

Research on the integrated development of higher vocational innovation and entrepreneurship education based on the “triple helix” theory

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Abstract: At present, innovation and entrepreneurship education is faced with the dilemma of educational cognition deviation, insufficient endogenous power, lack of effective integration path and ecological support. Through the research of the integration mechanism of school, enterprise and government of “triple helix” theory, this paper puts forward the path of integrated development of higher vocational innovation and entrepreneurship education, that is, adhere to the education standard, take demand as the orientation, and promote the integration of ideas; Establish the three-level linkage, strengthen the endogenous driving force, and innovate the amount of mechanism integration; Improve the curriculum system, reorganize entrepreneurship teachers, and promote resource integration; Strengthen process management, optimize evaluation subjects, and promote standardized integration. Through the above measures to comprehensively improve the comprehensive quality of students to meet the diversified needs of social development.

Key words: Triple helix theory; Higher vocational colleges; Innovation and entrepreneurship education; Integrated development

I. Difficulties in the integrated development of innovation and entrepreneurship education

1. Cognitive bias and limitation of understanding

The primary challenge faced by higher vocational colleges in the field of innovation and entrepreneurship education lies in the cognitive bias and understanding limitations. This dilemma is reflected in two aspects: First, it equates innovation with revolutionary technological creation or the expansion of emerging industries, and thus mistakenly believes that innovation and entrepreneurship education is only suitable for a few students with specific foundation and talent, while ignoring its potential and value for popularization among all students; Second, entrepreneurship education is simply equated with employment guidance, overemphasizing entrepreneurship as a means to solve the employment problem, and encouraging students to start their own businesses. In practice, students’ entrepreneurial projects are often concentrated in industries with low technical level and low employment threshold, which are not closely related to their major, resulting in a significant lack of long-term development and market competitiveness of entrepreneurial projects.

2. Lack of endogenous driving force in education

At present, in the process of promoting innovation and entrepreneurship education, many higher vocational colleges often pay too much attention to the awards of the “Internet +” innovation and entrepreneurship competition and the increase of the number of entrepreneurs, and take these short-term results as the main criteria to measure the educational effectiveness, thus falling into the utilitarian tendency. However, in essence, this practice deviates from the essence and deep-rooted goals of innovation and entrepreneurship education, lacks the vision of long-term planning from the perspective of education, and fails to fully tap and make use of the unique characteristics of their respective majors, taking the reform of professional personnel training programs as the entry point, and fundamentally reforming and optimizing the education system from the source. This lack of endogenous impetus not only limits the depth and breadth of innovation and entrepreneurship education, but also affects its positive impact on the long-term development of students.

3. The lack of reasonable integration paths

The integrated development of innovation and entrepreneurship education is also limited by the lack of educational resources and the imperfection of system construction. On the one hand, most higher vocational colleges are unable to invest in innovation and entrepreneurship education resources. It is difficult to meet the in-depth needs of innovation and entrepreneurship education, whether it is teachers, curriculum Settings or practice platform construction. The lack of a team of teachers with rich practical experience and interdisciplinary knowledge background, as well as the lack of a curriculum system closely connected with market demand, seriously restricts the effective implementation of innovation and entrepreneurship education. On the other hand, the construction of innovation and entrepreneurship education system is still in the exploratory stage, lack of systematic and forward-looking, failed to form a complete closed loop from theoretical teaching to practical operation, from idea incubation to project landing, resulting in insufficient cultivation of students’ key abilities in the process of innovation and entrepreneurship, it is difficult to cope with complex and changing market challenges.

4. Lack of cultural and ecological support

The integrated development of innovation and entrepreneurship education also faces the problem of insufficient support for campus culture and innovation and entrepreneurship ecology. In the campus culture, the atmosphere of innovation and entrepreneurship is not strong enough, the atmosphere of encouraging exploration and tolerating failure is lacking, and it is difficult to stimulate students’ enthusiasm for innovation and entrepreneurship. At the same time, the construction of innovation and entrepreneurship ecosystem inside and outside the campus is not mature, and the lack of effective linkage between the government, enterprises, social organizations and colleges and

universities cannot provide students with enough practical opportunities, financial support and professional guidance, which limits the actual effect of innovation and entrepreneurship education and the growth space of students' entrepreneurial projects.

II. Innovation and entrepreneurship education integration mechanism under the theory of two and three spirals

1. The basic connotation of the "three spirals" theory

The "triple Helix" theory was proposed by American sociologists Henry Etzkowitz and Reuther Redsdorf. It holds that in the era of knowledge economy, government, industry and universities are no longer isolated actors, but revolve around market demand through government policy guidance and financial support, intellectual resources and scientific research achievements of universities, market demand and practice platform of industry. The three work together on the training process of innovative and entrepreneurial talents, so as to achieve the consistency of educational goals and the interaction of educational subjects. By emphasizing the openness of the system and encouraging the open sharing and complementary advantages of all elements in the process of innovation and entrepreneurship education, we can jointly build an innovative development ecosystem that influences and promotes each other, and provide more powerful support and guarantee for the growth of innovative and entrepreneurial talents.

2. The three-spiral integration mechanism of innovation and entrepreneurship education in higher vocational colleges

According to the triple helix theory and the existing problems in the integration of innovation and entrepreneurship education, this study puts forward the triple helix integration mechanism of innovation and entrepreneurship education in higher vocational education. Among them, higher vocational colleges, as the main body of education, fully tap various elements and orderly promote the integration process from the aspects of curriculum, teachers and practice bases. The government plays the role of regulator and guide in the three-spiral structure, and promotes the effective communication between human resources and material resources through the introduction of relevant policies, the provision of financial and capital support, and the establishment of interactive cooperation networks. As an important demand for talents, enterprises are powerful promoters of the integration process. Enterprises can provide opportunities for university teachers to practice, which can improve teachers' innovation and practice ability. At the same time, it can also provide students with abundant practical opportunities and entrepreneurial resources, so that students can understand the various problems they may encounter in practice. Enterprises can also find out the shortcomings of students in the process of practice, and find the direction of improvement for talent training. By clarifying the main position and respective roles of government colleges and enterprises in the integration of innovation and entrepreneurship education and professional education in higher vocational colleges, the utilization rate of resources can be improved to a greater extent, the integration of the two can be promoted in an orderly manner, the enthusiasm of teachers and students for innovation and entrepreneurship can be excited, and the sustainable development of innovation and entrepreneurship education in higher vocational colleges can be promoted.

III. The path to promote the integration of innovation and entrepreneurship education in higher vocational colleges

1. Adhere to education-oriented, demand-oriented, and promote the integration of ideas

The construction of entrepreneurship education system should not only conform to the characteristics of entrepreneurship education, but also consider the particularity of professional personnel training. Innovation and entrepreneurship education should not only be limited to a few students, but should become a universal education for all students. The core of innovation and entrepreneurship education should be to cultivate students' entrepreneurial quality, which includes entrepreneurial consciousness, entrepreneurial courage and entrepreneurial spirit of daring to create and innovate. Relying on the advantages of regional economic development, innovation and entrepreneurship education in higher vocational colleges should emphasize skills-based entrepreneurial practice and focus on cultivating innovative application based on job positions and practical knowledge and skills. While students are learning professional knowledge and skills, work problem situations are set to encourage them to constantly explore new ideas and solutions in study and practice, stimulate students' innovative thinking, and enable them to have the potential for sustainable development in their future careers.

2. Improve the curriculum system, strengthen endogenous motivation, and innovate the integration of mechanisms

Curriculum integration is an important basis for the deep integration of innovation and entrepreneurship education and professional education. As the main body of education, higher vocational colleges should strictly control the educational objectives and course positioning from the leadership and management level, formulate and issue relevant policies and documents, and provide solid support and guarantee for innovation and entrepreneurship education. When developing the innovation and entrepreneurship education system, it is necessary to effectively aggregate the talents cultivation value orientation and educational resources of the government, universities and enterprises, and jointly establish a collaborative education mechanism. Higher vocational colleges need to undertake professional theoretical knowledge and skill training tasks, while enterprises can focus on the relevant tasks of innovation and entrepreneurship practical teaching to effectively improve the comprehensive quality of students. In addition, education authorities or corresponding government departments can undertake the task of developing courses on innovation and entrepreneurship policies, fiscal and tax policies, laws and regulations, and popularizing entrepreneurship awareness and knowledge, so as to provide students with more comprehensive and systematic public services related to innovation and entrepreneurship. Through the construction and implementation of such a diversified system, comprehensive qualities such as students' innovative spirit, entrepreneurial awareness and practical ability can be comprehensively enhanced, laying a solid foundation for

their future development.

3. Attach importance to practical teaching, reorganize entrepreneurship teachers, and promote resource integration

The construction of innovation and entrepreneurship education should not only pay attention to the transfer of theoretical knowledge, but also pay special attention to practicality, because practice is the key link to test theory, improve ability and cultivate innovative thinking. Higher vocational colleges should strengthen the integration of innovation and entrepreneurship education, professional education and practical education, increase investment in curriculum arrangement, teacher quality and curriculum resources, and promote the combined practical curriculum setting. Through the close combination of theory and practice, students can find and solve problems in practical operation, so as to truly enhance their innovation and entrepreneurship ability. To this end, higher vocational colleges need to reorganize the existing entrepreneurship teachers, break the boundaries of traditional disciplines, and attract experts and entrepreneurs with rich practical experience and industry background to join the teaching team to form a diversified teaching structure. They can provide real cases and practical experience from the front line of the industry to help students better understand and apply what they have learned. At the same time, through the effective docking of resources inside and outside the school, such as the sharing of practice platforms such as laboratories, research and development centers, and entrepreneurial parks, as well as the support of government, enterprises and social capital, more practical opportunities and resources are provided for students. Through the improvement of the curriculum system, the reorganization of teachers and the comprehensive integration of resources, we can provide students with a more open, collaborative and effective learning environment for innovation and entrepreneurship.

4. Strengthen process management, optimize evaluation subjects, and promote standardized integration

The implementation process of the curriculum is crucial, and higher vocational colleges need to strengthen the implementation and operation management of the curriculum through the construction of relevant systems. In the implementation of the curriculum, a variety of teaching methods should be effectively used to promote teacher-student interaction, create an active classroom atmosphere, and give students the opportunity to fully express their opinions. At the same time, it is necessary to do a good job in the connection and transformation of teaching knowledge points to ensure the coherence and depth of teaching content. In terms of course operation, it is necessary to pay attention to the maintenance of course-related software and hardware, strengthen the operation and management of daily teaching, including online courses, to ensure the smooth progress of teaching activities.

Higher vocational colleges should be responsible for formulating clear evaluation standards and methods, covering the degree of achievement of teaching objectives, the effectiveness of teaching methods, students' learning outcomes and other aspects, and adopt quantitative and qualitative evaluation methods to evaluate the teaching effect. At the same time, teachers and students should be encouraged to participate in teaching evaluation to ensure the objectivity and accuracy of the evaluation. The social system can evaluate talents through practice feedback and employment situation. Through regular evaluation feedback, colleges and universities can find the problems and shortcomings in teaching in time, and then carry out targeted improvement and optimization, and constantly improve the quality and effect of innovation and entrepreneurship education through internal and external coordination and evaluation mechanism with division of labor.

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