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Construction of innovation and entrepreneurship education ecosystem model of colleges based on vocational education

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Abstract: With the gradual implementation of the national innovation-driven development strategy and the rapid growth of new technologies, new formats and new product markets, it has provided new requirements for the innovative training of Chinese colleges. In order to further stimulate their awareness of innovation and entrepreneurship, cultivate their entrepreneurial spirit, and enhance their innovation and entrepreneurship skills, the relevant regulations promulgated by the State Council and the Ministry of Education have promoted the rapid development of innovation and entrepreneurship education in higher education in China. However, there are also many difficulties in the process of education, such as: on the one hand, the science and technology entrepreneurship competition is also in full swing. However, the talent construction of dual-innovation teaching is also relatively thin, in addition, the scientific and technological entrepreneurial talents within the campus are relatively scattered and the utilization rate is not high. Therefore, on the basis of educational ecology and other theories, it is very important to establish a dynamic college innovation and entrepreneurship education ecosystem, and study the relationship and operation mechanism of each role in the ecosystem, so as to promote the coordinated development of various elements.

1. The Establishment of an Innovative Employment Ecosystem Model for Chinese Colleges based on Vocational Education

1.1. Rationale

1.1.1. Niche Theory

Ecological niche generally refers to the social status of a particular biological species within a specific time and space range within an ecosystem, as well as the relationship between the environment around its habitat and population. The niche theory states that in an ecosystem, the sum of the positions and spaces that a species can occupy is called "niche width", that is, how all populations acquire development potential through resource integration without external interference, which is called "niche situation". Based on the concept of environment, although there are differences

in location between regions, due to the similarity of abiotic factors, organisms inhabiting different locations also have the same environmental niche, thus forming convergent evolution, that is, two organisms without blood relations will use their adaptive capacity and development potential to expand the width of their ecological niches. From the perspective of vocational education and innovation and entrepreneurship education, both are in a similar ecological niche in higher education, so with the change of the needs and development requirements of the surrounding environment (social environment), there will inevitably be divergent development, so how to carry out the convergent evolution of the two, and be able to adjust the structure and distribution of human resources to the greatest extent to achieve the synchronous growth and high-quality growth of skilled trainers and innovative and entrepreneurial talents, which is also a topic that must be paid attention to at present.

1.1.2. Ecological Environment of Innovation and Entrepreneurship

The concept of ecosystem was first proposed by Arthur (1993). Zhang Lei (2021) believes that the essence of entrepreneurship education is an "entrepreneurial ecosystem", in short, this closed ecosystem can integrate resources from multiple aspects to cultivate college students' entrepreneurial awareness and ability in an all-round and multi-level manner. Cheng Xi and Li Shiyong (2020) believe that from its essence, the ecosystem of innovation and entrepreneurship education is an open complex system of symbiosis, competition and dynamic evolution, that is, in a certain educational resource and regional environment, the interaction between various participants of innovation and entrepreneurship education produces a dynamic, complex and systematic interactive course[1]. Accordingly, the project will also form a "trinity" of symbiotic cooperation, coordinated development, collaborative development and dynamic balance with the cultivation of skilled talents as the core, science and technology entrepreneurship as the main body, college and student education as the basis, and the interaction between the surrounding ecological environment elements (society, enterprises, platforms and external tutors, etc.) to establish a "trinity" of symbiotic cooperation, coordinated development, collaborative development and dynamic balance, thus laying a solid theoretical and practical foundation for the cultivation of high-level skilled talents with creative consciousness and creativity, such as "craftsmen in big countries" and "skilled craftsmen".

1.2. Difficulties in Establishing a College Innovation and Entrepreneurship Ecosystem Model based on Vocational Education

1.2.1. Biased Teaching Concepts

At present, there are still some schools that have a certain understanding of the teaching ideas of vocational education, due to a certain degree of intersection and practicality between vocational education and innovation and entrepreneurship training, coupled with the fact that various innovation and entrepreneurship activities have formed an important way of knowledge training for ordinary colleges, which has also caused the school's dilution of vocational education courses, and schools more generally regard vocational education as a key project for general higher degree training. As a result, innovation and entrepreneurship education does not serve vocational education well, and it cannot achieve high-quality development of innovation and entrepreneurship education through vocational education.

1.2.2. The Education System is not yet Complete

At this stage, a considerable number of preferential policies have been formulated in the law on scientific and technological entrepreneurship training and the cultivation of skilled personnel, and relevant rules and regulations and guiding texts have also been established. However, because such

policies mainly guide the development of higher education from a macroeconomic perspective, there is no corresponding legal guarantee mechanism[2]. This has also led to the loss of balance between vocational education and innovation and entrepreneurship teaching in colleges, and often divide the two into the same level, and even directly carry them out as two separate teaching fields, which leads to the innovation and entrepreneurship teaching of colleges gradually deviating from the scope of vocational teaching, and vocational education is mostly "learn only the surface ", just "concept education".

1.2.3. The School's Running Level is not High

At present, the innovation and entrepreneurship education of China's colleges has shown a trend of "deviation" from vocational education. In the relationship between vocational education and innovation and entrepreneurship education, the two have "independent of each other" in many links such as training goals, training content, evaluation effects, training teachers, and training students. It is mainly reflected in: the "innovation and entrepreneurship" factor is not effectively incorporated into vocational education, and the "vocational education" factor is ignored, resulting in the situation of "two skins" between "innovation and entrepreneurship" and "vocational education", making the effect of "innovation and entrepreneurship" not ideal.

2. Construction of Innovation and Entrepreneurship Ecosystem in Colleges

2.1. Macro Level

This paper studies the current situation and difficulties faced by the development of science and technology entrepreneurship in colleges from the perspectives of China's policy, economy, society and humanities. In this regard, policy is a decisive force for the ecological environment; The demand side refers to the college, and the demand comes from the development needs of the college for entrepreneurship and entrepreneurship education; "Explainer" refers to social organizations or educational intermediaries that bring conditions for the development of innovation and entrepreneurship education in colleges; Here, social conditions refer to the social conditions in the fields of policy, economy, science and technology that support the development of innovation and entrepreneurship education in colleges.

2.2. Meso-Level

The meso-level college innovation and entrepreneurship education ecosystem is a college innovation and entrepreneurship education for colleges in a specific region, which is constrained by various factors such as regional economic conditions, regional or industry scale, and the input of communities and educational intermediaries[3]. At this level, where the supply side allocates resources, the demand side is the institution that conducts scientific and technological entrepreneurship training in a specialized field, the decomposition side is a community organization with local or industrial advantages, and the environmental side is a political, educational, scientific and technological institution with local or industrial advantages.

2.3. Microscopic Level

The micro-level innovation and entrepreneurship talent training ecosystem of colleges regards the cultivation of entrepreneurial talents in a single college as its goal, and the reasons that affect it roughly include the following factors: school policy, education, ideological and political and other influencing factors. In this regard, it is the student mentors who contribute a lot of intellectual

resources to the school's innovation and entrepreneurship; What is needed is colleges, who are constantly consuming all kinds of talents in the entrepreneurial ecosystem to complete their own development; The decomposition party refers to the institutions of colleges, which should take active measures, including: education and training, guidance and training, and activities through the innovation and entrepreneurship environment, aiming to provide opportunities for students' innovation and entrepreneurship; The environment consists of two levels, one is the internal environment of the college and the other is the external environment. Here, the on-campus environment refers to the platform environment, political environment, and social and cultural atmosphere that Chinese colleges can create. The external environment refers to China's macro policy, macroeconomic and cultural development, as well as enterprise investment, including investment in social intermediary organizations.

3. Discussion on Building an Innovation and Entrepreneurship Ecosystem in Colleges

3.1. Establish Goals and Run Innovation and Entrepreneurship Education throughout the Entire Talent Training

The cultivation of innovation and entrepreneurship is the cultivation of talent quality. Based on the accurate positioning of the development trend of colleges, it is necessary to continue to establish the power of "talent training as the root, curriculum construction as the leader, team management as the priority, and institutional mechanism innovation as the driving force". "Strong political quality, high technical level, high management level, strong hands-on ability, and the pursuit of independent innovation" are the basic requirements. On this basis, the phased nature of learning has been further strengthened and the enthusiasm for learning has been enhanced. During the learning period, to strengthen modern teaching, it is necessary to build a creditworthiness system and formulate a creditworthiness system.

3.2. Based on Teaching, Accelerate the Connection between Innovation and Entrepreneurship and Vocational Education

Colleges should vigorously promote the reform and innovation of the blended teaching model, focus on cultivating the independent employability of college students, strengthen the integration with the enterprise innovation culture in after-school activities, and put forward the view of integrating the "dual credit system" into the curriculum and building a "dual credit" curriculum system[4]. "Double-credit course content" refers to the course content set in the undergraduate talent training plan, the overall goal of talent training is to meet the professional and vocational technical requirements of specific industries, and its overall goal is to organically combine the theoretical research on teachers' teaching methods, design styles, classroom teaching reform and innovation on the basis of theoretical research on entrepreneurship and innovation culture education issues in colleges across the country, and gradually establish a set of innovation and entrepreneurship education curriculum system. Through the cultivation of students' basic ability to use their professional knowledge to carry out innovation and entrepreneurship education and practical activities.

3.3. Build a Platform to Jointly Promote the Development of Entrepreneurship Education and Internship Incubation

In order to improve students' ability to apply basic knowledge in practical work and production processes, colleges should actively build a culture of entrepreneurship and innovation, build a training platform for education and practical activities, and create technical professional laboratories and

engineering project training to cover all technical disciplines. The school's management center, the campus's entrepreneurship and innovation practice activity industrial base, a three-dimensional simulation laboratory, and a comprehensive entrepreneurship and innovation practice training platform established for basic scientific research and professional technology transfer. In addition, on the basis of adding a data platform, based on the practical activities of engineering education, cultural education is positioned as a solution to practical problems in cultural education, especially in the process of cultivating high-quality application-oriented talents, and it is necessary to carry out the practice of cultural education. In the practical activities of college students, to seamlessly integrate with the practical problems of daily life in production and manufacturing, we must start to establish an "off-campus crowdfunding project library" to carry out entrepreneurship and innovation training for college students, and add the basic construction methods and methods of "off-campus crowdfunding project manufacturing PPP project library". Through the scientific study of methods, it is possible to gain a deeper understanding of the working capacities of teachers in production, education, research and application, so as to achieve the integration of technology and education, as well as the integration of production and education. At the same time, it is necessary to highlight the competitions in basic courses and technical courses, and form "one academy and one color" in the "one academy and one competition" to improve the comprehensive entrepreneurship and innovation ability of college students.

4. Conclusions

In vocational education, a hierarchical and vocational education-based innovation and entrepreneurship teaching model should be established according to the characteristics of vocational education. First of all, in teaching, practice is the mainstay, and the combination of theory and practice is used to realize the transformation of "people-oriented" and from "people " to "people-oriented", so as to improve the professional quality of college students; Secondly, it is necessary to expand the connotation and scope of college students' innovation and entrepreneurship education, so that the content of college students' innovation and entrepreneurship education cannot be limited to cultivating college students' innovation and entrepreneurship ability; On this basis, based on ecological niche theory, establish an innovation and entrepreneurship education ecosystem model in colleges with vocational education and innovation and entrepreneurship education as the core.

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