

Reconstruction and Quality Assurance of the Practical Teaching System in Vocational Education within the Context of Industry–Education Integration

Liang Weicheng

Xiangyang Vocational College of Science and Technology, Xiangyang, Hubei, 441000, China

Abstract: Industry–education integration constitutes a fundamental pathway for the typological development of vocational education. Practical teaching, serving as the crucial link for demonstrating the distinctive features of vocational education and cultivating students’ technical and operational skills, is directly related to the quality of talent cultivation and its alignment with industry needs. At present, China’s vocational education practical teaching system still faces issues such as disconnection from industrial demands, insufficient school–enterprise collaboration, and weak quality control, making it difficult to meet the developmental requirements of deep industry–education integration. Based on the essence of industry–education integration, this paper elucidates the core principles and inherent logic behind reconstructing the vocational education practical teaching system, analyzes existing challenges, explores pathways for system reconstruction oriented by the integration of “post, course, competition, and certification,” and constructs a comprehensive quality assurance mechanism. The aim is to provide theoretical reference and practical pathways for enhancing the quality and effectiveness of vocational education practical teaching and cultivating high-quality technical and skilled talents that meet industrial demands.

Keywords: Industry–Education Integration; Vocational Education; Practical Teaching System; System Reconstruction; Quality Assurance

0. Introduction

The revised *Vocational Education Law of the People’s Republic of China* (2022) explicitly states that vocational education should deepen industry–education integration and school–enterprise cooperation, and implement a talent cultivation model that integrates work with study and combines knowledge with practice. The core tenet of industry–education integration is to achieve deep convergence between the educational chain, talent chain, and the industrial chain, innovation chain. Practical teaching, acting as the bridge connecting vocational colleges and enterprises, is the primary vehicle for implementing the work–study integration model and fostering students’ vocational skills and professional literacy.

Currently, China’s vocational education is at a critical juncture of typological development. Influenced by exam–oriented education traditions, the conventional practical teaching system suffers from drawbacks such as prioritizing theory over practice, favoring on–campus activities over enterprise engagement, and emphasizing form over substance. This has led to a disconnect between practical teaching and the actual requirements of enterprise positions, making it challenging to satisfy the specialized and interdisciplinary demands for technical and skilled talents in sectors like advanced manufacturing and modern services. Against the backdrop of normalized and deepening industry–education integration, reconstructing a practical teaching system that aligns with industrial needs and establishing a scientific and robust quality assurance mechanism have become urgent imperatives for advancing the high-quality development of vocational education and manifesting its distinctive value.

1. Core Principles and Inherent Logic of Reconstructing the Vocational Education Practical Teaching System under Industry–Education Integration

1.1 Core Principles

Under the context of industry–education integration, reconstructing the vocational education practical teaching system is not merely a simple adjustment of teaching content. Rather, it constitutes a systematic reshaping of all elements—including objectives, content, models, resources, and evaluation—guided by industrial demands and centered on job competency. Its core principles encompass three levels: First, Objective Reconstruction: Moving beyond the traditional “theory–dependent” orientation to establish a “job–aligned” practical objective, focusing on cultivating core job skills and professional literacy required by enterprises. Second, Content Reconstruction: Closely following industrial technological advancements and job standards, integrating on–campus practice, enterprise training, skill competitions, and vocational certification to achieve deep fusion of “post, course, competition, and certification.” Third, Subject Reconstruction: Breaking away from the model dominated solely by vocational colleges to establish a multi–stakeholder practical teaching implementation framework featuring school–enterprise collaboration, thereby accentuating the educational role of enterprises.

1.2 Inherent Logic

Industry–education integration and the reconstruction of the practical teaching system exhibit an inherent logic of “mutual empowerment and symbiotic coexistence.” On one hand, industry–education integration provides direction and support for reconstructing the practical teaching system. Industrial demands determine the goals and content of practical teaching, while enterprise resources offer authentic scenarios, technical equipment, and faculty support, thereby addressing the traditional problems of practical teaching being “disconnected from industry and lacking.” On the other hand, reconstructing the practical teaching system serves as a key lever for implementing industry–education integration. By optimizing teaching models and integrating school–enterprise resources, it facilitates the effective execution of collaborative talent cultivation between schools and enterprises, achieving precise alignment between talent development and enterprise job requirements. This, in turn, empowers industrial transformation and upgrading, forming a virtuous cycle of “industrial demand driving system reconstruction, system reconstruction promoting industry–education integration, and industry–education integration enhancing educational quality.”

2. Existing Challenges of the Vocational Education Practical Teaching System under Industry–Education Integration

2.1 Misalignment Between Practical Teaching Objectives/Content and Industrial Needs

Some vocational colleges continue to adhere to conventional teaching philosophies. Their practical teaching objectives often emphasize the standardization of skill operations while neglecting the cultivation of comprehensive literacy and innovation capabilities demanded by enterprise positions, resulting in a disconnect from the need for interdisciplinary technical and skilled talents driven by industrial upgrading. Regarding content design, issues of homogeneity and obsolescence persist. Course content is not updated promptly, failing to incorporate cutting–edge industrial technologies and the latest job standards. Traditional practical content lags behind technological in fields like advanced manufacturing and the digital economy, creating a significant gap between practical teaching and actual enterprise job requirements.

2.2 Inadequate School–Enterprise Collaborative Practice Mechanisms

Industry–education integration often remains at a superficial level of cooperation, with imperfect collaborative practice mechanisms between schools and enterprises. On one hand, enterprises show limited enthusiasm for participating in practical teaching due to a lack of effective incentives

and mechanisms. Most enterprises provide only basic training positions without deeply engaging in the entire process of setting objectives, designing content, and conducting evaluations for practical teaching, leading to a scenario of “enthusiastic institutions, .” On the other hand, school–enterprise partnerships often lack long–term sustainability. Cooperation is frequently based on short–term projects, lacking stable collaborative platforms and mechanisms, which hampers resource sharing and complementary advantages, thereby constraining the regular implementation of collaborative practical teaching.

2.3 Insufficient Resource Support for Practical Teaching

Inadequate resource has become a major bottleneck limiting the quality of practical teaching. In terms of hardware resources, vocational college training facilities are often outdated. Some equipment is aging and lacks sufficient levels of intelligence, making it difficult to simulate real enterprise production environments. Concurrently, enterprises’ willingness to high–quality training resources to colleges is limited, resulting in low resource sharing rates. Regarding teaching staff resources, the development of “dual–qualification” teachers is. Some instructors lack practical enterprise experience, and their practical teaching abilities do not match the level of industrial technology. Channels for skilled enterprise technicians to participate in teaching are, and their involvement is often unstable, failing to meet the demands of high–quality practical teaching.

3. Pathways for Reconstructing the Vocational Education Practical Teaching System under Industry–Education Integration

3.1 Anchor Industrial Needs to Reconstruct the Practical Teaching Objective and Content System

Guided by industrial demands, construct a “job competency–oriented” practical teaching objective system. Clearly define a three–tier objective structure encompassing foundational skills, core skills, and comprehensive literacy, balancing skill operations with the cultivation of innovation capabilities and professional ethics to align with enterprise job requirements. For content reconstruction, deepen the integration of “post, course, competition, and certification.” Collaborate with industry associations and enterprises to identify core job skill points. Integrate enterprise job standards, industry skill competition content, and vocational skill level certification requirements into practical teaching content. Eliminate obsolete content and introduce cutting–edge industrial technologies and hands–on projects to build a modularized, differentiated practical teaching content system, achieving precise alignment between practical content and job demands.

3.2 Deepen School–Enterprise Collaboration to Reconstruct the Practical Teaching Implementation Model

Move beyond the institution–dominated model to establish a school–enterprise collaborative practical teaching implementation framework. First, build collaborative platforms. Promote the joint establishment of industrial colleges, training bases, and master studios by schools and enterprises, transforming enterprise production workshops into training classrooms to achieve “real–scenario” practical teaching. Second, implement diversified practical models. Integrate various forms such as on–campus foundational training, enterprise internships, modern apprenticeship programs, and skill competition preparation, realizing the goal of “building a foundation through on–campus training and enhancing capabilities through enterprise practice.” Third, improve the school–enterprise collaborative mechanism. Clarify the rights and obligations of both parties, establish benefit–sharing and incentive mechanisms, and guide enterprises to participate deeply in the entire practical teaching process to address the issue of “enthusiastic institutions, .”

3.3 Integrate High-Quality Resources to Strengthen Practical Teaching Support

Build a practical teaching resource support system characterized by school-enterprise co-construction and sharing. For hardware resources, increase investment in college training facilities, upgrade to intelligent training equipment, and establish training platforms that simulate real enterprise environments. Simultaneously, create school-enterprise training resource sharing mechanisms to encourage enterprises to their high-quality production equipment and technical resources to colleges, improving resource utilization rates. For teaching staff resources, enhance the cultivation and introduction mechanisms for “dual-qualification” teachers. Encourage teachers to gain practical experience in enterprises and participate in enterprise technology R&D. Increase efforts to recruit skilled enterprise technicians and master craftsmen, form school-enterprise mixed practical teaching teams, and elevate the professionalism of practical teaching.

4. Constructing a Quality Assurance Mechanism for Vocational Education Practical Teaching under Industry-Education Integration

4.1 Establish a Multi-Party Collaborative Quality Evaluation Mechanism

Move away from the and construct a diversified evaluation system involving “institutional self-assessment, enterprise evaluation, industry review, and third-party assessment.” Clarify the responsibilities of each evaluation. Institutions should focus on monitoring the practical teaching process and assessing students’ foundational skills. Enterprises should emphasize evaluating job adaptability and practical. Industry associations should conduct reviews of professional skills and. Third-party organizations should perform objective and impartial comprehensive assessments. Optimize evaluation indicators by balancing explicit and implicit measures, highlighting job adaptability, practical ability, and innovation capability to formulate scientific evaluation standards.

4.2 Build a Full-Process Dynamic Monitoring Mechanism

Establish a dynamic monitoring mechanism covering the entire practical teaching process to achieve closed-loop management encompassing “pre-implementation forecasting, in-process control, and post-implementation improvement.” Prior to implementation, conduct research on industrial needs and job standards to precisely, and review practical teaching content and plans. During implementation, dynamically track the execution of practical teaching, the status of school-enterprise collaboration, and student performance, promptly identifying and resolving issues. Following implementation, evaluate the effectiveness of practical teaching, summarize experiences and shortcomings, and optimize practical teaching plans and implementation models to drive continuous improvement in practical teaching quality.

5. Conclusion

Within the context of industry-education integration, the reconstruction and quality assurance of the vocational education practical teaching system are critical measures for promoting the high-quality development of vocational education and manifesting its typological value. They are also central pathways for implementing the educational philosophy of integrating work with study and combining knowledge with practice. Currently, the practical teaching system still confronts challenges such as misalignment with industrial needs, insufficient school-enterprise collaboration, and weak quality assurance. It is imperative, based on the essence of industry-education integration, to reconstruct practical teaching objectives, content, and models; integrate high-quality school-enterprise resources; construct multi-party collaborative quality evaluation and dynamic monitoring mechanisms; and strengthen policy and institutional support. This will achieve precise alignment between practical teaching and industrial demands, cultivate high-quality technical and skilled talents, and provide robust support for the advancement of vocational education and socioeconomic development.

References:

- [1]Xu Guoqing. The Reconstruction Logic of the Vocational Education Practical Teaching System under the Background of Industry–Education Integration [J]. Educational Research, 2022(09): 130–140.
- [2]Shi Weiping. The Core Path of Vocational Education Practical Teaching Reform: Industry–Education Integration and the Fusion of Post, Course, Competition, and Certification [J]. Higher Education Research, 2023(01): 89–97.
- [3]Jiang Dayuan. Reconstruction and Innovation of the Practical Teaching System from the Perspective of Industry–Education Integration [J]. Vocational and Technical Education, 2021(22): 15–21.