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An Exploration of the Training System for Transportation English Translation Programs Under Industry–education Integration—A Case Study of the Translation Program at East China Jiaotong University

Lu Hu, Qingqing Chen*

East China Jiaotong University, Nanchang 330013, Jiangxi, China.

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***Corresponding author:** Qingqing Chen, East China Jiaotong University, Nanchang 330013, Jiangxi, China.

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Abstract

As the transportation sector internationalizes, demand for interdisciplinary foreign-language talent is acute, yet university translation programs remain structurally misaligned with industry needs. Taking the Translation and Interpreting program at East China Jiaotong University as a case, this study combines a literature review with curricular text analysis—drawing on the program's training plan (from 2022 to 2026), course syllabi, and internship regulations—to diagnose its core weaknesses along four dimensions: curriculum structure, teaching content, practical training, and the tutor mechanism. The findings reveal a lopsided "language-heavy, transport-light" curriculum in which transport-specific courses are marginalized and weakly assessed; teaching that favors general theory over authentic industry projects and transport-domain corpora; integration concentrated in the final year with weak transitional practice; and a traditional single-tutor model that cannot match individual career paths. The study supplies a precise problem map and an empirical basis for reforming translation programs at industry-oriented universities, and answers the sector's call for application-oriented international talent.

Keywords

Industry–education integration; transportation English; translation programs; curriculum system

Introduction

As a foundational, pioneering, and service-oriented pillar of the national economy, the transportation industry's internationalization has become a key support of national strategy. China has signed intergovernmental road transport agreements with fourteen neighboring countries, including Russia and Mongolia, and opened 201 international road passenger and freight routes. In 2023, international civil aviation passenger volume, China–Europe Railway Express services, and international express delivery all rose markedly. Through opening-up policies, the state is also pushing the sector to go global via trade and technology cooperation, reinforcing China's potential and influence as a global

transport hub. By 2025, China's railway operating mileage had reached 165,000 km, with high-speed rail alone accounting for over 70% of the world's total—the largest share anywhere (The State Council of the People's Republic of China, 2026). The China–Laos Railway, for example, has moved more than 43 million tonnes of freight and carried over 38 million passengers; daily cross-border freight trains now link major cities in thirty-one provinces and regions, and exports reach Laos, Myanmar, and beyond (Zhao & Shi, 2024). Therefore, there is an increasing demand for interdisciplinary, application-oriented international talents who are fluent in foreign languages and grounded in transport expertise. These figures matter here because they describe the very market that translation graduates are meant to serve.

Against this rapid industrial and international expansion, however, traditional foreign-language programs in Chinese universities—translation in particular—have largely failed to move past the pattern of "strong language skills, weak disciplinary knowledge, little industry practice." The result is a theory–practice gap: graduates leave with sound language fundamentals but, unfamiliar with the transport sector's professional contexts, technical norms, and workflows, they struggle to stand out in a tough job market and in real workplaces. The structural mismatch between what universities supply and what industry demands keeps widening.

In this context, deeper industry–education integration is the obvious way forward. The Translation and Interpreting program at East China Jiaotong University, built on the university's transport identity, is a textbook case for study. This research explores the core problems in the program's current training plan, so as to give the later construction of an applied transportation English training system an empirical footing and a precise target.

1. Review of Industry–Education Integration Research in Foreign Language Programs

Under global economic integration and faster industrial upgrading, deeper industry–education integration has become a national strategy for higher-education reform and for cultivating high-quality applied talent. Foreign language programs—especially those training English for specific purposes tied to particular industries—now face pressure to shift from the traditional "language tool" toward the "interdisciplinary workplace professional." Against this backdrop, how to build an effective integration-based training system has become a live question for both research and practice in foreign language education.

With the rise of integration as a major pathway in foreign language education, existing studies have examined the innovation and practice of English-program training models from several perspectives. Chen and Luo (2025) argue that, in the digital economy, business English must embed digital skills and real business settings through school–enterprise co-education, addressing the gap between graduates and the market and supplying a macro-level rationale for applied English training. Liu (2025) focuses on private universities, proposing a "triple-cycle" quality-improvement mechanism and a cooperation network drawn from educational ecology theory, highlighting the "school–enterprise–association" coordination strategy and offering private institutions a workable mechanism for deeper integration. Cao (2020), using Sichuan University of Culture and Arts as a case, systematically builds four integration paradigms—including a "dual-track" talent model and project-driven teaching—and stresses the "student–employee" identity shift in teaching, with strong practical guidance. Fu (2025) confirms through empirical study that integration markedly improves students' English application and autonomous learning, giving course design and teaching delivery data-backed support.

In transport, engineering, and other specialized disciplinary settings, research extends integration toward industry fit. Shi et al. (2023), at China Pharmaceutical University, built an "English + Pharmacy" interdisciplinary model whose core is deep curriculum grafting: while keeping core courses such as Comprehensive English and Translation/Interpreting, they introduce industry courses in pharmaceutical and medical foundations and medicinal chemistry, plus high-fit electives like "Pharmaceutical English Audio-Visual-Oral" and "International Drug Registration," and through a co-built "Pharmaceutical English Industry Practice Platform" let students work directly on real projects such as medical translation and drug registration, fusing language ability with industry knowledge. Nie and Huang (2020), studying new-engineering talent at science and engineering universities, argue that English teaching should strengthen English for specific academic purposes and bring VR/AR into language teaching to raise students' grasp of technical documents and international academic communication. Zhang and Bai (2024) dissect the MTI training practice at Civil Aviation University of China and propose a "translation + industry + technology" model that breaks the generality of traditional foreign-language teaching, faces the needs of a transport-power nation directly, and brings civil-aviation content taught in English into the curriculum; its hallmark is a fine-grained rebuild of practice, upgrading the old "course–internship–thesis" three-stage path into five tiers: curricular practice, on-campus practice, off-

campus internship, industry practice, and thesis. Yang (2023) and Ma (2025) respectively approach the implementation path of school–enterprise cooperation and translation teaching reform under the New Liberal Arts, further enriching the concrete strategies of integration in curriculum content and assessment.

Overall, the literature agrees on integration's central role in raising English majors' practical ability, interdisciplinary literacy, and career adaptability—for instance, integration in business English lets students learn from real corporate cases and build a multi-dimensional knowledge system through interdisciplinary courses (Xing, 2022), while some universities co-build off-campus English practice bases with enterprises to sharpen training precision and employability (Liao & Yao, 2026). At the same time, integration takes different forms depending on institution type, industry background, and regional resources. Yet transportation English talent training still lacks a systematic, deeply industry-integrated framework; building on current results and keeping academic standards and disciplinary character, there is a clear need to construct an internationalized transportation English training system with interdisciplinary and career-oriented features. This gap gives the present study and system construction—using East China Jiaotong University as a case—both its theoretical grounding and its practical room.

2. Research Design

This study uses case analysis together with curricular text analysis. First, the Translation and Interpreting program at East China Jiaotong University serves as the case, examined closely as a foreign-language program at a transport-oriented university under industry–education integration. Second, the study focuses on the program's training plans from 2022 to 2026, and systematically analyzes its course layout, credit structure, practical arrangements, and assessment methods. In particular, it maps the distribution and scheduling of general language courses in the disciplinary-basis platform—"Comprehensive English," "English Audio-Visual-Oral," and the like (50 credits in total)—against transport-specific courses such as "Introduction to Transportation," "A Glimpse into Railway Culture: A Global Perspective," "Transportation Engineering Translation," and "Practice of FIDIC Contract." It finds that explicit transport-related courses account for only about 7-9 credits, mostly as exam-exempt restricted or free electives, without forming a four-year systematic course chain. The study also draws on curricular syllabi, internship arrangements, and thesis regulations in the teaching-management system to further diagnose the disconnection between teaching content and industry practice and the weakness of integration. Through these methods, the paper aims to identify the core shortcomings in current transportation English talent training.

3. Status Quo and Core Problem Diagnosis of the Translation Program at East China Jiaotong University

To locate precisely the problems facing the program in training applied transportation English talent, this chapter takes the training plan's curriculum from 2022 to 2026 as its core object and examines, across four dimensions—curriculum structure, teaching content, practical training, and the tutor mechanism—how well it fits the goals of "industry–education integration" and "applied transport character". Of these, sections (I) and (II) address curriculum structure and teaching content, respectively, whereas section (III) treats the remaining two dimensions together: the lag in practical training and the flaws in the tutor system.

3.1 Curriculum Structure Imbalanced: "Language-Heavy, Transport-Light"

3.1.1 General language courses dominate absolutely

In the disciplinary-basis platform (50 credits total), courses such as "Comprehensive English," "English Audio-Visual-Oral," "English Reading," and "English Writing" form the teaching main line across four consecutive semesters, absorbing a very high share of credits. These are also the core foundational courses of applied English and business English programs—the key to building language basics in English majors. This setup reflects the traditional "strong foundation" logic of foreign-language programs, but it quietly crowds out the time and energy students need in later years for specialization and distinctive tracks.

3.1.2 Transport-specific courses sit at the system's edge

Although the list includes distinctly industry-flavored courses such as "Introduction to Transportation," "A Glimpse into Railway Culture: A Global Perspective," "Transportation Engineering Translation," and "Practice of FIDIC Contract," all are set as restricted or free electives. That gives students a choice over whether to take them, so

transport-English competence is never established as a required core ability for every graduate. Their assessment type is also "exam-exempt" rather than formal examination; while flexible, this rarely matches a closed-book exam in rigorously gauging a student's grasp of complex industry norms, precise technical terms, and specific workflows, so learning and assessment tend to become less rigorous and no hard constraint forms on core applied ability. In total, explicit transport-related courses total only about 7-9 credits—far below the 50 disciplinary-basis platform credits—leaving the distinctive-course weight too low and in sharp contrast with the university's "transport as its character" positioning.

3.1.3 Transport elements do not run through the whole cycle

In the first two years especially, students majoring in translation have no clear sense of the university's transport identity, and the school gives no direct guidance. Transport elements never run through the full training cycle; they appear only as scattered supplements within the English knowledge system. This directly produces the structural mismatch between the supply side of training and the pressing demand side of the transport industry.

3.2 Teaching Content Disconnected from Industry Practice

3.2.1 Content leans theoretical and general, lacking real project drive

Most listed courses center on theory transmission (e.g., "Introduction to Linguistics," "Introduction to English Literature") and generic skill drills. There is a shortage of teaching built around real or simulated industry projects, such as "Rail Transit Project Translation Practice" or "International Engineering Contract Translation Workshop." Compared with the transport-discipline strength the program could draw on—offering "Transportation Engineering Translation" and "Practice of FIDIC Contract," running its own translation company, and providing internships through multiple enterprise partners—the current mode leaves students little chance to accumulate experience solving real transport-domain translation problems.

3.2.2 Industry knowledge fails to enter language teaching

Large numbers of basic language-skill courses still use literary, cultural, and social materials, without systematically pairing them with typical transport-domain texts: technical documents, operating procedures, contract norms, and business negotiation. Even students with strong general English feel strange and uneasy when they enter transport-specific contexts—the so-called theory–practice gap. Materials are where the gap is most visible to students themselves once they hit the workplace.

3.3 Integration Lags and a Flawed Tutor System

3.3.1 Comprehensive practice crowds into the final year; pre-training is thin

The main comprehensive practice is compressed into the graduation year: Graduation Internship (10 credits) and Graduation Thesis (6 credits). This design puts all integration pressure on the "last mile," leaving students without prior, gradual industry awareness and project-skill training, so internship adaptation is long and practical effect is diluted.

3.3.2 Transitional practice in the middle is weak

Bridge courses such as "Translation Workshop" carry only 1 credit and do not specify any link to the transport industry. Across the whole program, there is no stable, institutionalized, deeply cooperative school–enterprise platform to give students sustained, varied industry practice. A one-credit bridge cannot carry the weight of connecting classroom and industry on its own.

3.3.3 The traditional single tutor cannot support personalized training

The current undergraduate tutorial system assigns tutors at random and keeps one tutor throughout the program. Tutors lean toward academic guidance and give little systematic career-direction mentoring. Students cannot choose an industry mentor matched to their interests, so career planning stays vague, and integration cannot truly run through the whole training process. Random assignment ignores the simple fact that careers, not courses, are what students remember.

4. Research Conclusions and Implications

Through systematic investigation and analysis, this study finds four core shortcomings in the current training system

of the Translation and Interpreting program at East China Jiaotong University: curriculum structure, teaching content, practical arrangement, and the tutor mechanism. At the curriculum level, general language courses dominate absolutely (50 credits), while transport-specific courses total only about 7-9 credits and are all exam-exempt restricted or free electives; the "big language, small transport" pattern reduces the school's character to empty talk. At the teaching level, theoretical and general courses are overweight, real industry-project drive is missing, and language materials stay generic without transport corpora. At the practice level, integration is concentrated in the final year, the prior tiered industry training is absent, transitional training courses are weak, and the school–enterprise collaboration platform is missing. At the tutor level, the random, one-tutor-throughout model gives no industry career guidance and leaves individual development needs unmet.

The root cause of these problems is that talent training is centered on the language discipline and never deeply engages the internationalization needs of the transport industry. Structural gaps run between language learning and the transport sector, and between school–enterprise collaboration and individual cultivation. These diagnoses give the program a clear entry point for precise reform and offer peer transport-oriented universities a reference problem framework for examining their own systems. Building on this, later research can take industry–education integration as the guide and construct an applied transportation English training system covering the threefold "language–discipline–practice" integration. The framing also helps other transport universities see which of their own habits to question first.

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