Advances in Educational Technology and Psychology (2025)
Clausius Scientific Press, Canada

DOI: 10.23977/aetp.2025.090520
ISSN 2371-9400 Vol. 9 Num. 5

Research on Deepening the Integration of Industry and Education to Empower Undergraduate Vocational Education in Business Administration

Chang Fu*

School of Finance and Economics, Hainan Vocational University of Science and Technology, Haikou, Hainan, 571126, China
**Corresponding author: 2997001880@qq.com*

Keywords: Integration of Industry and Education; Vocational Undergraduate; Business Administration; Talent Training Model; Multi-Agent Collaborative Mechanism

Abstract: Deepening the integration of industry and education is a crucial path to promote vocational undergraduate education in Business Administration to meet the requirements of the digital economy era and empower the cultivation of high-quality technical and skilled management talents. Addressing the practical problems existing in the current training model, such as ambiguous goal orientation, disconnection between the curriculum system and industry, insufficient practical ability of teachers, and superficial school-enterprise cooperation, this paper constructs a "five-dimensional synergy" theoretical mechanism based on educational ecology and collaborative governance theory, with curriculum synergy, practice synergy, teacher synergy, innovation synergy, and evaluation synergy as the core. The research proposes that a systematic implementation path should be adopted, including jointly building a substantive modern industry college, constructing a close-knit community of interests, promoting the construction of a digital practical teaching system, and strengthening the "dual-qualified" teacher team, to reconstruct a talent training model that is competency-based and highlights the characteristics of digitalization and combat readiness. This will realize the organic connection of the education chain, talent chain, industrial chain, and innovation chain, and provide solid talent support for industrial transformation and upgrading.

1. Introduction

Currently, China's economy is undergoing a profound transformation from high-speed growth to high-quality development. The optimization and upgrading of the industrial structure, coupled with the implementation of the innovation-driven development strategy, have created an unprecedented and urgent demand for high-level technical and skilled personnel [1]. As a crucial component of the modern vocational education system, vocational bachelor's education bears the significant responsibility of cultivating high-quality, composite talents who are oriented towards the front lines of production and service and possess a solid theoretical foundation and exceptional practical skills[2]. Business administration, due to its close association with industrial economic operations

and business management practices, occupies a central position in vocational bachelor's education. However, the traditional talent cultivation model reveals a lack of adaptability when facing the new landscape of accelerated industrial changes and frequent technological iterations. This is primarily manifested as a structural contradiction between the talent cultivation supply side and the industrial demand side. Against this backdrop, "deepening the integration of industry and education" has transcended a general educational philosophy and become a strategic pathway to promote the quality and efficiency of vocational bachelor's business administration education and empower students' career development[3].

This study, based on the perspective of industry-education integration, aims to systematically explore the intrinsic mechanisms and realization paths of its empowerment of vocational bachelor's business administration education. At the theoretical level, it deeply analyzes how industry-education integration reshapes the educational ecosystem through knowledge integration, resource coordination, and process reengineering, and enhances the alignment between talent cultivation and industrial demands. This is not only an enrichment of the theoretical system of vocational education but also a beneficial supplement to the theory of innovative talent cultivation. At the practical level, the research results aim to provide operable solutions for vocational bachelor's colleges to solve the practical problems existing in business administration education, such as ambiguous goals, curriculum disconnect, weak practical ability of teachers, and superficial school-enterprise cooperation. It is of great practical significance for improving the quality of talent cultivation and enhancing the ability to serve regional economic and social development [4,5].

Through a review of existing literature, it is found that although scholars at home and abroad have paid attention to the importance of industry-education integration and have conducted beneficial discussions on macro policies and cooperation models, the research still has room for further development: on the one hand, most studies focus on higher vocational colleges or ordinary applied undergraduate programs, and there is a relative lack of targeted research on the particularities of vocational bachelor's degree, an emerging type of education, especially for business administration majors; on the other hand, existing studies mostly start from phenomenon descriptions and countermeasures and suggestions, and in-depth analysis of the internal logic, mechanism of action, and systematic implementation framework of industry-education integration empowering high-quality educational development is still insufficient. This study attempts to make breakthroughs in this area and construct a logically rigorous and content-rich analytical framework [6,7].

In order to achieve the above research goals, this paper will comprehensively use literature research method, system analysis method, and case study method. By combing policy texts and academic literature, we will lay the theoretical foundation for the research; by systematically analyzing the interactive relationship between the various elements of industry-education integration, we will reveal the internal logic of its empowerment of education; by drawing on successful practical cases at home and abroad, we will enhance the feasibility and pertinence of the countermeasures and suggestions. The entire paper follows the logical main line of "problem proposing—theoretical construction—path exploration," and strives to achieve the unity of theoretical depth and practical value.

2. Current Situation

The positioning of vocational bachelor education lies in cultivating high-quality, application-oriented talents with a solid theoretical foundation and prominent technical skills. Its development deeply aligns with the national guidance of building a modern vocational education system and strengthening talent strategic support. In recent years, with the intensive introduction of

a series of policies such as the "National Implementation Plan for Vocational Education Reform" and the "Opinions on Promoting the High-Quality Development of Modern Vocational Education," industry-education integration has been elevated to the national strategic level. Under the guidance of policies, vocational bachelor's colleges actively explore new models of school-enterprise collaborative education. As a key major connecting to the management needs of modern service industries, intelligent manufacturing, digital economy, and other industrial fields, the in-depth promotion of industry-education integration in business administration is directly related to the effectiveness of talent cultivation. At present, the industry-education integration practice of business administration majors in vocational bachelor's colleges in China has gradually shifted from initial sporadic cooperation to systematic exploration. Some colleges have achieved phased results in the construction of industrial colleges, the cultivation of "dual-qualified" teaching teams, and the joint construction of practical training bases. However, as a whole, the integration process is still in a superficial and fragmented stage, failing to truly realize the organic connection of the education chain and talent chain with the industrial chain and innovation chain, and deep-seated structural contradictions are increasingly prominent.

The core problem currently facing industry-education integration in vocational bachelor's business administration majors is primarily reflected in the significant deviation between the talent cultivation goal positioning and actual industry needs. The training programs of many colleges still follow the logic of traditional disciplinary systems or simply apply the training frameworks of higher vocational colleges, failing to accurately reflect the characteristics of vocational bachelor education, which emphasizes both "technical skills" and "management literacy." The goal statements are often broad and general, lacking detailed descriptions of the core capabilities required for specific industries and job clusters, resulting in insufficient pertinence and adaptability of talent cultivation. This ambiguity in goal positioning directly restricts the scientific nature of subsequent curriculum design, teaching implementation, and evaluation standards.

The disconnection between the curriculum system and teaching content and the dynamics of industry development constitutes another prominent problem. The curriculum structure of business administration majors generally has a tendency to "emphasize theory and neglect practice." The proportion of theoretical courses is too high, and the content update is slow, failing to timely incorporate cutting-edge knowledge in the fields of digital economy, platform management, and supply chain finance. Practical teaching links are often limited to simulated operations or cognitive internships, lacking project-based and immersive training that is deeply integrated with real business processes and management challenges. The correlation between curriculum content and industry standards and professional qualification requirements is weak, making it difficult for students to effectively transfer the knowledge and skills they have learned to actual work scenarios, and the "last mile" problem of talent cultivation remains prominent.

The overall weak practical teaching ability of the teaching staff seriously restricts the in-depth implementation of industry-education integration. Most of the teachers in vocational bachelor's colleges come from fresh graduates of academic universities and generally lack first-line experience in enterprise employment or project management. Although the construction of "dual-qualified" teacher teams has been repeatedly emphasized, in specific practice, the mechanism for teachers to work in enterprises is often a mere formality, lacking institutional guarantees and effective incentives. At the same time, the channels for enterprise experts and technical backbones to participate in teaching are not smooth, the stability of part-time teacher teams is poor, and the teaching standardization is insufficient, making it difficult to systematically integrate the cutting-edge industrial technology changes and management practice results into classroom teaching.

The superficial level and fragile mechanism of school-enterprise cooperation are key bottlenecks

hindering industry-education integration from moving towards in-depth development. The existing cooperation mainly focuses on superficial interactions such as student internships and expert lectures, while the participation of enterprises in core links such as professional planning, curriculum development, textbook writing, and technology research and development is extremely low. The establishment and maintenance of cooperative relationships rely more on personal relationships or short-term projects, lacking institutional arrangements and long-term operating mechanisms based on common strategic interests. There is tension between the profit-seeking nature of enterprises and the quasi-public responsibility they bear in talent cultivation. Without reasonable cost-sharing and benefit-return mechanisms, the internal driving force for enterprises to participate in depth will continue to be insufficient. In addition, problems such as unclear definition of rights and responsibilities, high communication costs, and unclear ownership of achievement property rights in the cooperation process also reduce the willingness of both schools and enterprises to continue investing.

3. Theoretical Logic and Mechanism Construction

3.1 Theoretical Foundation of Industry-Education Integration

Industry-education integration serves as a core pathway for promoting the high-quality development of vocational undergraduate education. Its theoretical foundation needs in-depth interpretation from multiple dimensions, including educational ecology and collaborative governance theory. The educational ecology perspective views the vocational education system as an open ecosystem with continuous exchange of materials, energy, and information with the industrial and economic environment. Within this theoretical framework, vocational colleges and enterprises constitute interdependent ecological entities, forming a symbiotic relationship through resource complementarity and functional coupling. The essence of industry-education integration is to break down the organizational boundaries between the education system and the industrial system, constructing a dynamically balanced educational ecosystem. For business administration programs, this ecological integration enables timely feedback of external information, such as changes in market demand and technological trends, into the entire talent development process, resolving the structural contradiction in traditional education models where talent development lags behind industrial development.

Collaborative governance theory provides a basis for mechanism design for the participation of diverse entities in industry-education integration. This theory emphasizes that in the supply of public services, heterogeneous entities such as government, colleges, enterprises, and industry associations need to achieve interest coordination and action collaboration through institutionalized consultation mechanisms. In the field of business administration vocational undergraduate education, industry-education integration is not simply school-enterprise cooperation, but requires the establishment of a systematic governance structure including policy guidance, resource investment, process management, and outcome sharing. The government creates a favorable environment through institutional supply and policy incentives; colleges play a leading role in talent development; enterprises provide practical scenarios and technical standards; and industry associations undertake standard setting and quality certification functions. Only through this multi-center collaborative governance can we overcome the limitations of single-entity rationality and form a sustainable integration mechanism.

3.2 Building Paths for the “Diversified Collaboration” Mechanism

Curriculum collaboration is the foundational element in building the mechanism. The key lies in

schools and enterprises jointly constructing a systematic curriculum system based on the work process. Institutions and enterprises need to jointly analyze the ability requirements of regional key industries for management talents, transform the typical work tasks of enterprise management positions into learning areas, and develop modularized course content. For example, specialized course modules such as "Intelligent Manufacturing Operation Management" and "Digital Marketing Planning" can be set up for regional leading industries such as intelligent manufacturing and modern service industries to ensure that the course content highly aligns with industrial needs. At the same time, industry technical standards and real-world enterprise cases should be introduced, and project-based teaching materials should be jointly developed to keep the course content at the forefront and practical.

Practical collaboration is the key path to achieving the integration of knowledge and action. A "school-based training + enterprise practice + project study" trinity of practical teaching system should be built. On campus, an intelligent management training center should be jointly built with enterprises, introducing real enterprise data systems to simulate the entire process of enterprise management decision-making; off campus, stable large-scale enterprise practice bases should be established to carry out rotational internships and project practices; at the project level, project-based learning of "enterprises posing questions, students solving problems" should be promoted to allow students to participate in real management improvement projects under the guidance of enterprise mentors. This tiered and progressive practice system ensures that students can hone their management practice skills in different situations.

Faculty collaboration is the core support for ensuring the quality of talent cultivation. The focus is on building a "dually-qualified" teaching team with "two-way flow and complementary roles." A teacher enterprise practice system should be established, requiring professional teachers to have no less than six months of cumulative enterprise practice experience every five years, and incorporating practical results into the title evaluation system; at the same time, special industry mentor positions should be established, and senior enterprise managers should be hired as part-time teachers to undertake practical course teaching and graduation design guidance. Regular school-enterprise teaching and research activities should be held to promote the integration and innovation of teaching concepts and methods between the two parties, forming a collaborative effect of theoretical teaching and practical guidance.

Evaluation collaboration is a feedback adjustment system to ensure continuous optimization of the mechanism. A quality evaluation system should be established with the participation of schools, enterprises, industry associations, graduates, and other parties. Diverse evaluation indicators such as enterprise satisfaction surveys, graduate career development tracking, and project outcome conversion rates should be introduced; a learning outcome certification system with ability certification as the core should be implemented, incorporating enterprise project completion and professional qualification certificate acquisition into credit recognition; a regular feedback mechanism should be established to use evaluation results to continuously improve talent cultivation programs. This open evaluation system ensures the dynamic adaptation of talent cultivation quality and industrial needs.

3.3 Reconstructing the Talent Development Model

At the foundational level, construct a "Management Fundamentals + Digital Technology + Business Acumen" tripartite core curriculum group. Management fundamentals courses include core theories such as economics and management, emphasizing conceptual understanding and critical thinking development. Digital technology courses cover digital management tools such as data analysis and information systems, strengthening students' technical application capabilities.

Business acumen courses focus on soft skills such as communication and collaboration, and business ethics, cultivating students' professional spirit. This foundational system ensures students possess a sustainable knowledge structure and capability base.

At the module level, flexible curriculum modules should be aligned with regional industrial clusters. For example, set up a "Lean Production Management" module for manufacturing clusters, a "Customer Relationship Management" module for service industry clusters, and a "Platform Operation Management" module for the digital economy. Each module consists of 3-4 core courses, with course content jointly developed by schools and enterprises, reflecting the latest development trends in the industry. Students can choose corresponding modules according to their career plans to achieve personalized development.

At the practical level, a practical teaching system should be constructed. Lower grade students undertake management knowledge internships, middle grade students participate in job skills training, and high grade students complete comprehensive project practices. The school can also implement the "one lesson, one project" teaching model, where each professional course includes corresponding practical projects; carry out the "real enterprise projects into the classroom" activity, extending classroom teaching to the enterprise site; and implement the "graduate design + enterprise project" reform, requiring students to solve practical management problems. This progressive practical arrangement ensures the continuity and systematicness of students' ability development.

Digital empowerment is a requirement of the times for model reconstruction. Integrating digital technologies such as big data and artificial intelligence into all teaching processes: for instance, developing virtual simulation teaching platforms to simulate the enterprise operation decision-making environment; building smart classrooms for online and offline blended teaching; and using learning analysis technology to achieve personalized learning path recommendations. Through digital transformation, teachers can not only enhance teaching efficiency but also cultivate students' digital leadership skills.

4. Implementation Paths and Model Innovation

4.1 Co-construct Modern Industry Colleges: Substantial Integration Platform

Modern industry colleges serve as a new organizational vehicle for the integration of industry and education. Their construction requires breaking through the superficial models of traditional school-enterprise cooperation to achieve substantial innovation in governance structure and operational mechanisms. At the governance level, a board of directors should be established with the joint participation of schools, leading enterprises, industry associations, and local governments, endowing industry colleges with autonomy in areas such as major setting and curriculum development, forming a diversified co-governance decision-making mechanism. In terms of functional positioning, industry colleges should integrate three core functions: first, to become a collaborative center for talent cultivation, implementing a modern apprenticeship system of "enrollment is employment" to achieve the organic integration of the cultivation process and production processes; second, to serve as a technology innovation platform, jointly building R&D centers and transforming real enterprise projects into teaching resources; and third, to construct a social service window, providing employee training and technical consulting to the industry. Through substantial operation, industry colleges can provide an immersive learning environment for students majoring in business administration, effectively solving the problem of disconnection between theory and practice.

4.2 Constructing a Close-knit Community of Shared Interests: Exploration of Long-term Mechanisms

The sustainability of industry-education integration depends on the construction of a community of shared interests, which requires the establishment of a scientific mechanism for benefit distribution and risk sharing. By clarifying intellectual property rights attribution and establishing cooperative development funds, reasonable returns for all parties are guaranteed, forming a win-win situation of complementary resources. Contractual cooperation is an important guarantee, requiring the signing of legally binding agreements that detail the division of rights and responsibilities, assessment indicators, and exit mechanisms. At the same time, a regular consultation system should be established, and a joint management office should be set up to ensure smooth communication. Cultural integration is a deep-seated support, cultivating a sense of community through mutual secondments and joint Party building activities, transforming cooperation from an interest-based connection to a value identity, and enhancing the resilience and sustainability of industry-education integration.

4.3 Promoting the Construction of a Digitalized Practical Teaching System

A digitalized practical teaching system is an important support for adapting to the requirements of the digital economy era. Construction should follow the principles of "combining virtual and real, data-driven," with joint school-enterprise development of commercial decision-making simulation systems based on real data, and the construction of virtual simulation training platforms covering core functions such as strategic management and financial analysis. At the physical level, schools should construct smart classrooms and intelligent training bases, equip with digital tools such as collaborative office platforms, and simulate the operational environment of modern enterprises. At the same time, schools also need to establish a cloud platform for practical teaching resources, collecting enterprise cases and training projects. By collecting and analyzing student learning data, personalized learning path recommendations and precise teaching interventions are realized, forming a closed-loop management of "teaching-assessment-optimization," and improving the pertinence and effectiveness of practical teaching.

4.4 Strengthening the Construction of a "Dual-Teacher" Faculty

A "dual-teacher" faculty is a key support for the implementation of industry-education integration. Faculty construction needs to be systematically promoted from three dimensions: introduction, cultivation, and incentives. The following four aspects are included: (1) The "Special Appointment Program for Industry Mentors could be implemented to invite the senior managers from enterprises to work part-time at the school, and establish a teaching ability certification mechanism. (2) The teacher's enterprise practice system could be improved to require professional teachers to regularly engage in full-time practice in enterprises and their practical achievements are incorporated into the professional title evaluation system. (3) The teacher evaluation mechanism could be reformed to add "Industry-Enterprise Integration" teacher evaluation channels, which can highlight the weight of practical teaching ability and technical services. (4) A special reward fund is established to motivate teachers to participate in school-enterprise cooperation projects. Through institutional innovation, the school can build a high-level teaching team that is proficient in theory and familiar with practice, providing a solid guarantee for the quality of talent cultivation.

5. Conclusion

This study systematically demonstrates the significant value of industry-education integration in empowering vocational undergraduate education in business administration. The research reveals that current industry-education integration faces deep-seated contradictions such as the ambiguity of training goal positioning, the disconnection between the curriculum system and industry, the insufficient practical ability of teachers, and the superficiality of school-enterprise cooperation. By constructing a theoretical framework based on educational ecology and collaborative governance theory, this study proposes a "five-dimensional synergy" mechanism with curriculum, practice, teachers, innovation, and evaluation coordination as its core, clarifying the direction for the reconstruction of vocational undergraduate characteristic talent training mode. The research further plans the specific implementation paths for deepening industry-education integration from four dimensions: jointly building modern industry colleges, constructing a community of interests, building a digitalized practical teaching system, and strengthening the "dual-qualified" teacher team. The study shows that only through systematic mechanism innovation and model reconstruction can the organic connection of the education chain, talent chain, industry chain, and innovation chain be realized, ultimately cultivating high-quality technical and skilled management talents that meet the needs of high-quality industrial development.

References

[1] Wang Li, Xiao Qiang, Yang Xun. Construction and Practice of a Digital Practical Teaching Platform for Business Administration Major Based on Industry-education Integration [J]. Heilongjiang Education (Higher Education Research and Evaluation), 2025, (01): 60-63.

[2] Li Qing, Yan Yan, Chen Yuqing. Research on the Path of Industry-education Integration Collaborative Governance for Business Administration Major in the Context of Digital Economy [J]. China Management Informationization, 2024, 27(21): 219-222.

[3] Lu Ning. Research on Practical Teaching Countermeasures for Business Administration Major from the Perspective of Industry-education Integration [J]. Journal of Shanxi Economic Management College, 2024, 32(02): 91-96.

[4] Qiu Lijie. Exploration of the Combined Teaching Mode for Business Administration Major under the Background of Industry-education Integration [J]. Finance, 2024, (01): 55-57.

[5] Fu Juanjuan. Research on the Construction of Business Administration Training Base in Higher Vocational Colleges under the Context of Industry-education Integration [J]. Journal of Qiqihar Normal College for Teachers, 2023, (05): 79-81.

[6] Zhu Wei, Liu Song. Exploration of the Education Model for Business Administration Major in Applied Universities Based on the Dual Integration of Industry-education and Specialized Innovation [J]. Journal of Changzhou Institute of Technology, 2023, 36(02): 81-85.

[7] Yan Yonglan. Thoughts on Industry-education Integration in Business Administration Major of Applied Universities [J]. Quality and Market, 2021, (04): 82-84.