A Re-examination of the Essence of Higher Education [J]. Journal of the National Institute of Educational Administration, 2020, (06): 67-74.
[4] Wang W, Qiu D, Chen X, et al. An empirical study on the evaluation system of innovation and entrepreneurship education in applied universities [J]. Computer Applications in Engineering Education, 2023, 31(1): 100-16.
[5] Wu J, Wang X. Research on Innovation and Entrepreneurship Education Model in Colleges and Universities Based on The Integration of Specialty and Innovation [J]. Academic Journal of Science and Technology, 2022, 1(3): 96-9.
[6] Zhang Xiaodong, Huang Zhuo. Empowering the Development of New Productive Forces through Science and Technology Finance: Theoretical Framework, Practical Challenges, and Policy Recommendations [J]. Huxiang Forum, 2024, 37(06): 53-66.
[7] Jin Yuzhen. Exploring the Deep Integration of Innovation and Entrepreneurship Education with Professional Education in Higher Education Institutions [J]. Leadership Science Forum, 2025, (07): 151-3+7.

