

Original Paper

Industry-Education Integration for Vocational English
Competence: A Collaborative Cultivation Mechanism for
Industrial Talent in Haikou under the Free Trade Port Closure

Background

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Abstract

As the Hainan Free Trade Port (FTP) moves toward full closure operations, industrial sectors in Haikou face an urgent demand for personnel equipped with robust vocational English competence (VEC). This paper examines the structural misalignment between existing higher vocational English education and the authentic occupational language needs of Haikou's dominant industries. Drawing on stakeholder theory, foreign language education planning theory, and a core competence framework, the study proposes a "Government-Industry-Enterprise-School" (GIES) four-party collaborative cultivation mechanism. Central to this mechanism is a three-dimensional VEC model comprising language proficiency, occupational competence, and intercultural communication capacity. The paper argues that effective cultivation requires simultaneous restructuring of programme objectives, modular curriculum design, dual-supervisory practicum systems, and enterprise-led multi-dimensional assessment. Implications for policy, curriculum reform, and teacher development in free trade port contexts are discussed.

Keywords

industry-education integration, vocational English competence, Haikou Free Trade Port, collaborative cultivation mechanism, intercultural communication

1. Introduction

The imminent full closure of the Hainan Free Trade Port represents a watershed moment for the regional economy and its workforce. Closure operations are expected to accelerate the

internationalisation of key industries, generating immediate demand for personnel capable of conducting business, negotiating contracts, receiving international clients, and representing Haikou's cultural identity in English. Despite this heightened demand, existing higher vocational English (HVE) education in Haikou has been slow to respond. A growing body of evidence points to a deep-rooted "structural misalignment" between what HVE programmes offer and what industry actually requires.

The concept of vocational English competence, as used in this paper, goes beyond the four traditional skills of listening, speaking, reading, and writing. It encompasses three interdependent dimensions: language proficiency (accurate, fluent use of English in occupational contexts), occupational competence (the ability to deploy language strategically within specific industry scenarios), and intercultural communication capacity (the skill of transmitting cultural meaning, narrating local stories, and building international relationships through English). (Jiang, & Huang, 2021; Li, 2026; Wang, 2020) This three-dimensional framework is central to the cultivation mechanism proposed in this study.

Industry-education integration (IEI) has emerged as a promising policy lever in Chinese vocational education reform. The Action Plan for Empowering Industry-Education Integration in Vocational Education (2023-2025) mandates that vocational education supply meet industry demand. Yet empirical evidence on how to operationalise IEI specifically for English competence cultivation in free trade port contexts remains scarce.

This paper addresses that gap. It draws on stakeholder theory (Cheng, Yang, & Wu, 2023), foreign language education planning theory (Liang, 2019), and core competence frameworks (Wang, 2020) to propose the GIES collaborative mechanism. The paper proceeds as follows: Section 2 reviews the relevant literature; Section 3 diagnoses the current situation; Section 4 presents the GIES framework; Section 5 discusses implementation; Section 6 concludes.

2. Literature Review

2.1 *Industry Demand for International Language Capacity in Hainan*

The internationalisation of Hainan's economy has generated well-documented demand for personnel with cross-cultural language skills. Jiang and Huang (2021) argue that FTP construction requires composite talent with foreign language communication ability, international strategic vision, and cross-disciplinary capacity to serve industry contexts including trade, logistics, tourism, and modern services. Lin's (2022) survey of tourism enterprises in Sanya reveals a stark competence gap: workers with junior secondary education or below constitute 65.42% of the tourism workforce, while high-end international talent remains severely scarce. Zhu and Li (2023) note that Hainan's merchandise trade first exceeded 200 billion yuan in 2022 with year-on-year growth of 36.8%, yet the supply of composite trade talent fails to match economic development needs.

Yu's (2024) survey of expatriate residents in Haikou adds an important sociolinguistic dimension: personal networks remain the primary channel through which foreigners learn about the city, implying that the intercultural communication competence of frontline service personnel directly shapes

Haikou's international image. Li (2026) further contends that the internationalisation of Hainan's tourism English environment is not merely a translation problem but a cultural transmission challenge, requiring personnel who can render Chinese cultural value intelligible and appealing to international audiences.

2.2 Structural Weaknesses in Higher Vocational English Education

Zhang (2025) identifies a pervasive paradox in HVE: programmes are strategically prioritised at the institutional level yet tactically marginalised in resource allocation. Yu's (2023) case study of ESP instruction illustrates common difficulties: students exhibit low motivation, insufficient specialist vocabulary, and weak productive skills. Liang (2019) terms this a "value construction deficit," revealing that vocational English value remains unrecognised at macro (policy), meso (institutional), and micro (individual) levels, preventing the conversion of instrumental value into the intrinsic, person-centred value that sustains long-term competence development.

Feng et al. (2025) extend this critique to the digital age, arguing that local higher vocational institutions are doubly constrained by insufficient resources for digital literacy cultivation and by inadequate industry co-operation, making it difficult to satisfy both student learning needs and employer expectations.

2.3 Industry-Education Integration Mechanisms: Theory and Practice

Cheng, Yang, and Wu (2023) apply stakeholder theory to language service system construction in the Hainan FTP context, identifying government, enterprises, residents, and universities as four key stakeholder categories. This multi-actor framework provides a solid institutional foundation for designing IEI mechanisms. At the curriculum level, Zhu and Li (2023) propose a modular Business English curriculum comprising language and intercultural competence, business knowledge and skills, and vocational skills extension modules. Feng et al. (2025) contribute a cross-disciplinary integration cultivation model leveraging enterprise and technology platform resources. Kai and Selvaratnam (2023) advance these efforts at the pedagogical level, proposing AI-assisted oral training and international news-driven writing tasks as technology-enabled vocational English pedagogies.

Liang's (2019)¹ path analysis model provides the theoretical mechanism linking design elements to learning outcomes: the cultivation chain "belief activation - practice empowerment - competence transformation" is the engine of VEC development. Wang (2020) advocates multi-modal, competence-oriented assessment over terminal examinations. Three significant gaps remain: a disconnected research chain, insufficient regional specificity for Haikou, and IEI mechanism research lacking quantitative effectiveness evaluation and replicable operational models.

3. Diagnosing the Structural Misalignment

Evidence from field surveys and documentary analysis confirms that VEC cultivation in Haikou's HVE institutions exhibits structural misalignment across four dimensions.

First, at the level of programme objectives, HVE programmes concentrate resources on specialist

technical skills, with English instruction oriented toward generic communication training divorced from industry-specific occupational scenarios. (Zhang, 2025)

Second, at the curriculum level, standardised, unified course structures prevail. Modular, demand-driven, scenario-anchored curriculum design has yet to be systematically implemented in Haikou's vocational institutions. (Feng, Tong, Xiao, & Zhao, 2025; Zhu & Li, 2023)

Third, at the pedagogical level, classroom-based single-lecturer delivery remains dominant. Dual-supervisory practicum systems that bring enterprise mentors into structured co-teaching arrangements are rarely institutionalised, limiting students' exposure to authentic occupational English use.

Fourth, at the assessment level, terminal knowledge-based tests continue to serve as the primary evaluation instrument. Enterprise-informed, multi-dimensional assessment frameworks calibrated to occupational English proficiency remain absent. The convergence of these four deficits produces what this paper terms "structural misalignment": a systemic disconnection between cultivation modality and occupational scenario demand. Zhang's (2025) "tactical neglect despite strategic priority" and Liang's (2019) "value construction deficit" both point to this same root cause.

4. The GIES Collaborative Cultivation Mechanism

4.1 Theoretical Foundation

The GIES mechanism integrates three theoretical pillars. Stakeholder theory, as operationalised by Cheng et al. (2023), provides an institutional design framework for the four-party collaborative structure, answering the question of who participates and how they coordinate. The belief-practice-competence transformation model from foreign language education planning theory (Liang, 2019) elucidates the internal mechanism of VEC generation. The core competence framework, drawing on Wang (2020) and Xie (2024), provides dimensional criteria for the three-dimensional VEC model. Together, these three pillars correspond to mechanism design, efficacy generation, and competence evaluation respectively.

As illustrated in Figure 1, the GIES collaborative mechanism integrates four key stakeholders—government, industry, enterprise, and school—into a dynamic system for vocational English competence cultivation.

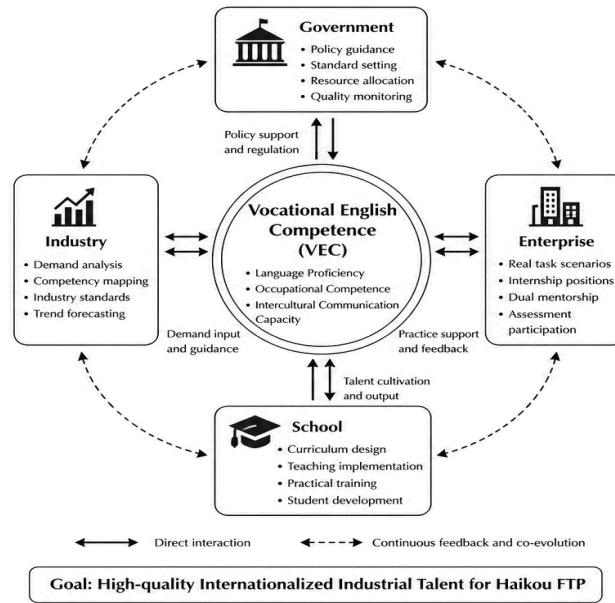


Figure 1. The GIES Collaborative Cultivation Mechanism for Vocational English Competence in HaiKou Under the Free Trade Port Closure Background

The mechanism positions vocational English competence at the core of a multi-actor ecosystem. The government provides policy guidance and standard setting, while industry contributes demand analysis and competency mapping. Enterprises offer authentic workplace scenarios and participate in assessment, and schools are responsible for curriculum design and instructional delivery. The continuous interaction among these stakeholders ensures alignment between educational outcomes and industrial requirements.

4.2 The Three-Dimensional VEC Model

Language proficiency encompasses integrated listening, speaking, reading, and writing skills, lexical and grammatical accuracy, and occupational scenario expression capacity. Occupational competence encompasses cross-cultural awareness, strategic communication, and international interaction adaptability. Intercultural communication capacity encompasses AI tool utilisation, digital resource processing, and autonomous learning and process regulation.

The rationale for elevating intercultural communication capacity to a core dimension derives from the specific demands of the Haikou FTP context. As Yu's (2024) expatriate survey reveals, frontline service personnel are de facto cultural mediators whose ability to narrate Hainan's cultural identity directly shapes the city's international image. This aligns with Li's (2026) identification of the cosmopolitanisation of English environments in Hainan as a strategic imperative.

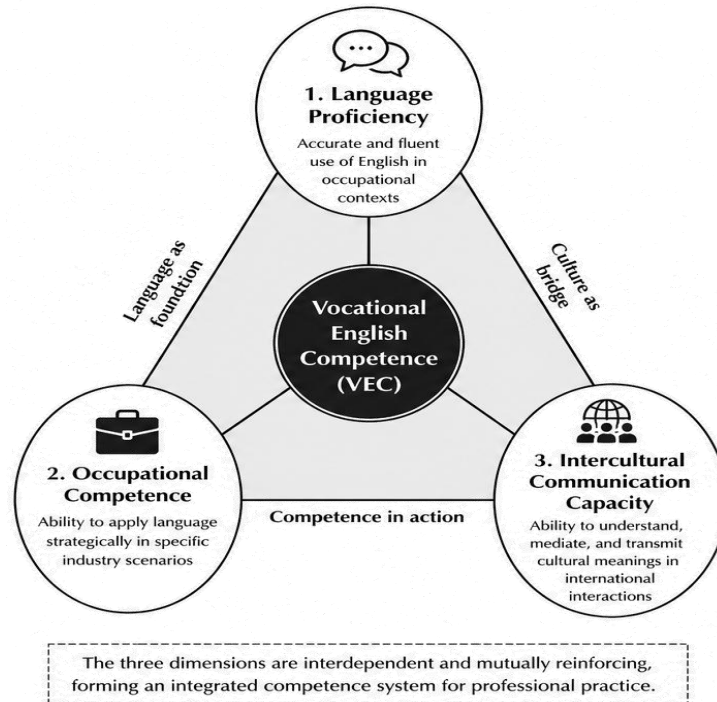


Figure 2. Illustrates the Structural Composition of the Three-dimensional VEC Model

As shown in Figure 2, the three dimensions are interdependent and mutually reinforcing. Language proficiency forms the foundation for effective communication, occupational competence reflects the application of language in specific industry scenarios, and intercultural communication capacity enables the mediation of cultural meanings in international contexts. Together, they constitute an integrated competence system essential for vocational talent development in the Free Trade Port environment.

4.3 The Four-Party Collaborative Structure

The government layer provides policy incentives, sets competence standards, and establishes inter-departmental joint mechanisms to coordinate education, human resources, and commerce authorities. A government-commissioned VEC standard for Haikou's dominant industries serves as the normative anchor for curriculum design and assessment.

The industry layer, represented by sector associations in tourism, trade, and modern services, provides demand orientation and quality evaluation. Regular industry demand reports translate occupational scenario analysis into actionable curriculum specifications.

The enterprise layer provides scenario resources and practical platforms. Enterprises contribute real occupational tasks, workplace mentors, and internship placements, and participate in summative assessment as evaluators of occupational English proficiency. Yao's (2024) account of Hainan University's dual-pathway model offers a scalable reference for enterprise engagement.

The school layer retains responsibility for system design and delivery, including modular curriculum construction, teacher development toward digital and cross-cultural facilitation, and process-oriented

formative assessment. The dual-supervisory system pairs campus-based language teachers with enterprise mentors, drawing on the model demonstrated by Zhu and Li. (2023)

5. Implementation Strategies

To operationalise the GIES collaborative mechanism in practice, this study proposes a structured implementation framework that integrates curriculum reform, practicum design, and assessment mechanisms across multiple stages. As illustrated in Figure 3, the implementation process follows a five-stage progression, from demand analysis to continuous improvement, ensuring dynamic alignment between educational provision and industrial needs.

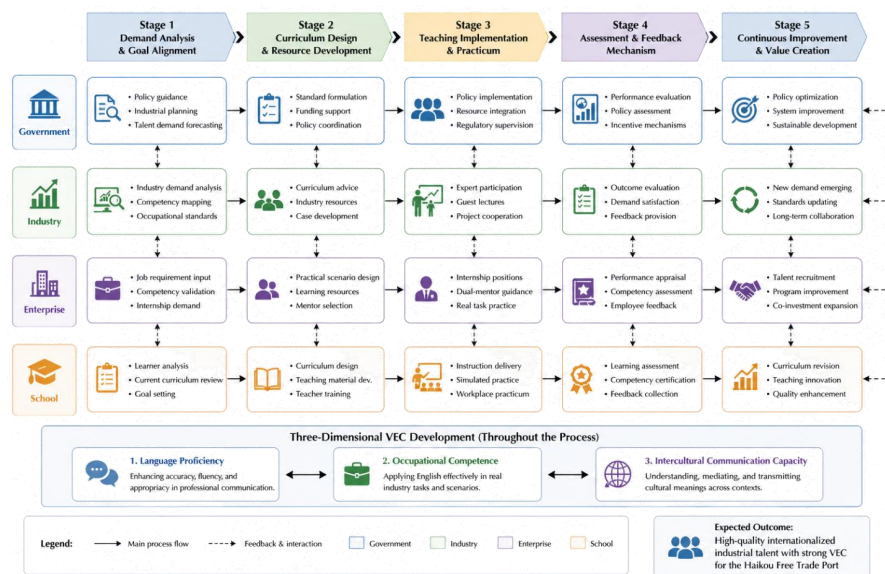


Figure 3. Implementation Framework for the GIES Collaborative Cultivation Mechanism

The framework conceptualises implementation as a cyclical and multi-stage process involving four key stakeholders. In the initial stage, government and industry jointly conduct demand analysis and goal alignment. This is followed by curriculum design and resource development led by schools with enterprise participation. During the teaching implementation and practicum stage, dual-supervisory mechanisms ensure both linguistic and occupational competence development. The assessment and feedback stage integrates enterprise evaluation and institutional assessment, forming a multi-dimensional evaluation system. Finally, continuous improvement is achieved through feedback loops, enabling adaptive optimisation of policies, curricula, and talent cultivation strategies.

5.1 Curriculum Reform: Modular Scenario Design

Following the modular design principles of Zhu and Li (2023) and the cross-disciplinary integration model of Feng et al. (2025), the reformed curriculum is organised into three scenario-anchored module clusters corresponding to Haikou’s three dominant industrial sectors. Within each cluster, a language foundation module develops general occupational English proficiency; a professional scenario module

integrates industry-specific communication tasks such as duty-free retail consultation, international logistics documentation, and MICE coordination; and a cultural transmission module cultivates the intercultural storytelling capacity central to the FTP context.

Technology-enhanced pedagogies proposed by Kai and Selvaratnam (2023) are embedded throughout: AI-assisted speech evaluation for oral task feedback, collaborative filtering-based resource recommendation for personalised vocabulary acquisition, and international news corpora for authentic writing task design. These digital tools serve as instruments for activating the belief-practice-competence chain. (Liang, 2019)

5.2 Practicum System: Dual Supervision

A three-stage practicum progression operationalises the practice empowerment stage of Liang's (2019) transformation model. In the classroom simulation stage, role plays replicating real occupational encounters provide controlled activation of occupational language. In the enterprise internship stage, students work under dual supervision: campus mentors assess linguistic accuracy; enterprise mentors assess occupational performance and cross-cultural adaptability. In the on-the-job placement stage, extended industry exposure consolidates competence and addresses the value construction challenge identified by Liang (2019) by providing authentic evidence of English's instrumental and professional value.

5.3 Assessment Reform: Multi-Dimensional Evaluation

The assessment framework operationalises Wang's (2020) advocacy for multi-modal, competence-oriented evaluation. Quantitative indicators include occupational English proficiency pass rates, cross-cultural communication competence scores, course completion rates, enterprise satisfaction means, and graduate employment alignment rates. These are processed through Analytic Hierarchy Process (AHP) and fuzzy comprehensive evaluation methods to generate weighted efficacy indices. Pre-test and post-test comparisons provide longitudinal evidence of competence growth attributable to IEI intervention. Enterprise evaluators participate as equal partners in summative assessment panels, ensuring that real occupational standards anchor the evaluation process.

6. Conclusion and Policy Implications

This paper has proposed a theoretically grounded, empirically informed GIES mechanism for VEC cultivation among industrial talent in Haikou during the FTP closure period. Three conclusions merit emphasis.

First, the productivity problem in Haikou's VEC cultivation is not a resource problem but a structural misalignment problem. Policy responses focused solely on increasing English teaching hours will fail to address the underlying disconnection between cultivation modality and occupational scenario demand.

Second, effective IEI for VEC requires the coordinated participation of all four stakeholder categories. The four-party coordination structure is not a bureaucratic convenience but a functional necessity.

Government standard-setting without enterprise engagement produces credentials that industry does not recognise; enterprise internships without curriculum reform produce contextualised practice without systematic competence development.

Third, the intercultural communication capacity dimension of VEC is a strategic imperative for the Haikou FTP context. As the city positions itself as an internationally recognised free trade hub, the capacity of its service workforce to narrate Hainan's cultural identity in English becomes a direct contributor to urban international image construction. (Li, 2026; Yao, 2024)

For policy, these conclusions suggest a need to formalise the GIES mechanism through inter-departmental coordination, to commission sector-specific VEC competence standards, and to institutionalise enterprise participation in both curriculum governance and assessment. For research, this study calls for longitudinal evaluation of GIES mechanism efficacy using quantitative indicators and AHP-based analytical methods, as well as cross-port comparative studies to assess the transferability of the "Haikou model" to other free trade contexts.

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