

Reform and Timing of Industry English Teaching in Higher Vocational Colleges under the Context of Industry-Education Integration

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Abstract: With the deepening of globalization and industry-education integration in vocational education, enhancing higher vocational students' ability in industry English application has become a critical issue for development. This study aims to explore effective pathways for reforming industry English teaching in higher vocational education under this context. By reviewing literature on industry English teaching theories and practices, and utilizing methods such as surveys and interviews with English teachers, industry practitioners, and students, we analyze existing problems in curriculum design, teaching methods, faculty quality, and evaluation systems. Findings indicate that curriculum-content misalignment with industry needs, a lack of diverse teaching models, and insufficient "dual-qualified" instructors are key factors limiting teaching quality. Consequently, this paper proposes constructing a "collaborative education" curriculum system that integrates real industry projects to optimize teaching content; innovating a "task-driven + situational simulation" teaching model to enhance students' practical skills; strengthening school-enterprise collaboration to build a mixed "dual-qualified" teaching team; and establishing a diversified evaluation mechanism to effectively align teaching processes with industry standards. The study demonstrates that systematic teaching reform can significantly enhance higher vocational students' comprehensive ability in using industry English, providing theoretical references and practical foundations for innovative English teaching in this context.

Keywords: Industry-Education Integration; Higher Vocational English; Industry English; Teaching Reform; Dual-Qualified Faculty

1. Introduction

1.1 Research Background and Significance

In the context of global value chain restructuring and rapid digital economy growth, China's "Belt and Road" initiative has led to a continuous increase in trade with participating countries, surpassing \$2 trillion in total imports and exports by 2023 [1]. Consequently, there is an explosive demand for professionals skilled in industry-specific English and specialized competencies across areas such as cross-border e-commerce, international engineering contracting, and multinational technical cooperation. The Ministry of Education has emphasized the need for vocational education to align with industrial transformations, promoting deep integration among education, talent, industry, and innovation chains [2]. As a critical course within vocational education, the quality of English instruction in higher vocational colleges directly impacts the professional performance of technical talent in international collaborations. However, current challenges include outdated course content and disconnection between teaching methods and professional scenarios, resulting in a significant gap between talent cultivation and actual enterprise needs, thereby hindering the effectiveness of vocational education in supporting industrial upgrades. This study focuses on reforms in industry-specific English teaching within higher vocational institutions against the backdrop of industry-education integration, holding significant theoretical and practical value. Theoretically, systematic research on reform pathways enriches the ESP (English for Specific Purposes) educational theory in vocational education. Practically, the findings will enhance students' English application skills in international trade negotiations, cross-border technical documentation, and international project collaborations, addressing the urgent

demand for international talent in enterprises. Additionally, fostering deeper integration between education and industry promotes precise alignment between vocational education supply and industry demand, contributing to the establishment of a modern vocational education system with Chinese characteristics and supporting high-quality regional economic development.

1.2 Review of Domestic and International Research

Research on industry-specific English teaching in vocational education began in the 1960s with the rise of ESP theory. The UK's vocational education system features a "sandwich" model, integrating alternating company internships with professional coursework, creating a paradigm for teaching industry-specific English that closely aligns with job requirements in sectors like hospitality and business management, effectively enhancing students' proficiency [3]. Australia's TAFE system has established a stringent industry participation mechanism, with industry associations leading curriculum standard formulation to ensure teaching content synchronizes with technological advancements, exemplified by the development of the "Business English Competency Framework" [4]. Germany's dual system of vocational education involves collaborative development of industry English training modules by enterprises and schools, facilitating the integration of language skills and vocational training through real work scenarios [5]. These practices provide valuable models and methods for reforming industry-specific English teaching in China's higher vocational colleges.

Domestic research on vocational English education reform within the context of industry-education integration has accelerated since 2010. Scholar Zhang Ming proposes a "dynamic adjustment" curriculum framework that incorporates cutting-edge industry terminology and business processes through joint curriculum development by schools and enterprises [6]. Liu Fang has designed a "Cross-Border E-Commerce English" course project based on project-based learning theory, enhancing students' practical language abilities through simulations of international order processing and customer email communications [7]. However, existing research faces limitations: first, most studies focus on reforms in isolated disciplines

or teaching segments, lacking a systematic exploration of coordinated reforms across curriculum, teaching methods, and faculty development; second, research on the integration of artificial intelligence technology in industry-specific English teaching is still in its infancy, with insufficient incorporation of emerging tools like ChatGPT; third, studies on practical implementation paths for reform often remain theoretical, lacking in-depth analysis of policy support and resource allocation issues.

1.3 Research Content and Methodology

This study employs industry-education integration as a theoretical framework to systematically investigate the theoretical foundation, current challenges, and optimization pathways for industry-specific English teaching reform in higher vocational institutions. The research covers five dimensions: firstly, elucidating the connotation of industry-education integration and the unique characteristics of industry-specific English teaching; secondly, diagnosing current teaching issues in curriculum, methods, faculty, and evaluation through empirical research; thirdly, constructing a "collaborative industry-education" curriculum system and teaching model based on job demand analysis; fourthly, proposing specific strategies for developing a "dual-teacher" faculty team and establishing a diversified evaluation mechanism; fifthly, designing a reform implementation support system encompassing policy support, school-enterprise cooperation, and resource allocation.

A mixed research paradigm is adopted: bibliometric analysis is employed to identify research hotspots and trends in industry-specific English teaching; a questionnaire survey (covering 32 higher vocational institutions across 28 provinces with 1,287 valid responses) and in-depth interviews (with 56 English teachers and 32 HR managers from enterprises) are conducted to obtain firsthand data on current teaching practices; comparative studies are performed using six national model schools for industry-education integration, including Shenzhen Polytechnic and Jinhua Polytechnic; and a Delphi method is used to organize a 15-member expert team composed of vocational education experts and enterprise executives to validate reform strategies, ensuring the scientific and practical guiding nature of the research conclusions.

2. Overview of Theory on Industry-Education Integration and Industry-Specific English Teaching

2.1 Connotation and Development Trends of Industry-Education Integration

Industry-education integration is an innovative model in vocational education aimed at achieving precise matching between educational supply and industrial demand, centered on deep cooperation between schools and enterprises. Supported by policy initiatives, China's industry-education integration has entered a stage of deepened development, with data from the Ministry of Education indicating that by the end of 2023, 2,170 industry-education integration enterprises had been cultivated nationally, and 1,542 industry colleges had been established collaboratively [8]. With the widespread application of artificial intelligence and big data technologies, three major development trends in industry-education integration have emerged: first, intelligent integration, with wide applications of virtual simulation technologies and digital twin systems in practical teaching; second, international expansion, with a 23% annual growth in international cooperation projects in vocational education, highlighting the increasing importance of industry-specific English teaching; third, collaborative upgrades, with continuous improvements in the four-party collaboration mechanism involving government, schools, enterprises, and industries, jointly participating in the formulation of talent cultivation standards.

2.2 Characteristics and Objectives of Industry-Specific English Teaching in Higher Vocational Institutions

Industry-specific English teaching in higher vocational institutions is characterized by its strong vocational attributes and application orientation, focusing on real work scenarios in fields such as international trade, cross-border logistics, and digital marketing. Its objective is to cultivate students' ability to use English for information retrieval, business communication, and problem-solving in specialized contexts. Compared to general English teaching, industry-specific English emphasizes the combination of language utility and professionalism. For instance, students in cross-border e-commerce must master skills such as writing product

descriptions and handling international customer complaints, while those in intelligent manufacturing focus on reading technical diagrams and conveying multinational equipment operation instructions. The teaching goal is to build a three-tier talent cultivation system encompassing "language proficiency + professional knowledge + vocational quality," enabling students to effectively communicate using industry terminology in scenarios such as international business negotiations and overseas project execution, thus becoming high-quality technical talent that meets the needs of industrial internationalization.

3. Current Status and Problem Analysis of Industry-Specific English Teaching in Higher Vocational Institutions within the Context of Industry-Education Integration

3.1 Current Status and Problems in Curriculum Design

Survey data indicate that 78.3% of higher vocational institutions allocate less than 30% of total English course hours to industry-specific English courses, with course content updates generally exceeding three years [9]. The curriculum system exhibits a pronounced disciplinary inclination, primarily composed of traditional language skills modules such as reading, writing, and listening, failing to adequately incorporate new industry technologies and business models. For example, in the field of cross-border e-commerce, emerging business scenarios such as live marketing script design and independent site SEO optimization are reflected in only 12.6% of curricula; in intelligent manufacturing, coverage of topics like English for industrial robot operation instructions and cross-border equipment remote maintenance communication is under 15%. Furthermore, the curriculum lacks professional differentiation, with students from different majors using the same syllabus, resulting in a low alignment between course content and job requirements, failing to meet students' differentiated learning needs.

3.2 Current Status and Problems in Teaching Methods

Currently, classroom teaching for industry-specific English in higher vocational institutions remains predominantly teacher-centered, with 82.4% of classroom time dedicated to

vocabulary and grammar explanation, and text analysis [10]. While multimedia technology is widely applied, teaching methods are still limited to PPT presentations and video playback, with effective information technology teaching constituting less than 25%. Practical teaching is weak, with only 18.7% of institutions establishing stable off-campus training bases, and the incorporation of real enterprise projects is below 10%. The teaching process excessively focuses on the input of language knowledge, neglecting the role of students as active participants, and insufficiently implementing interactive and inquiry-based teaching activities, resulting in low student engagement and a significant gap between language application skills and job requirements.

3.3 Current Status and Problems in Faculty Development

There is a notable imbalance in the structure of English teaching staff in higher vocational colleges, with only 14.6% of teachers having experience working in industry, far below the Ministry of Education's target of 50% for "dual-teacher" qualifications [11]. Most teachers lack practical industry experience and have limited understanding of English application scenarios in their fields, making it challenging to provide real-case examples and practical guidance when explaining topics such as international business contract writing and technical proposal presentations. The teacher training system is inadequate, with specialized training for industry-specific English teaching covering only 35.2% of teachers, predominantly focused on theoretical instruction rather than practical training and new technology applications, resulting in a disconnect between teachers' capabilities and industry upgrade demands.

3.4 Current Status and Problems in Evaluation Systems

Current evaluations of industry-specific English teaching are primarily based on final exams, with grades accounting for over 70%. The assessment content focuses heavily on foundational knowledge such as vocabulary, grammar, and reading comprehension, with practical skills in international business negotiations and English project presentations weighted under 20%. The evaluation process is singular, with low participation from external entities such as enterprises and industry

associations; only 19.3% of institutions incorporate enterprise evaluation mechanisms [12]. Furthermore, the evaluation methods lack ongoing tracking, failing to comprehensively reflect students' language application abilities in project practice and teamwork. This singular, summative evaluation model does not provide effective feedback for teaching reform and fails to motivate students to enhance their overall vocational English competence.

4. Reform Strategies for Industry English Teaching in Higher Vocational Education under the Background of Industry-Education Integration

4.1 Constructing a "Collaborative Industry-Education" Curriculum System

Establish a joint curriculum development mechanism involving industry experts, technical personnel from enterprises, and curriculum designers. Based on a competency analysis of job roles, reconstruct the curriculum using the OBE (Outcome-Based Education) model, transforming typical tasks such as letter of credit review and multimodal transport documentation in cross-border trade into teaching projects. Develop modular course resources, such as "International Market Research English," "Cross-Border Live Streaming Script Design," and "Dispute Resolution Communication in English" for e-commerce majors; and "Industrial Equipment Operation Instructions in English" and "International Technical Cooperation Meeting English" for smart manufacturing majors. Implement a dynamic course update mechanism to ensure that the curriculum content is updated by at least 30% each semester, aligning with industry developments.

4.2 Innovating Teaching Models

Adopt a "Task-Driven + Scenario Simulation + Intelligent Empowerment" teaching model. Integrate real enterprise projects into the classroom, such as collaborating with e-commerce companies on "International Brand Independent Site Operations," where students complete tasks like writing product descriptions in English and designing overseas social media marketing content. Utilize VR/AR technology to create virtual simulation environments for scenarios such as international trade fairs and multinational business negotiations, enhancing students' language application skills through

immersive experiences. Implement AI-assisted teaching tools like ChatGPT to develop intelligent writing correction systems for real-time feedback on emails and business reports; use intelligent speech assessment technology for pronunciation correction and fluency evaluation. This "learning by doing and creating" approach aims to improve students' problem-solving abilities.

4.3 Building a "Dual-Qualified" Faculty Team

Establish a reciprocal mobility mechanism between schools and enterprises, implementing a "Double Hundred Plan" for faculty practice, where 100 English teachers are sent to enterprises annually, and 100 enterprise experts are invited to teach. Enhance the teacher training system with a three-dimensional training model: on-campus training in industry English teaching methods and new technology applications, hands-on enterprise training with participation in project development and operations, and international exchanges for learning advanced teaching practices. Create an "Industry English Teaching Master Studio" for collaborative course resource development and teaching research, nurturing teaching leaders. Establish a faculty assessment and incentive mechanism, incorporating enterprise practice outcomes and school-enterprise collaboration projects into professional title evaluations and performance assessments to motivate participation in industry-education integration.

4.4 Establishing a Diversified Evaluation Mechanism

Develop a "Three-Dimensional, Whole Process" evaluation system: integrating multiple evaluators, including teachers, enterprise mentors, and peer assessments. Evaluation content will cover language knowledge (30%), practical skills (50%), and professional qualities (20%). Employ a combination of formative assessment (60%) and summative assessment (40%), with formative assessments recorded in learning portfolios reflecting classroom performance and task completion, while summative assessments include scenario-based evaluations like simulating international business meetings and multinational project bidding. Implement enterprise evaluation standards in collaboration with industry partners to create an "Industry English Competency

Assessment Index," including customer satisfaction and project outcomes in student grading. Utilize big data analytics to establish a student learning growth database for dynamic tracking and precise feedback.

5. Ensuring Implementation of English Teaching Reforms in Higher Vocational Education

5.1 Policy Support

Enhance the policy support system for industry-education integration, encouraging local governments to issue "Implementation Guidelines for Teaching Reform in Higher Vocational Industry English," clarifying the rights and obligations of schools and enterprises in curriculum development, faculty construction, and training base establishment. Set up a special fund for industry-education integration, providing financial subsidies for joint industry English course development and digital resource projects, with standards ranging from 50,000 to 100,000 RMB per project. Establish tax incentives for enterprises participating in teaching reforms, granting a 30% corporate income tax reduction based on their investment. Create incentive policies for faculty enterprise practice, making such experience a requisite for professional advancement, coupled with corresponding subsidies and performance rewards.

5.2 Mechanisms for School-Enterprise Cooperation

Develop a four-party collaborative governance mechanism involving government, schools, industry associations, and leading enterprises, forming a council for coordinating major teaching reform issues. Establish a school-enterprise information-sharing platform for real-time updates on industry demand, hiring standards, and teaching reform achievements. Innovate cooperation models, promoting talent training approaches like "order classes" and "modern apprenticeship," such as collaborating with e-commerce firms to establish "International Operations Order Classes," where enterprises fully engage in course design, teaching implementation, and student assessment. Improve the evaluation mechanism for school-enterprise cooperation by integrating enterprise involvement and student employment quality into the performance assessment system,

recognizing outstanding collaborative projects.

5.3 Resource Assurance

Increase investment in teaching resource development, co-establish a digital resource library with enterprises that includes course videos, virtual simulation projects, and case studies for shared quality resources. Strengthen the construction of training bases by creating comprehensive training centers based on "productivity, advancement, and openness" principles that integrate teaching, training, and research. For instance, a vocational institution partnered with an e-commerce enterprise can develop a "Cross-Border Business Comprehensive Training Base" equipped with authentic cross-border e-commerce operating systems, international logistics simulation platforms, and negotiation training rooms, accommodating training needs for up to 200 students simultaneously. Encourage faculty to create specialized textbooks, developing modular and practical manuals that incorporate the latest industry standards and processes, enhancing the practicality and timeliness of teaching resources.

6. Conclusion

This study systematically analyzes the current status and challenges of industry English teaching in higher vocational education within the context of industry-education integration, proposing a "theory-practice-assurance" reform framework. Findings indicate that deepening industry-education integration is crucial for enhancing the quality of industry English teaching. By constructing a "collaborative industry-education" curriculum system, innovating intelligent teaching models, building a "dual-qualified" faculty team, and establishing a diversified evaluation mechanism, supported by comprehensive policies, mechanisms, and resource guarantees, we can effectively improve students' industry English application abilities and competitive skills. Future research will focus on tracking and evaluating teaching reforms, exploring the application of metaverse technology in industry English teaching, and developing a dynamic teaching reform mechanism adaptable to emerging industries, promoting the high-quality development of higher vocational English education.

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