

Innovation reform and the practice of the sector-training integration mechanism in vocational education: a case study of cooperation with Mingkanghui Eco-Agriculture Group

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Abstract

Reforming and innovating the industry-education integration mechanism in vocational education is an important topic in the current educational field. The goal is to closely connect industry needs with vocational training to improve students' professional qualities and skills, thereby supporting economic growth and industry upgrading. Through policy support and school-enterprise collaboration, vocational schools and businesses jointly develop courses, organize internships, and provide practical training, helping students enhance their hands-on skills and employability. Industry-education integration goes beyond school-business connections; it also includes aligning majors with industry demands and course content with professional standards, among other levels. Building innovative platforms for integration, improving policy frameworks, and promoting high-quality vocational education are all vital to meet industry needs and achieve a precise match between the supply and demand for technical and skilled talent.



Full Text Article



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Keywords: Vocational Education, Industry-Education Integration, School-Enterprise Cooperation, Talent Training

Introduction

Industry-education integration in vocational education is a talent training model that closely links industry demands with educational cultivation, focusing on effectively aligning educational resources with industrial needs. This model not only helps improve students' professional qualities and skills but also plays a significant role in promoting economic transformation and industrial

upgrading [1]. The National Development and Reform Commission, together with the Ministry of Education and six other departments, jointly issued the "Vocational Education Industry-Education Integration Empowerment Action Plan (2023-2025)," proposing 19 policies across five areas to promote the high-quality development of industry-education integration in vocational education. The plan emphasizes coordinated solutions to the disconnection between talent training and industry development, innovatively building platforms for industry-education integration, continuing pilot projects for industry-education integration, and improving comprehensive policy systems that provide incentives and empowerment [2]. Furthermore, the National Development and Reform Commission and other departments are actively advancing the construction of pilot cities and industry-education integration enterprises to better integrate industrial needs into the entire talent training process [3].

School-enterprise cooperation is an essential path for the development of vocational education, with enterprises being a key player in vocational education. Many vocational schools collaborate with enterprises to jointly develop courses, combining business practices with classroom teaching to enhance students' practical skills and employability [4]. Industry-education integration involves not only simple school-enterprise connections but also the alignment of majors with industries, schools with enterprises, course content with vocational standards, and teaching processes with production processes across multiple levels [5]. The purpose of this deep cooperation is to integrate educational and industrial resources effectively, promote students' vocational skills training, and meet the talent needs of industrial development. The essence of industry-education integration in vocational education is to achieve comprehensive integration between the industry chain and the talent chain, fostering a highly complementary, integrated, and collaborative relationship [6]. This cooperation model not only promotes in-depth alignment between industry and education but also enables precise matching between the supply and demand for skilled technical talent, forming an educational partnership between government, industry, businesses, and schools. Schools and enterprises can share resources and complement each other's strengths. Moreover, industry-education integration highlights cross-sector cooperation, dual ownership, and dynamic adaptability [1]. This means that industry-education integration is not just a vocational education model but also a new type of social relationship that involves multiple stakeholders such as government departments, industry associations, enterprises, and educational institutions, thereby better aligning educational content with market needs to improve students' practical skills and employability. In practice, the implementation of industry-education integration includes strategies such as resource integration and contractual cooperation, as well as cultural, institutional, model, professional, and curriculum integration. These approaches and strategies together form the practice path of industry-education integration, aiming to deepen the collaboration between vocational education and industry through diversified cooperation models and innovative mechanisms.

The reform, innovation, and practice of the industry-education integration mechanism in vocational education is a key topic in the current educational landscape. This mechanism aims to strengthen the close link between schools and industries, ensuring the effective alignment of educational content with job market requirements, thereby enhancing graduates' employability and adaptability. The core of industry-education integration is to connect vocational education closely with industry development, ensuring that educational content and training models can respond promptly to market changes and business needs. For example, by visiting enterprises and

conducting surveys of social needs, schools can gain in-depth insights into employers' requirements regarding the knowledge, abilities, and qualities of graduates, and adjust course content and teaching plans accordingly. This approach not only helps enhance students' practical abilities but also boosts their competitiveness in the job market [7]. Many vocational schools have established close partnerships with enterprises to jointly develop talent training plans and teaching programs, conduct on-demand training, and internship projects, providing students with more real-world work environments and practical opportunities. For example, our school, Zhejiang Business College's School of Economics and Management, signed a school-enterprise cooperation agreement with Hailiang Group's Mingkanghui Ecological Agriculture Group Co., Ltd., combining the characteristics of the enterprise and the actual situation of the major, focusing on deep school-enterprise integration, with high-tech skills talent training as the core, using teaching models and curriculum reform as the link, to explore building a new talent training mechanism that meets the needs of industry and enterprises. This involves aligning the program setup with industry needs, teaching processes with production processes, and course content with vocational standards and job skill standards to enhance the quality and relevance of talent training.

Over more than a decade of practical school-enterprise cooperation, industry-education integration has undergone beneficial exploration from shallow to deep levels. Deepening industry-education integration is the fundamental path for developing modern vocational education in the new era. Schools and enterprises jointly explore and implement professional talent training as dual stakeholders, deeply integrating technology, faculty, culture, and human resources. Through an enterprise-oriented training approach and vocational training processes, both parties participate throughout in designing and implementing training programs, evaluating outcomes, and jointly nurturing talent. The "Thousand Hours Plan" and industry-education integration serve as entry points, integrating enterprise human resource management with school teaching resources to create a shared training system and resource library, covering school professional education, internal enterprise training, and continuing social education. This includes integrating full-time teachers with enterprise trainers. Ultimately, an integrated training system both inside and outside the school is established to facilitate joint development of schools and enterprises and mutual benefits for both students and employees.

Strengthening Top-Level Design: Establishing a "Party Building & Industry-Education" Integration Mechanism with Dual-Line Promotion

A leadership group was established for the "Professional Ideological and Political Education + Industry-Education Integration" initiative, with the Party Secretary of the College General Branch as the primary person in charge. The group's top-level design focuses on "dual-color leadership and tripartite collaboration." It builds an organizational leadership system based on a "three-level linkage" model involving the College Party General Branch, Professional Party Branch, and Enterprise Party Branch, with a "progressive leadership" approach. This structure forms a work framework characterized by unified leadership of the General Branch, joint management by both party and administration, coordination led by school-enterprise branches, collaborative school-enterprise action, and implementation by enterprise Party branches and research offices. The

College Party General Branch firmly implements the national strategy for innovation-driven development, with the vocational education goal of fostering a high-skilled talent workforce to support national reform and development. It emphasizes talent co-development between the college and enterprises, broadens the concept of "collaborative education involving schools, industries, enterprises, and society," and solidly promotes the "Party Building + Industry-Education Integration" cooperation model. The model establishes a talent cultivation mechanism involving joint training, faculty assistance, shared base construction, joint internship training, project co-promotion, and collaborative technical research.

Deep Collaboration Among Schools, Industries, Enterprises, and Communities: Exploring New Ideas for Party Building

The College Party Branch signed a "paired co-building" agreement with Mingkanghui Ecological Agriculture Group Co., Ltd. The partnership aims to create a new Party building framework of "resource sharing, complementary advantages, mutual promotion, and joint improvement" under the theme of "Party Building Leads Synergy, Industry-Education Integration Promotes Development."

Establishing a "1+1+1" New Training Path: Leveraging Ideological and Political Education

The College follows the principle of combining "going out" and "bringing in" through a three-phase "Red Engine" project named "1+1+1." In the first-year phase, enterprise Party members are invited to teach students, lead enterprise visits, and familiarize them with industry conditions, instilling professional ethics. During the second-year phase, students participate in enterprise internships, learning about corporate culture, practicing job skills, and engaging in work-related research. In the third-year phase, classes transition to the enterprise, with courses co-taught by enterprise mentors and college teachers, emphasizing craftsmanship such as pragmatism, innovation, and excellence. Additionally, students are trained to possess qualities such as diligence, perseverance, and a pursuit of excellence, while fostering a commitment to social responsibility and establishing a proper view of employment.

Integrating Party Building with Employment Guidance: Enhancing Precision Service Mechanisms

The College uses Party building as a key component in education and incorporates employment guidance into its approach, transforming the vitality of Party organizations into strong momentum for employment guidance work. It fully utilizes Party branch meetings, small group discussions, organization activities, and all aspects of Party member development and education to combine Party building with employment guidance. A three-level mentoring system is established involving ideological mentors, enterprise mentors, and professional mentors to strengthen employment guidance, help students adjust their career expectations, and find the right career path. Additionally, targeted job information is provided, graduation internships are scientifically arranged, and support is given for graduates to obtain occupational skill certificates, thereby enhancing their professional skills for employment.

"Three Stages, Four Commonalities, Five Sequences" Talent Training Model

The School of Economics and Management at Zhejiang Business College, following the requirements of the "school-enterprise cooperation and work-study combination" talent training model, has established a professional advisory committee composed of government departments, industry associations, and corporate experts to participate in the entire talent training process. Joint school-enterprise training is the main model for cultivating talent in higher vocational education, and the College has cooperated with over 50 enterprises to form in-depth "2+1" order-based teaching classes. The focus remains on serving students in order-based classes, choosing enterprises that value the training of reserve talent, recognize the effectiveness of school-enterprise cooperation, have industry influence, are developing quickly, and have well-established training systems.

In the six-month industry-education integration period, students first undergo a 1-2 week corporate management trainee induction training course, including company culture and professional courses. Then, through job rotation across various departments, students undertake internships, typically learning the basic operational process of a different project every three days under the guidance of mentors. During this phase, students gain a preliminary understanding of department operations and acquire one or two basic operational skills, such as cashiering or stocking. Additionally, they explore their own interests, laying a foundation for future employment.

Once students determine their interests, training mentors and the operations department head decide on practical projects and training schedules. On this basis, students join the work schedule alongside employees, combining job participation with focused learning of the established training topics. After completing 1,000 hours of internship and part-time work at Mingkanghui Enterprises, students are given priority for retention as corporate management trainees and, after assessment, prioritized for the company's "Elite Training Program," providing opportunities for rapid advancement after graduation. During this time, students gradually understand and integrate into the enterprise, developing basic behavioral norms and preparing for future roles in management.

"Three-Stage" Vocational "Sandwich" Talent Training Model

The College began its collaboration with Mingkanghui in 2021, signing an industry-education integration talent training cooperation framework agreement to jointly implement the teaching plan established through school-enterprise cooperation. The plan involves a three-stage (fundamental theory, professional skills, and on-the-job internship) training framework and a dual mentorship system, creating a "sandwich" talent training model that integrates theoretical study with practical internships. This model emphasizes the combination of theory and practice, helping students deepen their understanding of theoretical knowledge through hands-on experience, and better aligning them with the job market's actual requirements.

"Four Commonalities" Industry-Education Integration Modern Talent Training Plan

Over three years, the training focuses on an enterprise-style approach and a professional cultivation process, establishing a "Four Commonalities" school-enterprise integration model: shared resources, jointly developed courses, co-education of teachers, and jointly managed

processes. This approach moves beyond fragmented "school-enterprise cooperation" to a comprehensive, whole-process "industry-education integration." Enterprises and the College collaborate to cultivate compound, high-quality technical talent that meets industry needs. During the students' time at school, the "dual-teacher" model is implemented, involving both school and enterprise instructors, while during internships, a "dual-mentor" approach is used. The entire faculty is involved in training students, deeply integrating school and enterprise resources.

The training is divided into three distinct stages over three years: the first year focuses on comprehensive theoretical education led by the College, fostering general capabilities; the second year involves both school and enterprise training to build core professional skills and guide future career choices; the third year involves on-the-job internships facilitated by cooperating enterprises, following enterprise-based job skills training courses throughout.

"Five Sequences" Industry-Education Integration Training Practice

The entire talent training plan also embeds courses on business model innovation and integrates cutting-edge corporate knowledge into teaching. Related courses are developed jointly, combining enterprise presentations and training into a "Five Sequences" curriculum training system, creating a progressive training structure under the "Zhejiang Business College Mingkanghui Management Trainee - Extraordinary Plan" order-based program. For example, the functional sequence includes courses such as team management for new employees; the technical sequence integrates assessments for vocational skill certification in collaboration with the School of Economics and Management; the sales sequence involves training for new sales recruits and elite sales personnel; the operational sequence starts with preparing for future store management roles and trains reserve managers; and the production sequence involves training staff from entry-level production to general management, deepening their career development within the company.

The College adheres to the principle of student voluntariness, creating a three-step mutual selection process (as shown in Table 1) that ultimately leads to labor contract signing, achieving in-depth industry-education integration and ensuring high-quality initial employment for graduates.

NO.	CONTENT DESCRIPTION	RESPONSIBLE PERSON
1	Cooperation Agreement Signing	Government Department, Industry Association, Cooperative Enterprise
2	Teacher Team Formation, Curriculum Planning	College, Cooperative Enterprise
3	Implementation of Teaching Plan, Course Arrangement	College, Cooperative Enterprise
4	Student Selection and Grouping (First Selection)	College, Cooperative Enterprise
5	Internship Agreement Signing, Internship Safety Education	College, Cooperative Enterprise
6	Establishing Practice Bases for Student Training	College, Cooperative Enterprise

NO.	CONTENT DESCRIPTION	RESPONSIBLE PERSON
7	Organizing Company Visits and Lectures to Understand the Business Environment	Cooperative Enterprise
8	Implementation of Enterprise Mentorship System	Cooperative Enterprise
9	Student Internship and Participation in Company Business; Conducting On-site Learning	College, Cooperative Enterprise
10	Mentorship Evaluation, Student Performance Assessment	College, Cooperative Enterprise
11	Implementation of Internship Course Content	Cooperative Enterprise, College, Internship Enterprise
12	Training Safety Agreement Signing, Internship Launch	College, Internship Enterprise
13	Phase 2: Internship Arrangement, On-Site Activities	Cooperative Enterprise, Internship Enterprise
14	Stage 3: On-Site Participation in Production and Management	Cooperative Enterprise, Internship Enterprise
15	Establishing Mentor and Supervisor System for Student Employment Guidance	College, Internship Enterprise
16	Final Presentation of Achievements, Student-Employer Agreement Signing	College, Internship Enterprise
17	Graduation, Student Final Selection, Employment Contract Signing	Cooperative Enterprise, Internship Enterprise

Table 1 Description of each stage of industry-education integration in the School of Economics and Management

During the fifth semester, an order-based class is formed where students participate in industry-education integration at the enterprise. The College, in alignment with the company's talent development philosophy and management courses, designed three courses: "Corporate Culture," "Team Building," and "Emergency Response for Unexpected Incidents." The company evaluates students' performance in these courses, while the College provides lectures on "Advanced Professional Knowledge" delivered directly at the enterprise. Additionally, the company has established two distinct career development paths for students in the order-based class, providing management trainees with clear advancement options—either through market competition or practical experience in chain store operations, to meet different career development needs.

The College also places great importance on the arrangement of the teaching process for industry-education integration. Before students enter the enterprise, the College assigns specialized internal guidance teachers to assist in managing the students alongside the company. These teachers also conduct on-site inspections regarding student accommodation and work conditions, address potential safety concerns, and coordinate with the enterprise in managing student affairs. A "School of Economics and Management Corporate Teacher Mobile Workstation" has been established at

Mingkanghui, allowing guidance teachers to deepen their understanding of student cultivation pathways within the company, providing full-cycle, tracking-based guidance according to the company's training model and schedule.

Features and Highlights

Comprehensive Integration in the Training Process, Deep Sharing of School-Enterprise Resources

Based on the cooperation agreement, the school and enterprise have successively formulated joint enrollment methods for talent cultivation, enterprise-style student management methods, "dual mentor" management methods, teaching quality management methods, and other related policies. These also include a series of procedures such as management trainee development processes, salary systems for management trainees, and job evaluation and promotion management methods. The enterprise is fully involved in talent cultivation and curriculum system development, which includes general education courses, foundational professional courses, vocational skills courses, and industry-education integration content. Additionally, students participate in project-based teaching and specialized training courses through school-based retail clubs such as the "Smart Retail Club" and the "Small and Beautiful Chain Store Club," organizing real-life training activities in an on-campus training supermarket, conducting retail case studies, and participating in skills competitions. These activities are aimed at helping students gain in-depth understanding of the industry, learn professional knowledge, and develop their professional skills.

Seamless Integration of Training Objectives, Supporting Smooth Transition of Student Roles

Building on the deepening of professional classroom teaching, the College and Mingkanghui Ecological Agriculture Group launched the "Thousand Hours Plan," breaking down time and space barriers by extending the classroom into the second classroom. Students are encouraged to participate in social practice with enterprises from their freshman year, gaining work experience and hourly pay during part-time roles. Since the industry-education integration collaboration began in 2021, the retention of relevant interns and the career advancement of students has been significant, with increased professional knowledge and skill development through practical training that combines teaching with real-world application. Students have shown significant improvement in organizational communication abilities during the practical internship scenarios.

After completing these two phases of training and internships, students who persist and meet the standards have typically achieved the competence and level equivalent to a store manager. The training plan, which gradually progresses from simple to complex, has proven to align well with the learning characteristics of vocational students and the growth trajectory of talent in chain supermarkets, demonstrating its feasibility and effectiveness.

Additionally, part-time work in school-enterprise cooperative enterprises can count towards 200 hours of annual social practice and provide 0.5 credits for the semester's social investigation and practice course. This practice has also served as a prototype for the collaborative project titled "Party Building Leads School-Enterprise Cooperation for a New Model, Synergistic Talent Development Promotes Industry-Education Integration," which explores a new model of school-

enterprise cooperation. Based on this, logistics and retail talent development systems have been established for Mingkanghui.

Highly Integrated Faculty Development, Joint School-Enterprise "Dual Mentor" Team Building

Mingkanghui Ecological Agriculture Group is used as a practical training base for "dual mentor" faculty development. The enterprise and the College jointly establish an industry-education integration teacher training platform, aggregating training resources from both the school and the enterprise. Centered on practical projects, adhering to principles of usability and practicality, the school and enterprise jointly discuss faculty training plans, conduct joint assessments, and co-develop and enhance a dual-qualified faculty team with moral and technical competence. The industry-education integration teacher training platform includes aspects such as professional development, enterprise profiles, student success, teacher development center, and enterprise training management center.

Conclusion

The College has always taken political development as its guiding principle, focusing on enhancing organizational capacity and centering on professional development. It has fully implemented the "Party Building + Industry-Education Integration" demonstration initiative, adhering to the concept of "Party Building Leads, Discipline Empowers, Government-School-Enterprise-Society Synergy" in the exploration of industry-education integration. Through the leadership of Party building, the College has advanced the construction of standardized, digitized, branded, ecological, and demonstrative "Five-Factor" approaches to industry-education integration.

Since the start of school-enterprise cooperation, the College has strengthened top-level design, establishing a comprehensive industry-education integration mechanism. This has deepened integration among government, schools, industries, enterprises, and communities, actively exploring new developments and pathways, while building a complete talent selection and recruitment mechanism. By combining Party building with employment guidance, the College targets the needs for technical, marketing, and other professional talents, cultivating comprehensive management talent based on enterprise needs. Under the reform and innovation of the "One Integration, Dual Promotion, Three Stages, Four Commonalities, Five Sequences" industry-education integration mechanism, the College has effectively developed student training plans and cultivation methods.

Furthermore, the College has deepened school-enterprise cooperation and integrated work-study, combining practical training with teaching, bringing talent development into the campus by advancing course content and internships to better meet the speed of enterprise development. Dual stakeholders—the school and the enterprise—jointly explore and practice the cultivation of professional talents, deeply integrating technology, faculty, culture, and human resources. Through an enterprise-style training model and professional training process, the College comprehensively participates in the design, implementation, and evaluation of talent cultivation plans, realizing integrated talent cultivation between the school and enterprise.

Acknowledgement

Thanks school Funding: 2023 Zhejiang Business College Education and Teaching Reform General Project: "Research on the Path of Combining Industry-Education Integration with Innovation and Entrepreneurship Education in Colleges and Universities under the Background of Common Prosperity", Project Number: KT24002229.

Supporting agency

Funding: 2023 Zhejiang Business College Education and Teaching Reform General Project: "Research on the Path of Combining Industry-Education Integration with Innovation and Entrepreneurship Education in Colleges and Universities under the Background of Common Prosperity", Project Number: KT24002229.

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