

Collaborative Innovation and New Ideas for Talent Training in Local Normal Universities

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Abstract: The purpose of this paper is to explore the new ideas of collaborative innovation and talent training in local normal universities and to promote the reform of the training model of high-quality and skilled applied undergraduate talents by building a collaborative innovation platform for schools, enterprises, and social organizations, to meet the needs of local economic and social development. This paper proposes the idea of cultivating new talents based on collaborative innovation, including interdisciplinary integrated education, practical project-driven learning, innovative technology integration, and collaborative innovation platform construction. Through the chapters of literature review, correlation analysis between collaborative innovation and talent training in local normal universities, and construction and practice of new ideas, the theoretical basis and practical operation of the new ideas are comprehensively discussed.

Keywords: Collaborative innovation; Applied undergraduate education; Talent development model reform

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1. Introduction

In contemporary society, collaborative innovation has emerged as a pivotal driver of economic advancement and societal progress^[1]. Local normal universities, playing a crucial role in nurturing grassroots educators, bear the significant responsibility of talent cultivation. However, certain local universities currently face constraints in their training programs and teaching methodologies, impeding their ability to keep pace with the rapidly evolving demands of societal development. Hence, it is imperative to explore novel concepts of collaborative innovation and talent development within local universities.

The challenges confronting talent development in local normal universities predominantly manifest in the inflexibility of traditional education models, inadequacies in interdisciplinary and practical skill training, and the evolution of educational technology^[1,2]. Traditional education models prioritize the transmission of traditional subject knowledge, often overlooking the cultivation of students' comprehensive skills. The absence of interdisciplinary and practical skill training impedes students' adaptation to the diverse requirements of contemporary society, while the swift emergence of new educational technologies necessitates the cultivation of

education professionals equipped with advanced technological application capabilities.

To address these challenges and harness the essence of collaborative innovation, this study endeavors to comprehensively understand and resolve existing issues in talent cultivation at local normal universities. The objective is to analyze the current scenario and challenges within the prevailing training model, underscore the significance of interdisciplinary education and practical skill development, and propose a novel and adaptable training model leveraging the principles of collaborative innovation. Simultaneously, the study aims to establish collaborative innovation and partnership platforms between educational institutions and local communities, schools and enterprises, and schools and other stakeholders, propelling the reform of the training model for high-quality, highly skilled, application-oriented undergraduate talents. The ultimate goal is to foster more application-oriented undergraduate talents to contribute to local economic and social development. Furthermore, the study innovatively explores the integration of emerging educational technologies to enhance students' real-world application abilities through collaborative innovation ^[3].

2. Literature review

2.1. Theoretical overview of collaborative innovation

The theory of collaborative innovation was originally introduced by Dutch scholars Van de Ven and Andrew H. Van de Ven in 1991 ^[1]. This theory underscores the importance of propelling innovation through collaborative efforts and shared endeavors among multiple organizations or individuals. Key tenets of collaborative innovation encompass resource sharing, knowledge exchange, and joint ownership of innovation outcomes, facilitating the swift evolution and practical application of innovative solutions.

2.2. Current situation and challenges in talent training at local normal universities

While local universities have achieved commendable milestones in personnel training, they are confronted with a set of challenges ^[2]. The traditional education model tends to overly emphasize theoretical knowledge dissemination, potentially neglecting the imperative training requirements for students in interdisciplinary and practical applications. Simultaneously, the limited engagement between local normal universities and industry or society necessitates further enhancement of teaching staff and practical bases. These challenges underscore the need for local normal universities to explore a more adaptive and inclusive talent training paradigm.

2.3. Relevant concepts and cutting-edge research

Pertinent concepts encompass the interdisciplinarity of education, the development of practical skills, and digital education, among others. Interdisciplinarity in education highlights the amalgamation of knowledge from diverse disciplines to foster a more comprehensive thinking approach. Practical skills development concentrates on nurturing students' capability to practically address challenges through hands-on projects and internships. Digital education accentuates the infusion of emerging technologies to augment the innovation and efficiency of educational practices. Cutting-edge research is concentrated on the application of collaborative innovation in the realm of education, particularly in elevating the quality of education and cultivating talents better suited for the demands of future society ^[3,4].

3. The interplay between collaborative innovation and talent development in local normal universities

3.1. Application of collaborative innovation theory in talent cultivation at local normal universities

The theory of collaborative innovation proves highly applicable to talent cultivation in local normal universities. Primarily, the theory underscores the importance of multi-party cooperation and sharing. Through the establishment of collaborative innovation and cooperation platforms involving schools and local entities, schools and enterprises, and inter-school collaborations, local normal universities can forge closer ties with society and industry. This integration facilitates the alignment of educational practices with practical needs, enhancing the overall practicality of education. Furthermore, the theory promotes knowledge exchange and resource integration. In local teacher training universities, this translates into collaborative efforts across disciplines, allowing teachers and students to pool knowledge from diverse fields into talent development. This interdisciplinary collaboration fosters the cultivation of more comprehensive and literate educational practitioners, who are better equipped to navigate the diversity and complexity of future educational landscapes.

3.2. Unveiling the potential roles of collaborative innovation in this context

Collaborative innovation assumes various pivotal roles in the cultivation of talents within local normal universities ^[2,5,6]. Firstly, the establishment of collaborative innovation platforms enables these universities to attract external resources effectively, including support from enterprises, social organizations, and scientific research institutions. This not only enriches teaching resources and practical opportunities but also exposes students to real-world problems and challenges, thereby refining their practical application abilities. Secondly, collaborative innovation contributes to enhancing the professional caliber of educators. Collaborating with businesses and industry professionals allows teachers to stay attuned to industry trends and requirements, enabling timely adjustments to teaching content and methods, and ensuring the sustained relevance of educational approaches. Such adaptability is crucial for nurturing students' ability to navigate the evolving landscapes of future societies. Lastly, collaborative innovation acts as an accelerator for educational reform and model innovation. Through joint project design and implementation with external partners, local teacher training universities can flexibly adjust their training models, aligning more seamlessly with the dynamic needs of society. This flexibility, in turn, fosters the development of more innovative and adaptable education practitioners.

4. Construction of new ideas

Drawing from the theory of collaborative innovation, a novel approach to talent development is outlined to better address the training needs of students in local normal universities (**Figure 1**).

4.1. Interdisciplinary integrated education

In the student development process, a focal point will be interdisciplinary integrated education ^[1]. This approach seeks to dismantle traditional disciplinary boundaries, fostering a comprehensive understanding across different fields. The introduction of interdisciplinary modules aims to expose students to a diverse array of academic experiences, encouraging holistic thinking within the dynamic and evolving societal landscape. Through the orchestration of interdisciplinary team projects, students will amalgamate knowledge from multiple disciplines, thus cultivating a panoramic perspective and honing their prowess in integrated problem-solving.



Figure 1. Collaborative innovation theory framework

4.2. Practical project-driven learning

A practical project-driven learning model will be implemented, featuring collaborations with enterprises and social organizations ^[5]. This approach ensures that students engage in real-world problem-solving, refining their practical application skills. Cultivating a robust partnership with businesses, students will actively participate in authentic projects, glean valuable practical insights. Furthermore, organizing social practice activities will provide students with hands-on experiences, allowing them to navigate diverse challenges and enhance their teamwork and problem-solving competencies.

4.3. Innovative technology integration

The proposed talent development paradigm incorporates the latest advancements in educational technology ^[3,4]. Innovative technologies such as digital education and online learning will be seamlessly woven into curriculum design to augment students' adaptability to educational technologies. By implementing a flexible online learning plan, students can tailor their studies to suit their schedules and locations. Additionally, cutting-edge technologies like virtual reality and artificial intelligence will be introduced to amplify teaching interactivity and enjoyment, thereby nurturing students' learning and professional capacities in the digital era.

4.4. Construction of collaborative innovation platforms

To foster profound integration between education and industry, a collaborative innovation platform is envisioned for schools, enterprises, and research institutions ^[7]. Through the establishment of cooperation mechanisms with external partners, the university will forge closer alliances with businesses and social organizations. This collaborative effort aims to propel the in-depth integration of industry, academia, and research. Participation in joint research projects will enable teachers and students to engage in innovative activities alongside external professionals, effectively meeting the authentic needs of the industry and providing students with a broader spectrum of practical opportunities.

5. Discussion and conclusion

5.1. Key findings

The new concepts demonstrate clear advantages in talent cultivation within local normal universities. Interdisciplinary integrated education, practical project-driven learning, innovative technology integration, and collaborative innovation platform construction collectively form a comprehensive and pioneering training model. Interdisciplinary integrated education enhances students' overall literacy, fostering a holistic perspective and cross-disciplinary problem-solving skills. Practical project-driven learning hones students' practical application skills through real-world problem-solving experiences. The integration of innovative technologies enhances students' adaptability to educational technology, rendering them more competitive in the digital age. The establishment of collaborative innovation platforms facilitates profound integration between the university and external partners, providing students with a broader spectrum of practical opportunities.

Nevertheless, potential limitations in implementing these new ideas should be acknowledged. Notably, the substantial resource demands and implementation complexities warrant careful consideration. The new ideas necessitate increased human, material, and financial resources, and the implementation process may encounter resistance to reform and logistical challenges.

5.2. Academic and practical significance

This study's primary academic significance lies in the in-depth exploration of collaborative innovation theory applications. Empirical research and case analyses validate the effectiveness of the new concepts, offering theoretical underpinnings and empirical support for the innovation of talent training models in local normal universities.

On a practical level, the implementation of new ideas has catalyzed extensive collaboration between schools, enterprises, and social organizations, enhancing students' exposure to practical projects. This approach elevates students' overall literacy, better aligning them with the developmental needs of future society. Through these innovative ideas, local normal universities aspire to more effectively meet societal talent demands and propel the deep integration of industry and education.

5.3. Recommendations

Firstly, future research endeavors could delve into additional dimensions of collaborative innovation theory, exploring its applicability across diverse disciplines and scales within local normal universities. This would provide more comprehensive theoretical support and specific guidance for varied local teacher training institutions.

Secondly, attention should be directed towards potential challenges during the implementation of new ideas. Effective resource allocation strategies and implementation plans can be explored to address situations with substantial resource demands and high implementation difficulties, streamlining the acceptance and implementation of new ideas by educational institutions.

Thirdly, the construction of collaborative innovation platforms necessitates joint efforts from universities and external partners. Establishing more cooperative projects is recommended to ensure profound collaboration between schools, enterprises, and social organizations, thereby providing students with a broader array of practical opportunities for seamless integration into the industry.

Lastly, to overcome implementation challenges associated with new ideas, further research is encouraged to focus on practical solutions. Through case analyses and empirical research, offering more specific and feasible practical guidance will facilitate the smooth implementation of innovative ideas in local normal universities, providing robust support for the evolution of talent training models.

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The authors declare no conflict of interest.

Author contributions

Y.Y.D. and Y.Y.G. conceived of the idea, developed the proforma, and drafted the manuscript. All authors read and approved the final manuscript.

References

- [1] Chen T, Xu Q, 2017, Construction and Practice on University-Enterprise Collaborative Innovation and Talents Training’s Dynamic Mechanism in Local Universities, 2017 International Conference on Management Science and Management Innovation (MSMI 2017). Atlantis Press, Amsterdam, 271–275.
- [2] Cao J, Wang J, 2019, Integration of University-Enterprise in Applied Universities, Data Science: 5th International Conference of Pioneering Computer Scientists, Engineers and Educators, ICPCSEE 2019, Guilin, China, September 20–23, 2019, Proceedings, Part II 5. Springer Singapore, Singapore, 422–429.
- [3] Wei K, 2021, On the New Mode of University Enterprise Cooperation in Undergraduate Education in the Information Age, International Conference on Forthcoming Networks and Sustainability in the IoT Era. Springer International Publishing, Cham, 343–350.
- [4] Li N, Jiang P, Li C, et al., 2022, College Teaching Innovation from the Perspective of Sustainable Development: The Construction and Twelve-Year Practice of the 2P3E4R System. *Sustainability*, 14(12): 7130.
- [5] Mu G, Wang X, 2020, Practical Exploration of University-Enterprise Collaborative Talent Cultivation Based on “Excellent Engineer Education and Training Program,” 2020 4th International Seminar on Education, Management and Social Sciences (ISEMSS 2020). Atlantis Press, Amsterdam, 7–11.
- [6] Zheng Y, 2019, Operation Mechanism of Industry and Academia Cooperation College, 2019 5th International Conference on Social Science and Higher Education (ICSSHE 2019). Atlantis Press, Amsterdam, 1086–1089.
- [7] Han T, Yin J, Huang C, et al., 2022, Research on the Mechanism of University-Driven Reform Based on the Project of Industry-University-Research Cooperative Education. *The Theory and Practice of Innovation and Entrepreneurship*, 5(3): 64.

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