

Research on Innovation of Industry-Education Integration Model in Chinese Applied Vocational Universities

Junbo Zhang University of the East, Manila, Philippines Email: <u>Zhang.junbo@ue.edu.ph</u>

Abstract: In the context of China's rapidly transforming economy, the role of applied vocational universities in bridging the gap between education and industry has become increasingly significant. This study investigates the innovative models of industry-education integration (IEI) practiced by Shenzhen Polytechnic University and Nanjing Institute of Industry Technology. Through a detailed case analysis, it identifies key mechanisms such as enterprise-involved curriculum design, dual-mentor systems, apprenticeship programs, and collaborative research platforms that have contributed to successful IEI implementation. The study further explores innovative pathways for enhancing IEI, including multi-stakeholder collaboration, industry college development, two-way talent mobility, and research commercialization platforms. Policy recommendations are proposed to sustain and advance the quality of IEI practices. The findings demonstrate that strategic integration of education and industry not only improves graduates' employability but also drives regional innovation and economic development, offering valuable insights for the future evolution of vocational education in China.

Keywords: Industry-Education Integration; Applied Vocational Universities; Shenzhen Polytechnic University; Nanjing Institute of Industry Technology; Talent Development

Introduction

1.1 Research Background and Significance

China's rapid economic transformation has amplified the urgent need for a workforce with high-level applied skills. The traditional educational models have often been criticized for their inability to align effectively with the dynamic demands of modern industries. Consequently, industry-education integration (IEI) has emerged as a strategic imperative, particularly within applied vocational universities, which are tasked with producing practice-oriented professionals to support industrial innovation and economic restructuring [1]. Applied vocational universities are higher education institutions that focus on cultivating practice-oriented professionals with advanced technical and vocational skills tailored to industry needs. Unlike traditional academic universities, they emphasize hands-on training, real-world problem-solving, and direct collaboration with enterprises through models like Industry-Education Integration. IEI is an educational model that fosters deep collaboration between academic institutions and industries to align talent cultivation with realworld demands. It integrates industrial needs into curricula, teaching methods, and institutional governance-enhancing students' employability through joint programs, shared resources (e.g., industry colleges), and dual-teacher systems. The IEI model enhances students' employability and practical abilities by fostering close collaboration between educational institutions and industries [2]. Applied vocational universities such as Shenzhen Polytechnic University and Nanjing Institute of Industry Technology have been pioneering innovative approaches to bridge the gap between theoretical education and industry needs, significantly contributing to regional economic ecosystems. Internationally, models like Germany's dual education system and the cooperative education programs in the United States have demonstrated the effectiveness of robust industry-education collaborations in fostering skilled labor forces [3]. Against this global context, China's exploration into innovative IEI practices is not only crucial for domestic economic development but also offers significant insights for global vocational education reforms [4].

Therefore, research on the innovation of IEI models within Chinese applied vocational universities is of both theoretical and practical significance, contributing to the optimization of talent cultivation mechanisms and the sustainable development of vocational education systems.

Globally, industry-education cooperation has a long-standing tradition, particularly in countries like Germany, where the dual education system seamlessly integrates apprenticeships with formal education. Studies have shown that such systems promote employment readiness and skill adaptability [3]. In the United States, cooperative education programs have been established to blend academic learning with real-world work experience, enhancing students' career readiness [5].

In China, the IEI model has evolved from superficial internship arrangements to more profound collaborations involving joint curriculum development, co-establishment of research institutes, and enterprise participation in governance structures of vocational institutions [6]. Institutions such as Shenzhen Polytechnic University have been at the forefront, establishing "industry colleges" that function as platforms for deep collaboration, while Nanjing Institute of Industry

[[]Received 18 April 2025; Accepted 18 June 2025; Published (online) 20, June, 2025]

Attribution 4.0 International (CC BY 4.0)

Technology has promoted "dual-teacher" systems where industry professionals contribute directly to academic programs [7].

However, challenges remain. Researchers point out that despite progress, issues such as inadequate policy incentives, uneven enterprise participation, and fragmented collaboration frameworks hinder the scalability and depth of IEI initiatives [8]. Compared with leading international practices, China's efforts are still maturing and require further institutional innovation and policy support to achieve deeper integration.

1.2 Research Questions and Objectives

Based on the above context, this study focuses on analyzing the innovation practices of IEI models at Shenzhen Polytechnic University and Nanjing Institute of Industry Technology. The research is guided by the following three questions:

- RQ1: What are the prevailing models and practices of industry-education integration in Chinese applied vocational universities?
- RQ2: How have Shenzhen Polytechnic University and Nanjing Institute of Industry Technology innovated their IEI models, and what are the critical factors influencing their success?
- RQ3: What lessons can be drawn from these cases to inform future improvements in IEI models across Chinese applied vocational universities?

The objectives of this study are to systematically examine existing IEI practices, identify successful innovation pathways, and propose recommendations for enhancing the quality and effectiveness of industry-education integration in China's applied vocational education sector.

II. Theoretical Basis and Literature Review

2.1 Definition of Industry-Education Integration

Industry-education integration (IEI) is a collaborative mechanism between educational institutions and enterprises, aimed at aligning educational programs with industrial demands and enhancing students' practical abilities. It emphasizes the close linkage of curriculum development, teaching methods, internship opportunities, and research initiatives with real-world industry practices. The goal of IEI is to cultivate talents with both theoretical knowledge and practical competencies suited to market needs. IEI serves not only as a bridge to solve the structural imbalance between education output and labor market requirements but also as an effective approach to improving graduates ' employment rates and skill application. Particularly in the context of applied vocational universities, IEI is no longer limited to simple internships but extends to co-creating industry-specific courses, mutual talent development plans, and collaborative research ventures[9] [10].

2.2 Relevant Theoretical Foundations (Human Capital Theory and Collaborative Innovation Theory)

The theoretical underpinnings of IEI can be traced primarily to human capital theory and collaborative innovation theory. Human capital theory, initially developed by Becker, posits that education enhances the productivity and efficiency of individuals, thereby contributing to economic growth [11]. From this perspective, IEI can be seen as a vital investment in human capital, enabling a closer match between skill development and economic needs. Furthermore, the growing complexity and interdisciplinary nature of industrial innovation necessitate collaboration across institutional boundaries, which is where collaborative innovation theory becomes relevant. As outlined by Chesbrough and others, collaborative innovation emphasizes joint value creation through strategic alliances, knowledge sharing, and co-development between different stakeholders [12]. Applied vocational universities leverage this model by forming strategic partnerships with industries, allowing them to co-develop curricula, share facilities, and conduct applied research. In both Shenzhen Polytechnic University and Nanjing Institute of Industry Technology, collaborative innovation frameworks facilitate the establishment of industry-embedded labs and joint research centers, bridging the gap between theoretical education and industrial application [13].

From the perspective of human capital theory, NIIT's high employment rates stem from its strategic investment in skillspecific training that directly enhances students' productivity and labor market value. By integrating industry-driven curricula, dual-professor systems, and modern apprenticeships, NIIT systematically aligns education with employer demands, reducing the skills mismatch prevalent in traditional academic models. This approach mirrors Becker's assertion that education yields economic returns when it equips individuals with job-relevant competencies. NIIT's partnerships with enterprises further amplify this effect by providing real-world experience, thereby accelerating students' transition to high-productivity roles and justifying their premium employability in regional industries like advanced manufacturing and new energy.

2.3 Comparative Analysis of Industry-Education Integration Models at Home and Abroad

Globally, various IEI models have been developed and implemented, with significant differences in structure and outcomes. Germany's dual system is one of the most renowned models, characterized by the integration of apprenticeships and vocational training, supported by strong regulatory frameworks and industry participation [14]. Similarly, cooperative education programs in the United States emphasize alternating periods of academic study and full-time employment, providing students with extensive industry exposure before graduation [15]. In contrast, China's IEI efforts have historically been fragmented and policy-driven, but recent reforms have led to a more systematic approach. Chinese applied vocational universities, like Shenzhen Polytechnic University and Nanjing Institute of Industry Technology, are now adopting elements from international best practices, including dual-mentor systems and enterprise-engaged curriculum design. However, compared to mature international systems, China's model still faces challenges such as

inconsistent enterprise involvement and lack of standardization across institutions [16]. Nevertheless, the move towards deeper integration in select universities reflects a positive trajectory aligned with global standards.

2.4 Evolutionary Trends in Industry-Education Integration in Vocational Education

The evolution of IEI in vocational education has undergone several distinct phases. Initially, collaborations were mostly superficial, consisting of basic internship programs or ad hoc partnerships. Over time, the focus has shifted towards more formalized and institutionalized collaborations, driven by national education reforms and industrial restructuring demands. Recent trends indicate a push toward deep integration, characterized by shared governance models, co-developed curricula, and joint R&D platforms [17]. Particularly in the Chinese context, applied vocational universities are evolving from simple "education providers" to "industry partners," participating in the innovation value chain alongside enterprises. Shenzhen Polytechnic University has pioneered the establishment of "Industry Colleges," which are jointly operated with major corporations, while Nanjing Institute of Industry Technology has emphasized enterprise-driven curriculum reforms and the dual-professor system. These practices exemplify the trend towards a more symbiotic relationship between education and industry, highlighting the necessity for vocational institutions to act as active contributors to regional innovation ecosystems rather than passive talent suppliers [18].

III. Current Situation Analysis of Industry-Education Integration in Chinese Applied Vocational Universities

3.1 Overview of the Development of Chinese Applied Vocational Universities

Over the past two decades, Chinese applied vocational universities have played an increasingly vital role in shaping the nation's higher education landscape. Emerging from a wave of reforms aimed at diversifying and modernizing post-secondary education, these institutions are built with a clear mission: to cultivate practice-oriented talents who can directly contribute to the evolving industrial economy. They differ from traditional universities by emphasizing real-world competencies over purely theoretical knowledge. The guiding principle behind their design is to serve local and national economic needs, ensuring that graduates are not only knowledgeable but also job-ready from the moment they step into the workforce.

In the backdrop of China's rapid industrialization and the shift towards an innovation-driven economy, applied vocational universities have evolved into crucial bridges linking education and industry. These universities actively engage with local enterprises, understanding their demands and crafting curricula that address the skill gaps found in various sectors, from advanced manufacturing to information technology. Alongside this, practical training such as internships, co-operative education programs, and participation in real industrial projects has become a standard component of the learning process. This tight connection with the labor market has earned applied vocational universities a reputation for producing graduates who are immediately employable, adaptable, and innovative — qualities that are increasingly valued in today's dynamic job market.

3.2 Basic Models and Main Characteristics of Industry-Education Integration

Industry-education integration within Chinese applied vocational universities is more than just an educational philosophy — it is a concrete operational model that brings industries directly into the heart of academic life. Several distinctive models have emerged to bridge the gap between theoretical instruction and practical skill acquisition. Common approaches include cooperative education models, enterprise participation in course design, and the establishment of specialized industry colleges within universities. These models are unified by one goal: to immerse students in real-world environments long before they graduate.

One of the key characteristics of these integration models is the dual-mentor system, where each student is guided by both an academic mentor and an industry professional. This ensures that students benefit not only from academic rigor but also from hands-on industry insights, allowing for a more holistic development of their competencies. Another prominent feature is the active participation of enterprises in curriculum development, with industry representatives advising on course content to ensure it reflects the latest market trends and technological innovations. Moreover, some universities have taken this partnership further by establishing industry colleges — co-managed entities where faculty, industry professionals, and students collaborate on research, training, and project development. These practices have fundamentally reshaped the educational experience, turning classrooms into simulated workplaces and universities into innovation hubs that mirror the industries they serve.

3.3 Current Challenges and Issues

Despite the impressive progress, the journey toward effective industry-education integration has not been without obstacles. One of the most persistent challenges is the inconsistent level of enterprise engagement. While large, forward-thinking corporations are often enthusiastic about collaborating with universities, smaller businesses — which form the backbone of China's economy — frequently lack the resources, expertise, or incentives to participate meaningfully. This uneven participation leads to disparities in the quality of integration programs, with some universities flourishing while others struggle to establish meaningful partnerships.

Another significant challenge lies in keeping educational programs aligned with the fast pace of industrial change. As new technologies emerge and industries transform, curricula that once seemed cutting-edge can quickly become outdated. Some universities lag behind in updating their course offerings, resulting in a mismatch between what students learn and what employers need. Additionally, the frameworks and policies governing university-industry collaborations are still evolving, often leaving institutions and enterprises navigating ambiguous or unstructured arrangements.

Many existing collaborations, while promising on paper, remain superficial in practice. Some partnerships amount to little more than internships or guest lectures, without truly integrating enterprises into the university's academic and research frameworks. Furthermore, effective evaluation mechanisms for these programs are scarce, making it difficult to identify

best practices or assess the real impact of integration efforts on student outcomes and industry advancement. Addressing these challenges requires sustained efforts from educational institutions, enterprises, and policymakers alike, as well as a cultural shift toward deeper, more meaningful collaboration.

3.4 Case Study Analysis

Shenzhen Polytechnic University(Figure 1)

Shenzhen Polytechnic University (SZPT) is located in Shenzhen. As a global hub of innovation and industry, SZPT has strategically leveraged its advantageous position to cultivate profound partnerships with a range of industry giants, including Huawei, ZTE, Tencent, and other influential enterprises. These partnerships are not surface-level or symbolic; they are woven deeply into the university's governance, curriculum, and research strategies. Over the years, SZPT has built an extensive network of more than 30 industry-specific colleges, each meticulously aligned with a corresponding industrial sector, and has developed numerous enterprise-sponsored laboratories and research centers. This ambitious ecosystem has not only elevated the university's academic profile but also positioned SZPT as a vital driver of the regional innovation economy, bridging the traditionally wide gap between theoretical academic instruction and the evolving, real-world demands of modern industries. The result is a dynamic learning environment where academic inquiry and industry application coexist and reinforce each other, ensuring that SZPT graduates are both intellectually equipped and practically experienced.



Figure 1, birdview of Shenzhen Polytechnic University(Sourece: https://www.szpu.edu.cn/)

The operational mechanisms that define SZPT's approach to IEI are distinguished by their depth and sophistication. Central to this model is the direct, active involvement of enterprises in shaping the educational process. Partner companies collaborate closely with academic departments to co-design curricula, ensuring that the knowledge and skills imparted to students remain relevant and future-focused. Beyond curriculum input, industry partners influence faculty recruitment, contributing to a faculty body that blends academic rigor with industrial experience. Through the implementation of a dual-mentor system, students are mentored not only by academic scholars but also by seasoned industry professionals, gaining a balanced and comprehensive understanding of both theoretical frameworks and practical realities. This model extends to numerous enterprise-sponsored scholarship programs and joint innovation laboratories, which foster a vibrant culture of collaborative learning and applied problem-solving. These initiatives encourage students to engage with real-world industrial challenges throughout their studies, promoting critical thinking, innovation, and hands-on skills that are increasingly valued in the labor market. In transforming the traditional university-industry relationship into one characterized by deep integration and co-development, SZPT has redefined what it means to prepare students for meaningful, impactful careers.

Further strengthening its position, SZPT has made research and innovation a central pillar of its mission, embedding collaborative research initiatives within its broader educational framework. The university has developed several R&D platforms, such as the Intelligent Manufacturing Research Institute established with Huawei, creating spaces where students and faculty collaborate with industry partners on applied research projects. These initiatives not only advance the frontiers of technological knowledge but also ensure that research outputs have direct, tangible benefits for industrial practices and societal development. Students are integrated into these research efforts from early in their academic journeys, gaining critical exposure to the processes of innovation, experimentation, and technology transfer. This hands-on involvement in cutting-edge projects fosters a strong culture of entrepreneurship and continuous learning among students and faculty alike. The outcomes of these efforts are striking: SZPT boasts exceptionally high graduate employment rates, with a large proportion of students receiving job offers from leading companies before graduation. Employers consistently praise SZPT graduates for their practical skills, adaptability, and immediate readiness to contribute to organizational success. Beyond these employment statistics, SZPT's influence is evident in the significant

innovations and technological contributions arising from its collaborative programs. Nationally recognized as a benchmark institution for vocational education reform, SZPT demonstrates how strategic vision, committed partnerships, and a relentless focus on practical excellence can position applied vocational universities at the forefront of educational and industrial innovation.

Nanjing Institute of Industry Technology(Figure 2)

Nanjing Institute of Industry Technology (NIIT) is situated in Nanjing, a city celebrated for its industrial dynamism and innovation. NIIT has cultivated enduring partnerships with industries ranging from advanced manufacturing to new energy. Rather than replicating standard models, NIIT has pioneered its own approach, emphasizing practical skill development, enterprise collaboration, and a forward-looking educational vision. This strategy has enabled the university to address immediate labor market demands while preparing students for future industrial transformations, reinforcing NIIT's role as a driver of regional economic growth and talent advancement.

Central to NIIT's IEI success is its seamless integration of industry standards into academic programs. The university has established industry advisory boards comprising seasoned professionals who collaborate closely with faculty to ensure that curricula stay current with market trends and technological progress. Through a dual-professor system, NIIT mandates that faculty possess real industry experience, enriching academic teaching with practical knowledge. Adjunct professors from leading enterprises further strengthen this bridge between theory and practice, offering students industry-relevant insights and fostering an education that is immediately applicable to the workplace.



Figure 2, gate of Nanjing Institute of Industry Technolog, (Source: https://www.niit.edu.cn/4048/list.htm)

Beyond traditional instruction, NIIT excels in blending learning with work through its modern apprenticeship programs, where students divide their time between classrooms and real-world enterprise settings. These programs provide progressive, structured learning experiences, allowing students to develop hands-on competencies while internalizing a professional work ethic. NIIT's commitment to innovation is further evident in its technology transfer centers and industry collaboration platforms, encouraging applied research and entrepreneurial activities. Graduates of NIIT are consistently recognized for their technical excellence and workplace readiness, and the university's influence extends beyond education into driving industrial advancement and regional innovation. NIIT's model demonstrates that deep, sustained integration with industry yields graduates who are not only knowledgeable but truly industry-ready.

Aspect	Shenzhen Polytechnic University	Nanjing Institute of Industry Technology
Location	Shenzhen, Guangdong	Nanjing, Jiangsu
Industry Partnerships	Huawei, ZTE, Tencent, etc.	Advanced manufacturing, electronics, new energy sectors
IEI Operational Model	Enterprise participation in governance, curriculum, dual-mentor system	Industry advisory boards, dual- professor model
Curriculum Design	Co-designed with enterprises, frequent updates	Curriculum updated via industry advisory boards
Faculty Composition	Academics + Industry Experts (Dual- mentor system)	Faculty with industry experience + adjunct professors
Student Training Model	Internships, cooperative education, industry projects	Modern apprenticeship programs
Research & Innovation Platforms	Industry colleges, joint innovation labs (Intelligent Manufacturing Research Institute)	Technology transfer centers, applied research hubs
Graduate Employment Rate	Exceptionally high, many pre- graduation job offers	Consistently high, particularly in Yangtze River Delta
Key Strengths	Extensive industry integration, innovation hubs, enterprise-	Strong regional collaboration, practical skill emphasis, modern

Table 1: Comparison of Industry-Education Integration Models between SZPT and NIIT

	embedded model	apprenticeship integration
Challenges	Keeping up with rapid technological shifts, ensuring sustained enterprise engagement	6 6

IV. Exploration of Innovative Paths

4.1 Innovative Paths for Industry-Education Integration in Chinese Applied Vocational Universities

To achieve deeper and more sustainable integration between education and industry, Chinese applied vocational universities must pursue innovative pathways. First, establishing a multi-stakeholder collaborative education mechanism is essential. This approach involves not only universities and enterprises but also government agencies, industry associations, and research institutions working together. Such a network ensures that talent development is aligned with national strategies, regional economic needs, and industry transformations, leading to a dynamic, responsive education system.

Second, promoting cross-boundary integration through the establishment of industry colleges is key. These colleges should transcend traditional academic structures, integrating multiple disciplines and connecting teaching with enterprise production and innovation. Industry colleges serve as platforms where students, faculty, and enterprise experts co-create knowledge, develop skills, and engage in real-world problem-solving, making education more relevant and future-oriented.

Third, a two-way talent flow mechanism between universities and enterprises should be institutionalized. Encouraging faculty to engage in enterprise projects and professionals to participate in academic teaching creates a vibrant exchange of ideas and practices. Such mobility enhances the professionalization of teaching staff and ensures that curricula remain grounded in the realities of industrial development. Students also benefit through mentorship and exposure to industry trends, improving their adaptability and competitiveness.

Fourth, building robust research and technology transfer collaboration platforms is critical. Universities should not only engage in applied research but also facilitate the commercialization of research outputs in partnership with enterprises. Technology transfer centers and joint R&D labs foster innovation ecosystems where academic research addresses real industrial challenges, driving mutual growth.

4.2 Policy Recommendations for High-Quality Development of Industry-Education Integration

To foster high-quality IEI development, policy support is indispensable. Governments should establish comprehensive incentive frameworks, including funding, tax benefits, and recognition programs to encourage enterprise participation. Clear regulatory standards and evaluation systems must be implemented to ensure consistency and effectiveness. Additionally, policies promoting faculty industry experience and supporting joint research initiatives will sustain and elevate the integration efforts, ensuring that applied vocational universities remain engines of innovation and skilled workforce development.

Conclusion

Both Shenzhen Polytechnic University and Nanjing Institute of Industry Technology demonstrate that deep collaboration between universities and industries can effectively bridge the gap between academic learning and practical skills, fostering graduates who are highly adaptable, skilled, and ready to contribute to industrial development. Through mechanisms such as dual-mentor systems, enterprise-involved curriculum design, modern apprenticeship programs, and joint research platforms, these universities have established innovative models of cooperation that align education with the dynamic needs of the economy.

However, challenges remain, including maintaining the relevance of curricula amidst rapid technological change and ensuring consistent enterprise engagement. To address these issues, this study proposes several innovative pathways, such as multi-stakeholder collaborative mechanisms, cross-disciplinary industry colleges, two-way talent exchange systems, and robust research and technology transfer platforms. Additionally, the study emphasizes the importance of supportive policies, including incentives for enterprise participation and frameworks for quality assurance. By continuously evolving and innovating, applied vocational universities can solidify their role as key contributors to national development, providing a steady pipeline of skilled talent for China's modern industrial economy.

References

[1] Y. Li and H. Wang, "Exploration of Industry-Education Integration Model in China's Applied Universities," Modern Education Management, vol. 12, no. 1, pp. 14-22, 2021.

[2] L. Shen, Z. Zhou, and J. Yu, "Innovative Practices of Industry-Education Integration in Shenzhen Polytechnic University," Chinese Journal of Vocational Education, vol. 37, no. 5, pp. 45-50, 2021.

[3] D. Euler, Germany's Dual Vocational Training System: A Model for Other Countries?, Gütersloh: Bertelsmann Stiftung, 2013.

[4] M. Zhou and Y. Huang, "Human Capital Development through Industry-Education Collaboration: China's Experience," Asia Pacific Education Review, vol. 24, no. 1, pp. 67-81, 2023.

[5] P. Ryan, "The School-to-Work Transition: A Cross-National Perspective," Journal of Economic Literature, vol. 39, no. 1, pp. 34–92, 2001.

[6] J. Li and J. Guo, "The Evolution and Innovation of Industry-Education Integration in Chinese Higher Vocational Education," Journal of Vocational Education Research, vol. 38, no. 2, pp. 55-62, 2019.

[7] Y. Zhao and S. Yuan, "Barriers and Strategies of Deepening Industry-Education Integration in Chinese Vocational Colleges," Vocational and Technical Education, vol. 43, no. 4, pp. 92-98, 2022.

[8] C. Wang, "Challenges and Countermeasures of Industry-Education Integration in China's Applied Vocational Colleges," Vocational Education Forum, vol. 16, no. 3, pp. 87-93, 2022.

[9] Y. Wang and L. Zhang, "Research on the Deep Integration of Industry and Education in Higher Vocational Colleges," Journal of Vocational Education Research, vol. 39, no. 3, pp. 33-40, 2022.

[10] L. Shen, Z. Zhou, and J. Yu, "Innovative Practices of Industry-Education Integration in Shenzhen Polytechnic University," Chinese Journal of Vocational Education, vol. 37, no. 5, pp. 45-50, 2021.

[11] G. S. Becker, Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education, 3rd ed., Chicago: University of Chicago Press, 1993.

[12] H. Chesbrough, Open Innovation: The New Imperative for Creating and Profiting from Technology, Boston, MA: Harvard Business School Press, 2003.

[13] J. Li and J. Guo, "Exploration of Collaborative Innovation Mechanisms between Vocational Colleges and Enterprises," Vocational and Technical Education, vol. 41, no. 7, pp. 66-70, 2020.

[14] D. Euler, Germany's Dual Vocational Training System: A Model for Other Countries?, Gütersloh: Bertelsmann Stiftung, 2013.

[15] P. Ryan, "The School-to-Work Transition: A Cross-National Perspective," Journal of Economic Literature, vol. 39, no. 1, pp. 34-92, 2001.

[16] Y. Zhao and S. Yuan, "Barriers and Strategies of Deepening Industry-Education Integration in Chinese Vocational Colleges," Vocational and Technical Education, vol. 43, no. 4, pp. 92-98, 2022.

[17] C. Zhang and W. Liu, "Analysis of the Evolution and Trends of Industry-Education Integration in China's Vocational Education," Modern Education Science, vol. 8, no. 2, pp. 23-29, 2022.

[18] M. Zhou and Y. Huang, "Human Capital Development through Industry-Education Collaboration: China's Experience," Asia Pacific Education Review, vol. 24, no. 1, pp. 67-81, 2023.