

Coupling Effect of "Competition-Entrepreneurship Integration" on College Students' Innovation & Entrepreneurship Capabilities

-- A case study of SWPU Geoscience School

Xin Cheng

Southwest Petroleum University, Chengdu 610000, China

Abstract: From the perspective of "integration of competitions and entrepreneurship", this paper takes the practice of the School of Geoscience and Technology as an example to explore how to improve college students' innovation and entrepreneurship capabilities through an effective coupling mechanism. It analyzes the coupling effects of "integration of competitions and entrepreneurship" at three levels: knowledge-skill, resource-platform, and process-culture, and summarizes the experience of achieving in-depth integration through top-level design, platform construction, and atmosphere creation. The research shows that systematic "integration of competitions and entrepreneurship" can effectively break the barriers between discipline competitions and entrepreneurship education, form a sound ecology of collaborative education, and provide a reference paradigm for the reform of innovation and entrepreneurship education in colleges and universities.

Keywords: Integration of Competitions and Entrepreneurship, Innovation and Entrepreneurship Capabilities, Coupling Effect.

1. Introduction

Against the background of the national strategy of building an innovative country and vigorously promoting mass entrepreneurship and innovation, deepening the reform of innovation and entrepreneurship education in colleges and universities has become an important task to improve the quality of talent training and serve national development. At present, although most colleges and universities have carried out a series of explorations in innovation and entrepreneurship education, there are still prominent problems such as disconnection between discipline competitions ("competitions") and innovation and entrepreneurship practices ("entrepreneurship"). Specifically, discipline competitions often focus on academic achievements and skill display, lacking effective channels for transforming competition results into practical entrepreneurial projects; while entrepreneurial practices are often constrained by insufficient technical support, limited resource access, and weak professional guidance, making it difficult to obtain sustained development momentum. This "two skins" phenomenon seriously restricts the overall improvement of students' innovation and entrepreneurship capabilities.

The School of Geoscience and Technology of Southwest Petroleum University (hereinafter referred to as "the School") has taken "adhering to moral education and cultivating innovative talents" as the core, and systematically promoted the "competition-entrepreneurship integration" work based on its disciplinary characteristics in geoscience. After years of practice, the school has formed a complete working system covering mechanism construction, resource integration, and cultural shaping, achieving remarkable results in improving students' innovation and entrepreneurship capabilities. This paper takes the specific practices of the school as a research sample, going beyond the general discussion on the necessity of "competition-entrepreneurship integration" in existing

research. It deeply analyzes the internal coupling mechanism of mutual empowerment and symbiotic evolution between "competitions" and "entrepreneurship", explores the key factors and action paths that affect the coupling effect, and aims to provide theoretical enlightenment and practical reference for similar colleges and universities to promote the in-depth development of innovation and entrepreneurship education.^[1]

2. Analysis of the Coupling Mechanism of "Integration of Competitions and Entrepreneurship" Empowering Capability Improvement

The practice of the School shows that "integration of competitions and entrepreneurship" is not a simple superposition of activities, but a process of generating a "1+1>2" systematic effect through multi-dimensional coupling.

(1) Knowledge-Skill Coupling: Building an Iterative Cycle of "Learning-Competition-Entrepreneurship"

Discipline competitions are the "training ground" for knowledge application, while entrepreneurial practices are the "tempering furnace" for skill deepening. Their coupling forms a closed loop for capability improvement. The School "guides students to participate in research projects, laboratories, and research teams", encouraging students to apply professional knowledge to the research of "College Students' Innovation and Entrepreneurship Training Programs" and competition preparation. This process promotes students to achieve a key leap from theoretical cognition to specific practice. As its experience shows, "students fully conduct specific practical exercises in the process of competition preparation, practicing and testing the professional knowledge learned in class". When project achievements (such as papers, patents, and software copyrights) are further directed towards entrepreneurial

incubation, knowledge, through the tempering of competitions, realizes the flow and transformation into market value, forming an iterative cycle of "knowledge innovation → competition verification → entrepreneurial application", which significantly improves students' innovative thinking and practical capabilities.^[2]

(2) Resource-Platform Coupling: Creating an Integrated Support Ecosystem

The success of integration depends on breaking resource barriers and building a shared platform. Through top-level design, the School has established a "working mechanism jointly promoted by the college leadership team, professional teachers, all counselors, and entrepreneurial mentors", and incorporated innovation and entrepreneurship work into Party building assessments, providing solid organizational guarantee. At the operational level, the School has implemented the "Measures for the Management of Academic Advisors for Undergraduates" and the "Interim Measures for Research Assistants", assigning academic advisors to lower-grade students to "broaden their horizons", and matching outstanding students with research mentors to enter laboratories. This mechanism effectively integrates the School's scientific and technological resources and faculty, building a bridge between professional teachers and students' extracurricular scientific and technological innovation. This integrated resource platform ensures that students' projects can obtain continuous and stable support from mentors, equipment, and venues from the initial "creative prototype" to the "project polishing" in competitions, and then to the "incubation and landing" of entrepreneurship, realizing the maximization of resource utilization and the optimization of support effects.^[3]

(3) Process-Culture Coupling: Creating a Strong Atmosphere of Daring to Innovate and Excel in Entrepreneurship

The continuous generation of capabilities requires the dual drive of process incentives and cultural edification. The School has systematically created an innovation and entrepreneurship cultural atmosphere through "focused organization and publicity". The School's Innovation and Entrepreneurship Club regularly holds activities such as "general lectures", "mobilization meetings", and "experience sharing sessions", achieving "one competition with two exchanges". This process not only provides precise pre-competition guidance, but also sets examples and disseminates innovative culture through the display of post-competition achievements and experience sharing. This whole-process accompaniment of "mobilization → participation → summary → commendation", coupled with the cultural atmosphere of "encouraging innovation and tolerating failure", has greatly stimulated students' subjectivity and internal motivation. When students see their peers winning awards in competitions such as the "Challenge Cup" and the China International College Students' Innovation and Entrepreneurship Competition (e.g., one national bronze award in 2024) and being rated as "typical figures in innovation and entrepreneurship", this positive incentive is transformed into widespread participation enthusiasm, making daring to innovate and excel in entrepreneurship evolve from the behavior of individual students to the overall cultural trend of the School.

3. Promotion Paths and Enlightenment for Achieving In-Depth Coupling

The successful practice of the School of Geoscience and Technology has revealed three key actionable paths for promoting the in-depth development of "competition-entrepreneurship integration" and realizing the optimal coupling effect, which has important enlightenment significance for colleges and universities to carry out innovation and entrepreneurship education.

Firstly, strengthening top-level design is the prerequisite for realizing in-depth coupling. The School has established a leading group for innovation and entrepreneurship work with the Party Secretary and Dean as the group leaders, and formulated a long-term development plan for "competition-entrepreneurship integration" that is compatible with the school's development strategy and talent training goals. It deeply integrates innovation and entrepreneurship work into the entire process of Party building work and talent training, and clarifies the development direction, key tasks, and safeguard measures of "competition-entrepreneurship integration" from a strategic height. This approach ensures the authority and sustainability of the integration work, avoids the phenomenon that innovation and entrepreneurship work is marginalized or formalized, and provides a solid institutional guarantee for the effective operation of the coupling mechanism.

Secondly, building an integrated platform is the key to realizing in-depth coupling. The School has systematically integrated scattered scientific research resources, teaching resources, and mentor resources through institutional arrangements such as academic advisors and research assistants, and built a stepped support system covering students from entry to improvement. This platform not only provides students with basic theoretical guidance and practical operation opportunities, but also meets the personalized needs of students in different stages of project development, such as technical research and development, market docking, and capital financing. The construction of the integrated platform has realized the optimal allocation of resources and the smooth flow of information, which is the physical foundation for the occurrence and amplification of coupling effects.

Finally, creating a strong innovation and entrepreneurship culture is the guarantee for realizing in-depth coupling. The School's continuous organizational publicity and cultural activities not only serve specific competitions and projects, but also aim to shape students' innovative and entrepreneurial values. Through the dissemination of typical cases, the advocacy of innovative concepts, and the guidance of positive incentives, the school has transformed innovation and entrepreneurship from a "task requirement" to a "conscious pursuit" of students, forming a strong field effect of "everyone eager to innovate and everyone striving to start a business". This cultural atmosphere not only provides a steady stream of psychological motivation for the continuous occurrence of coupling effects, but also cultivates students' innovative thinking and entrepreneurial quality in a subtle way, laying a solid ideological foundation for their long-term development.^[4]

4. Conclusion and Prospects

In summary, the case study of the School of Geoscience and Technology, Southwest Petroleum University, proves that the core of "competition-entrepreneurship integration" in improving college students' innovation and entrepreneurship capabilities lies in stimulating and optimizing its internal multi-level coupling effects. Through the iterative cycle of knowledge-skill coupling, the integrated integration of resource-platform coupling, and the collaborative drive of process-culture coupling, the school has successfully integrated "competitions" and "entrepreneurship" into an organic education ecosystem with clear logic, perfect functions, and effective operation, and achieved fruitful results in talent training.

In the future, with the continuous deepening of the reform of higher education, innovation and entrepreneurship education in colleges and universities should further draw on such systematic thinking, and continue to make efforts in mechanism innovation, resource integration, and cultural shaping. On the one hand, it is necessary to further improve the coupling mechanism of "competition-entrepreneurship integration", strengthen the connection and coordination between various links, and improve the efficiency and quality of coupling; on the other hand, it is necessary to actively expand external cooperation channels, integrate social resources such as enterprises and industries, and enrich the connotation and extension of the integration platform. It is necessary to promote "competition-entrepreneurship integration" from the activity level to the ecosystem

construction level, and from the single discipline coverage to the comprehensive promotion of the whole school, so as to continuously improve the quality and level of innovation and entrepreneurship education, and ultimately lay a solid foundation for cultivating more high-quality innovative talents that meet the needs of national strategies.

References

- [1] Li, Y. (2018). Dilemma and development: The coupling effect between community maker spaces and college innovation and entrepreneurship education. *China Adult Education*, (23), 52-54.
- [2] Wang, L., & Xie, M. Z. (2025). An empirical study on the coupling mechanism between college ideological and political education and innovation and entrepreneurship education. *Journal of Jilin Engineering Normal University*, 41(01), 16-28.
- [3] Kong, J. L., & Dong, L. M. (2025). Research on the path of integrating curriculum ideology and politics into innovation and entrepreneurship education in higher vocational colleges from the perspective of "integration of competition and innovation". *Talent & Intelligence*, (25), 137-140.
- [4] Zhu, Y., & Yu, X. Z. (2025). Construction of the education ecosystem integrating competition and innovation in colleges and universities from the perspective of educational ecology-A study on the practical path based on Southwest Petroleum University. *Journal of Chengdu University of Traditional Chinese Medicine (Educational Science Edition)*, 27(03), 109-115.