

From the Perspective of Field Theory: Research on the Element Integration Mechanism for the Cultivation of Innovative and Entrepreneurial Talents in Chinese Universities

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Abstract

Currently, innovative and entrepreneurial education in universities faces issues of insufficient element integration, such as the disconnection between courses and practical training, the separation between competitions and achievements, and the misalignment between bases and the market. The root causes lie in the lack of systematic training, the alienation of competition-oriented education, and the failure in market connection. To address these problems, it is necessary to construct a systematic curriculum system, innovate simulated practical training modes, improve the project incubation mechanism, and deepen the practice of integration of production and education. Through the organic connection and joint efforts of various links, new-quality talents with innovative spirit and entrepreneurial capabilities will be cultivated, and the educational value of innovative and entrepreneurial education will be effectively realized.

Keywords: field theory; innovation and entrepreneurship; element integration.

Introduction

China's economy is currently in a critical period of transformation, with high-quality development as the main goal, and innovative and entrepreneurial capabilities are the core driving force for promoting economic transformation. Therefore, improving the quality of talent training in innovative and entrepreneurial education in universities is not only an important task in the field of education but also a core strategic project

related to China's economic and social development. However, the cultivation of innovative and entrepreneurial talents in Chinese universities still faces many systematic challenges. The most critical one is that the various elements in innovative and entrepreneurial education have not yet formed an organic and unified whole, which seriously restricts the in-depth development of innovative and entrepreneurial education in universities. Therefore, accurately identifying the bottlenecks in the integration of key elements in innovative and entrepreneurial education in universities and exploring the construction of an institutional mechanism for in-depth integration of elements are the inevitable paths to promote the development of innovative and entrepreneurial education in Chinese universities.

2. Main Obstacles to the Integration of Elements in the Cultivation of Innovative and Entrepreneurial Talents in Universities

Innovative and entrepreneurial education is a systematic project, and its educational effectiveness largely depends on the degree of organic integration of various elements in the educational process. In the current era emphasizing innovation-driven development, universities, as the main positions for carrying out innovative and entrepreneurial education^[1], accurately identifying the obstacles to the integration of elements in the cultivation of innovative and entrepreneurial talents in universities has important practical and contemporary significance.

2.1 Disconnection between Courses and Practical Training

With the continuous in-depth advancement of innovative and entrepreneurial education for college students, the in-depth integration and integrated construction of courses and practical training in innovative and entrepreneurial education are imperative^[2]. Therefore, only by realizing the in-depth integration of courses and practical training can we achieve the coordinated development of theoretical cultivation and practical education in innovative and entrepreneurial education, and then cultivate innovative and entrepreneurial talents adapting to the development of the new era. Both courses and practical training in innovative and entrepreneurial education are basic means of talent training, and they should be mutually integrated and interpenetrated. However, there are obvious deficiencies in the actual process of promoting innovative and entrepreneurial education in Chinese universities: courses focus on theory while practice is weak, lacking industry frontiers and market orientation, which is inconsistent with training objectives; practical training is mostly short-term internships, making it difficult for students to understand the entire process of enterprises and apply classroom knowledge. In the digital intelligence era, digital courses provide new ways for the integration of courses and practical training. How to realize real integration through them is an important focus for improvement.

2.2 Separation between Competitions and Achievements

In recent years, the cultivation of innovative and entrepreneurial talents has become a core issue in the reform of higher education teaching^[3]. For innovative and entrepreneurial education, competitions and achievement transformation should be two sides of the same coin in the talent training system. However, there is an obvious

separation between competitions and achievements in the current innovative and entrepreneurial education in Chinese universities. In terms of innovative and entrepreneurial competitions, some universities fall into the misunderstanding of valuing competition results while neglecting transformation. However, after the end of innovative and entrepreneurial competitions, related projects often stop advancing, resulting in the long-term low conversion rate of competition projects that teachers and students have invested a lot of energy in. Therefore, how to improve the conversion rate of innovative and entrepreneurial competition achievements and break the predicament of valuing competitions over achievements has become a key issue to be solved urgently and an important bottleneck to be broken in the current innovative and entrepreneurial education system.

2.3 Misalignment between Bases and the Market

Innovative and entrepreneurial bases are an extension of mass innovation spaces for enterprise entrepreneurship cultivation, and mass innovation spaces have achieved a breakthrough from scratch^[4]. However, there is an obvious misalignment between the current innovative and entrepreneurial bases of universities and market demand, which also restricts the effectiveness of innovative and entrepreneurial education. This misalignment is mainly reflected in the following three dimensions: first, in terms of positioning, most universities only regard bases as auxiliary means for innovative and entrepreneurial education, teaching, and scientific research, and do not truly recognize the important position of these bases in the practice of innovative and entrepreneurial education; second, in terms of resource integration, university cooperation with enterprises mainly remains at a superficial stage, lacking a long-term and stable industry-university-research collaborative innovation mechanism; third, in terms of operation and management, these innovative and entrepreneurial bases mainly adopt the traditional administrative management model and lack market-oriented logic, making it impossible to timely understand and grasp market development trends, laws, and logic.

3. Analysis of the Causes for Insufficient Integration of Elements in the Cultivation of Innovative and Entrepreneurial Talents in Universities

The insufficient integration of elements in the in-depth development of innovative and entrepreneurial education in universities is a manifestation in the cultivation of innovative and entrepreneurial talents in universities, which reflects in-depth problems such as the lack of systematic training in innovative and entrepreneurial education, the alienation of competition-oriented education, and the failure in market connection.

3.1 Lack of Systematic Training

An important factor restricting the cultivation of innovative and entrepreneurial talents in Chinese universities is the existence of in-depth structural contradictions, which are mainly reflected in three aspects: curriculum system, practical links, and evaluation mechanism. In terms of the curriculum system, most universities still adopt the theoretical framework, knowledge system, and teaching methods of traditional

disciplinary education for innovative and entrepreneurial courses, focusing on the academic interpretation of concepts and the comprehensive indoctrination of knowledge, which is seriously disconnected from the complexity and marketization of real entrepreneurial scenarios. College students find it difficult to transform the knowledge learned in class into practical innovative and entrepreneurial capabilities. The curriculum content also lacks a forward-looking grasp of market dynamics and industrial changes, making it impossible to build an innovative and entrepreneurial knowledge system that keeps pace with the times for students. Practical teaching links are fragmented and superficial, lacking systematic design throughout the entire process of talent training, and there is a lack of hierarchical practical training design for students of different grades; in addition, practical training projects have not formed an organic connection with theoretical courses, making it difficult for students to truly internalize the core literacy required for innovation and entrepreneurship through practice, resulting in practice lacking theoretical guidance and theory being difficult to be tested and improved in practice. The in-depth reasons leading to these problems are extremely diverse and complex, such as unclear division of powers and responsibilities between functional departments and colleges, lagging construction of teachers' teams, a serious shortage of double-qualified teachers, and some teachers even failing to truly understand the special laws of innovative and entrepreneurial education and still using traditional professional education methods to carry out the cultivation of innovative and entrepreneurial talents. This deviation in concepts will inevitably lead to systematic defects in the training system. Therefore, it is necessary to reconstruct the talent training system for innovative and entrepreneurial education in universities from multiple dimensions.

3.2 Alienation of Competition-Oriented Education

Competition training is a core path for universities to cultivate innovative and entrepreneurial talents, but there is a common alienation problem of "valuing competitions over cultivation and results over processes". There are mainly two reasons for this alienation: first, for the timely and short-term competition projects, schools invest a lot of humans, material, and financial resources to organize students to carry out short-term and intensive cramming training, aiming at achieving high scores. However, in this mode, students are indoctrinated and acquire various abilities such as presentation skills and expression skills in a short time, but they lack systematic thinking on the conception, R&D, and implementation of innovative and entrepreneurial projects, seriously neglecting the systematic cultivation of students' innovative thinking and practical abilities. Students' attention even reverses the order of importance, which naturally leads to the alienation of the purpose of innovative and entrepreneurial competitions. Second, driven by utilitarian goals, competitions over-focus on rankings, forming an unhealthy trend of "only ranking theory". Participating teams fail to conduct in-depth and long-term field research, market investigation, and technical verification on the technical feasibility and market potential of projects, and many innovative and entrepreneurial projects remain in the stage of idealized assumptions. In addition, due to the lack of continuous incubation support and resource connection, these projects are difficult to achieve a substantial leap from

creativity to productivity. Universities have invested a lot of humans, material, and financial resources in innovative and entrepreneurial education, but this has not been converted into actual educational effects; instead, it has suppressed students' innovative potential. Competitions that generate rankings and results should be the most effective means to stimulate students' innovative and creative thinking, but currently, they have become an important obstacle to the cultivation of innovative and entrepreneurial talents and the incubation of innovative achievements in China, which urgently needs reform.

3.3 Failure in Market Connection

Insufficient market orientation has become a key bottleneck and prominent problem restricting the improvement of the quality of innovative and entrepreneurial talent training in universities. There are obvious information barriers and value orientation misalignment between university education practice and actual market demand, which makes it difficult for innovative and entrepreneurial talents cultivated by universities to effectively and accurately meet the actual needs of the current market and enterprises. This is mainly reflected in two aspects: first, the lack of a dynamic connection mechanism between innovative and entrepreneurial education in universities and market demand. Most universities lack in-depth research and forward-looking prediction of market trends and industry pain points in curriculum design and project development, and the curriculum content and practical projects lag behind market changes. For example, the rapid development of emerging fields such as the digital economy and artificial intelligence has spawned a large demand for compound talents, but universities often cannot timely integrate cutting-edge technologies and business models into the education and teaching system due to problems such as long curriculum update cycles and outdated teachers' knowledge structures, leading to the disconnection between students' learned knowledge and actual market demand. Second, the mechanism of university-enterprise collaborative education is not perfect, and the efficiency of resource integration is low. Although some universities have established certain cooperative relations with enterprises, the forms of cooperation mostly remain at superficial levels such as the listing of internship bases and short-term lectures, lacking a long-term mechanism for in-depth integration of production and education. Enterprises have insufficient initiative to participate in the cultivation of innovative and entrepreneurial talents in universities, and universities are difficult to obtain real market projects, technical problems, and business cases, leading to the separation of students' innovative and entrepreneurial practical projects from the actual operation scenarios of enterprises; at the same time, the channel for transforming the achievements of innovative and entrepreneurial projects in universities is not smooth. A large number of innovative and entrepreneurial projects with market potential are difficult to achieve the leap from conception to market due to the lack of enterprise resource connection, capital support, and commercial operation experience, resulting in the idleness and waste of resources. After graduation, students seek slim opportunities with projects that have poor market compatibility and will face repeated setbacks. This is not only harmful to

the students themselves but also undermines China's innovative and entrepreneurial atmosphere.

4. Improvement Paths for the Integration of Elements in the Cultivation of Innovative and Entrepreneurial Talents in Universities

The integrated integration mechanism of multi-dimensional elements in the cultivation of innovative and entrepreneurial talents in universities aims to promote relevant disciplines, links, departments, service institutions, and innovative and entrepreneurial resources to form a collaborative innovative and entrepreneurial education ecosystem.

4.1 Construct a Systematic Curriculum System to Consolidate the Theoretical Foundation of Innovation and Entrepreneurship

The curriculum system is an important starting point for the reform of innovative and entrepreneurial education. Its core goal is to realize inclusive innovative and entrepreneurial education, lay a solid foundation for cultivating compound innovative and entrepreneurial talents adapting to the needs of the new era. Through systematic curriculum design, the curriculum system helps students form the basic innovative and entrepreneurial capabilities of "knowing oneself", focusing on cultivating students' innovative awareness and entrepreneurial cognition. Therefore, curriculum resources are the core carrier of innovative and entrepreneurial education, and their construction must adhere to two directions: integration and innovation. It is necessary to pay attention to interdisciplinary integration and highlight the innovation of education models, so as to build a modern teaching system with contemporary characteristics and in line with the laws of talent growth. Combined with the background of the digital intelligence era, the "Education Informatization 2.0 Action Plan" issued by the Ministry of Education in 2018 provides important development opportunities and policy guidance for the construction of innovative and entrepreneurial curriculum resources. In terms of curriculum forms, there is a trend of diversified development. MOOC courses, with modular design and project-based teaching design, construct a systematic and complete knowledge graph through knowledge point remodeling and resource integration; new-form textbooks adopt a combination of paper and digital integration. Paper textbooks ensure the rigor of the knowledge system, while digital resources realize the real-time update and three-dimensional presentation of teaching content through dynamic case databases and virtual simulation experiments. In terms of curriculum teaching models, a combination of online independent learning and offline in-depth discussion has been formed, giving full play to the advantages of digital intelligence technology to achieve the organic unity of theoretical teaching and practical training. It can be seen that the characteristics of new-form textbooks in the digital intelligence era are very consistent with the marketization and contemporary nature of innovative and entrepreneurial education, reducing the disconnection and lag between innovative and entrepreneurial education curriculum resources, content and the market. The curriculum content can be updated periodically or even at any time to be consistent with the speed of industry iteration. In this regard, universities should establish a rapid response and revision

mechanism for innovative and entrepreneurial curriculum content based on industry dynamics, introduce a certain number of cutting-edge cases every semester or a certain time cycle, and jointly develop interdisciplinary curriculum packages with enterprises and venture capital institutions. At the same time, human resources are an important support for innovation-driven and high-quality development^[5]. Therefore, relying on industry talent resource teams, we should build a curriculum system that combines basic theories and industry practical operations, focus on developing practice-oriented courses, and promote the in-depth integration of professional education and innovative and entrepreneurial education.

4.2 Innovate Simulated Practical Training Modes to Strengthen the Cultivation of Practical Application Capabilities

The linkage between innovative and entrepreneurial practical training and competitions aims to incubate innovative and entrepreneurial talent projects, carry out a series of "skill-enhancing" simulated training, and help students' successful projects enter mass innovation spaces. The core goal of innovative and entrepreneurial education is to cultivate students' practical abilities, and practical training competitions, as a key bridge connecting theoretical knowledge and practical application, play an irreplaceable role in improving students' innovative and entrepreneurial abilities. Only by truly enabling students to apply the knowledge learned in teaching to competitions can we effectively ensure that students achieve the combination of innovative and entrepreneurial theories and practices, which can maximize the practicality of students in the process of learning knowledge^[6], thereby exerting the maximum educational effectiveness of practical training competitions and making them an important means to promote the achievement of the educational goals of innovative and entrepreneurial education in universities. To effectively achieve this goal, universities can construct a multi-level and three-dimensional practical training competition system. In the vertical dimension, universities should establish a hierarchical and stepped competition matrix, from college-level, university-level, provincial-level to national-level. College-level competitions are the basic link. The main purpose is not competition and selection, but to stimulate students' creative inspiration and incubate innovative and entrepreneurial ideas; university-level competitions focus on the implementation of innovative and entrepreneurial projects, and their main purpose is to assist students, such as helping students improve project plans to make them closer to innovative and entrepreneurial projects; provincial and above innovative and entrepreneurial competitions rely on a wider resource network, such as contact with market personnel during the competition, to make innovative and entrepreneurial projects more effectively connect with industrial needs and promote the transformation of innovative and entrepreneurial project achievements. In the process of hierarchical participation, an innovative and entrepreneurial project is gradually polished and optimized, and finally achieves technical implementation in provincial and even national competitions. In the horizontal dimension, universities need to further deepen university-enterprise cooperation, take the initiative to cooperate with enterprises to establish and improve innovative and entrepreneurial laboratories, so as to introduce real and market-

oriented commercial projects, allowing students to receive dual guidance from enterprise mentors and on-campus mentors, and experience the entire practical process of an innovative and entrepreneurial project from idea conception, market research, product R&D, marketing promotion, customer feedback to product implementation from scratch. In addition to domestic-level innovative and entrepreneurial competitions, encouraging and supporting students with mature projects to participate in international competitions is also an important content. In this process, students and instructors can broaden their innovative and entrepreneurial horizons through cross-cultural communication, come into contact with the current international cutting-edge innovative and entrepreneurial concepts and models, and even join and introduce like-minded people carrying out innovative and entrepreneurial projects abroad. In addition, Chinese universities can also become organizers of international competitions, gradually seizing the initiative and exporting Chinese discourse. Furthermore, universities need to further strengthen the rewards for students who have won innovative and entrepreneurial competition awards, and can establish a special reward mechanism to fully stimulate students' enthusiasm and initiative in participating in innovative and entrepreneurial competitions, thereby strengthening students' innovative and entrepreneurial thinking and practical abilities from the perspective of academic evaluation.

4.3 Improve the Project Incubation Mechanism to Accelerate the Transformation and Implementation of Innovative Achievements

How to improve the conversion rate and implementation rate of feasible and market-oriented innovative and entrepreneurial projects should become a key focus of the reform of innovative and entrepreneurial education in universities. To achieve this goal, universities should take innovative and entrepreneurial projects as the carrier, anchor the key goal of incubating start-up enterprises, select innovative and entrepreneurial talents with development potential to settle in mass innovation spaces through scientific and rigorous selection mechanisms, and rely on the university's improved and diversified public service system to provide comprehensive support for innovative and entrepreneurial projects, accelerating the transformation process of project achievements from creative conception to practical application. To promote the implementation of projects, the innovative and entrepreneurial education system in universities can carry out construction and reform in the following aspects: enrich the resource ecosystem and diversity. Universities need to further expand the radiation scope of mass innovation spaces, attract the gathering of diversified innovative resources, ensure that the introduced resources have high quality and adaptability through setting strict and reasonable admission standards, and establish dynamic exit standards and mechanisms, so that these introduced resources can truly become a driving force for improving the success rate of project incubation; optimize infrastructure platforms. The construction of hardware base facilities such as office spaces and community supporting facilities also needs to keep up. In the current digital intelligence era, internet and information infrastructure platforms such as big data analysis should be paid attention to. The big data analysis platform relying on information technology can provide entrepreneurs with accurate market trend

prediction and user demand analysis; in terms of optimizing the organizational mechanism for connecting makers and resources, universities should establish a networked and regular integrated service system, and can also carry out campus competitions for innovation and entrepreneurship to provide motivation and ideas for knowledge transformation, and further promote the connection between projects and enterprises to provide markets for project implementation, thereby comprehensively promoting the effective transformation of project achievements. Since universities are committed to enhancing students' investment in innovative and entrepreneurial projects, they should also provide platforms and support to improve the conversion rate and market adaptability of these projects with huge student investment.

4.4 Deepen the Practice of Integration of Production and Education to Promote the Improvement of Market-Oriented Capabilities

Integration of production and education means integrating educational and teaching activities with enterprises' production activities in the cultivation of innovative and entrepreneurial talents in universities, constructing a field-interactive talent training model^[7]. D'Estep and Patel believe that the frequently used forms of integration of production and education include joint research, patent licensing, consulting and contract research, training, and spin-off enterprises^[8]. The joint R&D model should be adopted when technology is in the invention stage, the commissioned development model should be adopted when it is in the marketization stage, and consulting should be the main method when it is in the diffusion stage. In addition, studies have pointed out that in innovative and entrepreneurial education, the in-depth integration of majors and industries, courses and enterprise practices are all implementation paths for in-depth integration of production and education. Based on this theoretical framework, universities can give full play to and rely on the resource advantages of on-campus laboratories and innovative and entrepreneurial spaces, and establish long-term, stable cooperative relations with off-campus industrial parks and science and technology enterprise incubators. For example, through the establishment of enterprise mentor workstations and joint laboratories, the two-way flow of various innovative and entrepreneurial elements such as scientific research achievements, human resources, and market information can be realized. In addition, the innovative and entrepreneurial education in universities should also establish a full-chain cultivation system from project incubation to project implementation, encouraging students to carry out innovative and entrepreneurial practices and project development based on real market demand, and take the initiative to connect with off-campus mentors and enterprises, introducing third-party forces such as the market and society to participate in the projects, so as to ensure that innovative and entrepreneurial projects are always in sync with and closely aligned with industrial development and market demand. At the same time, the role of third parties such as the market and employers cannot be ignored. Their evaluation opinions on innovative and entrepreneurial talents should also become an important guide for the education of innovative and entrepreneurial bases, so that the talent training specifications of each link of innovative and entrepreneurial education can be synchronized with industrial needs, and finally form

a new pattern of coordinated development between innovative and entrepreneurial bases and market demand.

5. Conclusion

Currently, innovative and entrepreneurial education in Chinese universities needs to explore new educational models, which has become an important path for universities to implement the national innovation-driven development strategy, deepen the comprehensive reform of higher education, and promote the high-quality employment and entrepreneurship of graduates. On the whole, taking curriculum and textbook resources to cultivate innovative and entrepreneurial "seeds", using competition and practical training conditions to ensure the cultivation level of "seedlings", strengthening the quality of innovative and entrepreneurial talent "saplings" through project incubation mechanisms, and realizing the "forest cultivation" of innovative and entrepreneurial talents through the collaborative practice of on-campus and off-campus bases. These four parts are effectively connected, with division of labor and cooperation in tasks, and differentiated and integrated services. Building a systematic and progressive innovative and entrepreneurial talent training chain helps to promote the organic integration of popularized innovative and entrepreneurial concept education, focused training of personalized innovative and entrepreneurial capabilities, chain-based systematic innovative and entrepreneurial education, and a top-tier innovative and entrepreneurial talent training system, forming an integrated innovative and entrepreneurial talent training system from idea formation to project preliminary selection and then to commercial development.

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