

Research Status of Translation Teaching in Private Universities in the Greater Bay Area and the Construction of Its Ecological Model: A Knowledge Mapping and Bibliometric Analysis Based on Data from 2018 to 2025

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Abstract

Translation teachers play a vital role in cultivating translation talent and promoting cross-cultural communication. Based on data from the China National Knowledge Infrastructure (CNKI) and utilizing the visualization software CiteSpace, this study conducts a bibliometric and knowledge-mapping analysis of research on translation teaching by teachers at private universities in the Greater Bay Area from 2018 to 2025. The findings reveal that research in this field has gone through four developmental phases: the foundational accumulation period, the technological integration period, the application expansion period, and the deep integration period. A clear shift is observed from traditional language transfer studies toward intelligent, diversified, and application-oriented approaches. Current research hotspots include the integration of artificial intelligence in translation pedagogy, innovative teaching models such as the flipped classroom, intercultural communication and external communication translation, as well as multimodal translation studies.

Keywords

Greater Bay Area private universities; translation teaching research; knowledge mapping.

1. Introduction

With the deepening development of the Guangdong-Hong Kong-Macao Greater Bay Area and the continued implementation of the Belt and Road Initiative, the cultivation of translation talent has become a crucial component in serving national strategic needs and enhancing international communication and cooperation. As a vital part of China's higher education system, private universities play an irreplaceable role in translator training. The development of translation teaching research within these institutions directly influences both the quality and the internationalization level of regional translation talent cultivation.

As an integral part of higher translation education, translation teaching in private universities is closely tied to the effectiveness and quality of translator training [7]. Given the Greater Bay Area's role as a frontier of China's reform and opening-up, the exploration and practices in translation pedagogy by its private universities offer significant demonstration and reference value [6]. A thorough analysis of the current state of translation teaching research in private universities in the Greater Bay Area helps uncover underlying patterns in translation education development and offers valuable insights for translation teaching reform in other regions.

As an emerging method in scientometric analysis, knowledge mapping effectively reveals the knowledge structure, evolutionary trends, and research hotspots within a given discipline

[1][2]. *CiteSpace*, a widely used tool for knowledge mapping, has been extensively applied across various academic fields for bibliometric studies [3]. In the field of translation studies, knowledge mapping based on *CiteSpace* provides a visual representation of the developmental trajectory and emerging frontiers of research [4][5].

This study employs *CiteSpace* to conduct a systematic bibliometric and knowledge-mapping analysis of literature related to translation teaching in private universities in the Greater Bay Area from 2018 to 2025. By constructing multidimensional knowledge maps—including keyword co-occurrence networks, author collaboration networks, and institutional cooperation networks—this research aims to uncover key research foci, identify developmental trends, and analyze collaboration patterns. The goal is to provide a comprehensive understanding of the current landscape and developmental logic of translation teaching research in the region's private universities.

2. Data Sources and Research Methods

2.1. Data Sources

The primary source of Chinese-language literature for this study is the China National Knowledge Infrastructure (CNKI) database. Using thematic keywords such as “private universities in Guangdong Province,” “translation instructors,” “translation teaching,” and “translation strategies,” multiple rounds of retrieval were conducted, yielding over 500 relevant Chinese-language publications.

2.2. Research Methods

Scientific knowledge mapping enables the interpretation of research dynamics within a given academic field by revealing interconnections among publications and clearly presenting research hotspots and developmental trends. This study utilizes the visualization software *CiteSpace 6.4 R1* to conduct a knowledge-mapping analysis. After importing the CNKI literature into the software, metadata such as keywords, authors, institutions, and countries were automatically extracted to construct complex co-occurrence and co-citation networks.

The analysis includes cluster analysis, burst term detection, and timeline visualizations to track research hotspots and predict emerging trends. "Burst term analysis" helps identify emerging research topics, while "co-citation analysis" pinpoints core literature and seminal works in the field. "Cluster mapping" provides insights into the relationships and evolutionary paths among different research directions.

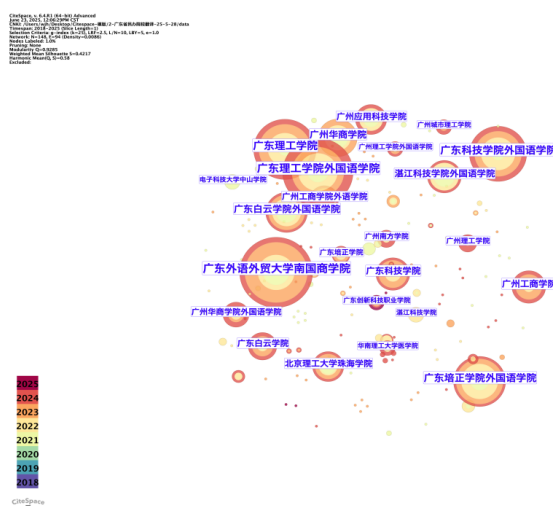


Figure 1. Institutional Distribution of Major Research on Translation Teaching in Private Universities in the Greater Bay Area

2.3. Analysis of Research Hotspots

Keyword clustering analysis involves aggregating and classifying keywords based on their semantic similarity, where similar knowledge units are grouped together to form thematic clusters that represent research hotspots. Each cluster label contains representative keywords that indicate prominent topics within the research field.

In this study, *CiteSpace 6.4 R1* was used to perform keyword clustering. The quality of the clustering results was evaluated using two key metrics: Modularity (Q) and Mean Silhouette Score (S), which reflect the structural clarity and consistency of the clustering network, respectively. The analysis yielded a Modularity Q of 0.7989 and a Mean Silhouette S of 0.9325, indicating a high level of clustering effectiveness and reliability. (See Figures 1 and 2 for details.)

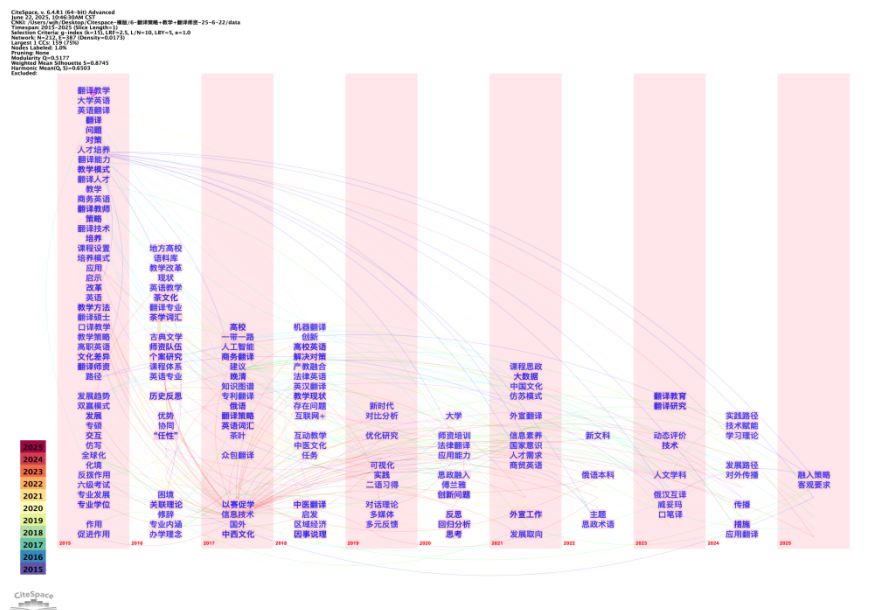


Figure 2. Keyword Cluster Timezone Visualization of Translation Teaching Research in Private Universities in the Greater Bay Area

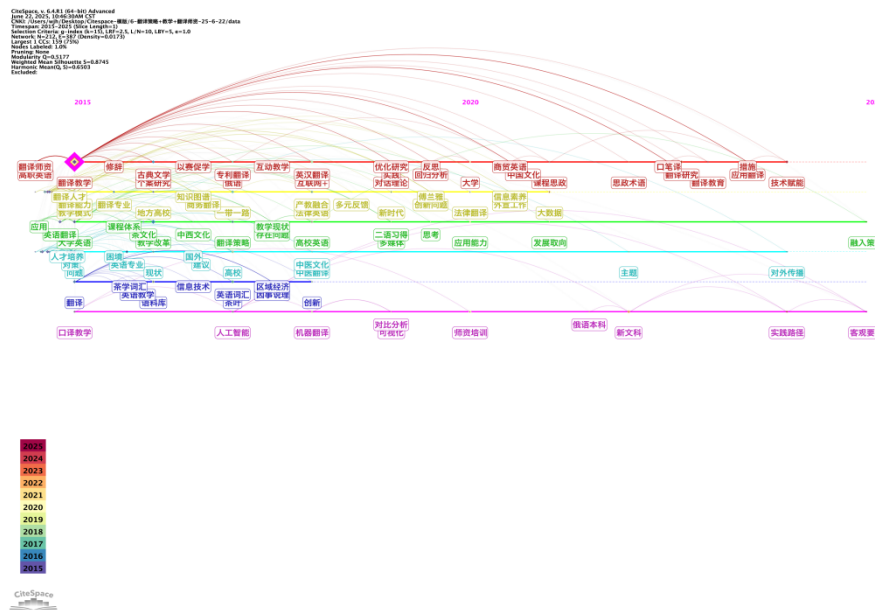


Figure 3. Keyword Cluster Timeline Visualization of Translation Teaching Research in Private Universities in the Greater Bay Area

2.4. Analysis of Research Trends

As shown in Figures 1 and 2, the core areas of research activity can be categorized into several prominent clusters. The “translation strategies” cluster (#1), centered on the concept of “strategy,” focuses on translator choices and techniques, with an emphasis on practical translation pedagogy. Closely related is the “translation teaching” cluster (#2), which highlights teaching models, curriculum reform, and classroom design, such as flipped classrooms and blended learning—signaling a deepening focus on applied translation instruction.

The “artificial intelligence” cluster (#6) has seen a marked rise since 2021, closely associated with machine translation and translation platform development. The steady presence of the “external communication translation” cluster (#7) reflects China’s growing demand for international cultural dissemination. Meanwhile, the “translation classroom” cluster (#4) is closely linked to “translation techniques” (#3), indicating an increasing refinement in micro-level translation pedagogy.

3. Results and Discussion

3.1. Technologically Driven Paradigm Shifts in Translation Pedagogy

Based on the knowledge mapping analysis from 2018 to 2025, translation teaching research in private universities across the Greater Bay Area exhibits a clear trend of technology-driven development. Since 2021, there has been a marked increase in the frequency of keywords such as *artificial intelligence*, *machine translation*, and *deep learning*, signaling the onset of a technological integration phase. By 2025, the human-machine interaction paradigm in translation is projected to evolve from rigid command-and-response mechanisms to a more dynamic, collaborative interplay between humans and AI—an evolution particularly prominent in the context of private university translation education.

The deep integration of AI technologies is reshaping the core components of translation pedagogy. Generative AI, as an emerging educational tool, is not only transforming traditional modes of translation learning but also enabling personalized and adaptive learning experiences. The incorporation of generative AI, the merging of virtual and physical teaching spaces, and the deployment of intelligent infrastructure and resources are all enhancing instructional quality in private institutions. Notably, the emergence of keywords such as *post-editing* and *computer-assisted translation* reflects the shift from human-only translation to human-AI collaborative practices. This shift demands that translation instruction adapt to new technological ecosystems and evolving professional competencies.

Furthermore, the rise of multimodal translation technologies presents both challenges and opportunities for translation pedagogy. With the increasing demand for the translation of multimedia content—including images, audio, and video—translation instruction in private universities must move beyond traditional text-based approaches to equip students with the skills needed to handle multimodal content. This trend is substantiated in the knowledge graph by the appearance of technology-related keywords such as *Android Studio* and *platform design*, indicating the growing emphasis on technological literacy and platform-based translation tasks.

3.2. Innovations in Teaching Models and the Trend Toward Personalized Learning

The research data indicate a frequent emergence of keywords such as *flipped classroom*, *blended learning*, and *task-based teaching* during the 2023–2024 period, reflecting a significant pedagogical shift in translation instruction at private universities. At the core of this transformation is a move away from traditional teacher-centered models toward student-centered and personalized learning paradigms.

The flipped classroom approach has become increasingly mature in the context of translation teaching at private institutions. Students engage with foundational theoretical content through online platforms before class, allowing classroom time to focus on translation practice, case analysis, and collaborative learning. This model not only enhances learning efficiency but also fosters students' autonomy and critical thinking skills. Blended learning, which combines the advantages of both online and face-to-face instruction, offers students greater flexibility and diversified learning pathways.

The application of task-based teaching reflects a practice-oriented philosophy in translator training. By designing authentic translation tasks, students acquire translation skills and strategies organically through task completion. This pedagogical model aligns particularly well with the applied talent cultivation goals of private universities and contributes to improving students' professional competitiveness.

The development of personalized learning assessment systems has become a prominent research direction. Leveraging learning analytics technologies, instructors can monitor students' progress and performance in real time, enabling targeted instruction and timely feedback. The integration of intelligent infrastructure and digital resources further enhances instructional quality, creating a smart learning environment that robustly supports personalized education.

3.3. Trends in Intercultural Communication and Internationalization

Throughout the entire research period, keywords such as *external communication translation*, *intercultural communication*, and *international dissemination of Chinese culture* appeared with consistent frequency, indicating that intercultural communication remains a central component of translation teaching in private universities. With the deepening implementation of the Belt and Road Initiative and the accelerated development of the Guangdong-Hong Kong-Macao Greater Bay Area, translation education in private institutions is playing an increasingly vital role in supporting the development of China's cultural soft power.

The rise of international collaborative education models has opened new avenues for the development of translation pedagogy in private universities. The emergence of regionally focused translation research reflects these institutions' growing commitment to serving local economic and social development. The appearance of localized keywords such as *inland cities* suggests that private universities are actively exploring translation teaching models aligned with regional development needs. This integration not only enhances the relevance and effectiveness of instruction but also contributes to the internationalization of local economies by providing skilled translation professionals.

3.4. Industry-Education Integration and Application-Oriented Development

The emergence of keywords such as *cross-border e-commerce*, *ontology construction*, and *cloud platform* indicates that translation teaching in private universities is increasingly strengthening its ties with industry, promoting the integration of education and industrial practice. The rapid development of cross-border e-commerce has created a vast job market for translation majors, while also placing new demands on translation education.

The construction of application-oriented curricula has become a key direction in the reform of translation teaching at private institutions. Traditional literature-focused course structures are shifting toward more diversified and practice-oriented models. There is a growing emphasis on specialized courses in business translation, legal translation, and scientific and technical translation—reflecting both labor market demands and students' career-oriented learning needs.

The deepening of university-enterprise collaboration offers more authentic practice environments for translation training. By establishing partnerships with translation agencies,

multinational corporations, and international organizations, students are provided with opportunities to hone their translation skills in real-world settings and enhance their professional competencies. This collaborative model not only improves the quality of instruction but also creates favorable conditions for student employability.

3.5. Trends in Quality Assurance and Evaluation System Optimization

As translation teaching reform continues to deepen, the construction of robust quality assurance and evaluation systems has emerged as a pressing issue. Evaluation frameworks based on big data and artificial intelligence technologies are gradually being established, offering more objective and comprehensive insights into student learning outcomes and instructional effectiveness.

A combined model of formative and summative assessment is becoming the dominant trend. Traditional evaluation methods that rely primarily on final examinations are being replaced by more diversified approaches. Translation portfolios, project-based work, and internship performance are increasingly incorporated into assessment criteria. Such multifaceted evaluation methods align more closely with the developmental nature of translation competence and support students' holistic development.

The introduction of international quality assurance systems has provided external benchmarks for enhancing translation education quality in private universities. By adopting internationally recognized standards and accreditation systems for translator training, private institutions can better align with global educational practices, thereby improving both instructional quality and institutional reputation.

A comprehensive analysis reveals that translation education in private universities across the Greater Bay Area is undergoing a profound transformation—from traditional to modern approaches, from singular to diversified models, and from closed to open systems. Key trends such as technological integration, pedagogical innovation, internationalization, industry-education collaboration, and quality enhancement are collectively shaping the current and future landscape. These interconnected and mutually reinforcing trends are driving the overall improvement of translation teaching quality in private higher education institutions.

4. Building a Translation Education Ecosystem with Guangdong Characteristics in Private Universities

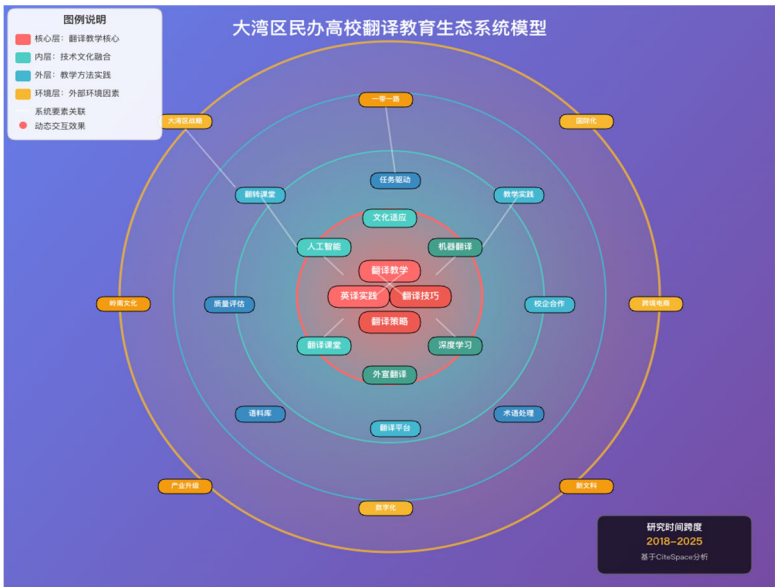


Figure 4. Ecological Model of Translation Education in Private Universities in the Greater Bay Area

The construction of this model (see Figure 4) is based on the bibliometric findings derived from the CiteSpace knowledge mapping analysis conducted from 2018 to 2025. Drawing on ecological systems theory, it provides a holistic framework for understanding translation education in private universities within the Greater Bay Area.

The model adopts a concentric-circle hierarchical structure, reflecting the layered, interconnected, and dynamic nature of the translation education system. It is divided into four tiers from the center outward: the core layer, inner layer, outer layer, and environmental layer. Each layer performs distinct functions, while remaining interdependent and co-evolving with the others to support the overall development of the ecosystem.

4.1. Core Layer: Foundational Elements of Translation Teaching

At the center of the ecosystem lies the core layer, which consists of four fundamental elements: *translation teaching*, *translation strategies*, *English–Chinese translation practice*, and *translation techniques*. According to the CiteSpace bibliometric analysis, the keyword *translation teaching* increased in frequency from 2 mentions in 2018 to 11 mentions in 2025, making it the most frequently cited term and underscoring its central role in translation education within private universities.

As the primary element, *translation teaching* emphasizes a pedagogical shift toward student-centered instruction. Within the internationalized context of the Greater Bay Area, translation education in private institutions increasingly prioritizes practicality and applicability, aiming to cultivate professionals equipped to meet regional development needs.

Translation strategies reflect the significance of theory guiding practice. The data show that this keyword peaked in 2023, indicating heightened scholarly attention to the integration of translation theory and practice—especially in areas such as intercultural communication and localization strategy development.

English–Chinese translation practice and *translation techniques* together form the practical skills development framework. With the deepening of external exchanges in the Greater Bay Area, translation practice has extended beyond traditional literary translation into domains such as business, law, and science and technology. Accordingly, the teaching of translation techniques has become more targeted and application-oriented to meet the demands of these specialized fields.

4.2. Inner Layer: Deep Integration of Technology and Culture

The inner layer encompasses six key elements—*artificial intelligence*, *machine translation*, *deep learning*, *translation classroom*, *cultural adaptation*, and *external communication translation*—reflecting the organic integration of technological innovation and cultural transmission. This layer serves as a vital bridge between core instructional components and external practical applications.

Artificial intelligence and *deep learning* represent the technological frontiers of translation education. According to the data analysis, references to *artificial intelligence* have risen sharply since 2021, reaching a frequency of 9 by 2025. This trend reflects private universities' proactive engagement with educational technology transformation. The application of deep learning technologies has enabled more personalized and adaptive learning experiences, offering students intelligent support in translation training.

Machine translation, as a concrete application of AI in the translation domain, has also seen steadily increasing research interest—from just one mention in 2020 to seven in 2025. By incorporating machine translation systems into classroom instruction, private universities have not only improved teaching efficiency but also helped students develop post-editing skills that align with current industry demands.

Cultural adaptation and *external communication translation* embody the cultural mission of translation education. Against the backdrop of the Belt and Road Initiative and the development of the Greater Bay Area, these two elements play a critical role in facilitating cross-cultural communication and effectively conveying China's stories to the world. Notably, *external communication translation* began to appear in the research data starting in 2021, indicating its growing strategic importance in translation pedagogy.

4.3. Outer Layer: Pedagogical Innovation and Practice-Oriented Implementation

The outer layer includes eight key elements: *flipped classroom*, *task-based learning*, *teaching practice*, *quality assessment*, *university-enterprise collaboration*, *corpus*, *translation platforms*, and *terminology management*. These elements represent the practical implementation of translation education and the mechanisms for ensuring instructional quality.

Flipped classroom and *task-based learning* reflect innovations in teaching methodology. The flipped classroom model restructures traditional instructional flow, positioning students as active participants in the learning process. Task-based instruction enhances students' practical competence and problem-solving skills by engaging them in authentic translation tasks. Both approaches align well with the applied talent training objectives of private universities.

University-enterprise collaboration is a defining feature of translation education in private institutions. Partnerships with translation agencies, foreign trade companies, and related industries provide students with internship opportunities and clear pathways to employment, thereby promoting the integration of industry and education. Given the industrial concentration of the Greater Bay Area, this model enjoys distinct geographical and economic advantages.

Corpus and *translation platforms* offer essential technological support for translation teaching. Corpus development enriches translation research and pedagogy by providing extensive linguistic resources, while online translation platforms furnish teachers and students with accessible tools and learning environments, meeting the growing demands of educational informatization.

4.4. Environmental Layer: External Drivers and Policy Support

The environmental layer consists of eight macro-level factors: *Greater Bay Area Strategy*, *Belt and Road Initiative*, *internationalization*, *Lingnan culture*, *cross-border e-commerce*, *industrial upgrading*, *digitalization*, and *New Liberal Arts*. These external forces provide the overarching context and policy support for the sustainable development of translation education.

The *Greater Bay Area Strategy* offers significant opportunities for the advancement of translation education. The development of the Guangdong-Hong Kong-Macao Greater Bay Area requires a large number of professional translators, providing private universities with clear talent development goals and broad growth potential.

Lingnan culture reflects the unique cultural identity of the region. By exploring and promoting Lingnan cultural heritage, private universities can foster students' cultural confidence and intercultural communicative competence.

The rapid rise of *cross-border e-commerce* has opened up new employment fields for translation professionals. As a major gateway for international trade, the Greater Bay Area presents a high demand for e-commerce translation. In response, private institutions can develop specialized courses to train interdisciplinary talents who combine language skills with business acumen.

Digital transformation and the construction of the *New Liberal Arts* point the way forward for translation education. By building smart campuses and promoting interdisciplinary integration, private universities are cultivating a new generation of translators equipped with both linguistic expertise and digital competencies—well-suited for the demands of the digital era.

4.5. Dynamic Characteristics and Developmental Trends of the System

The ecological model of translation education in private universities within the Greater Bay Area embodies dynamic equilibrium, as represented by the interconnected flows of information, resources, and talent across its hierarchical layers. These dynamic links facilitate a virtuous cycle of mutual reinforcement and collaborative development among core pedagogical elements, technological innovations, cultural functions, instructional practices, and external environmental drivers. From a temporal perspective, the evolution of translation education from 2018 to 2025 can be divided into four distinct phases: the foundational accumulation phase (2018–2020), focused on traditional translation studies; the technological integration phase (2021–2022), characterized by the initial adoption of AI in pedagogy; the application expansion phase (2023–2024), emphasizing innovations in teaching models and practical training; and the deep integration phase (2025), marked by increasingly synergistic development across all system components. This multi-level, multi-element ecological system reflects the inherent complexity and systematic nature of translation education. It not only offers a theoretical lens for understanding its development but also provides a practical framework for implementation. Through the continuous optimization of inter-element relationships, a dynamic and sustainable balance can be achieved—ultimately fostering the construction of a translation education ecosystem that is both regionally distinctive to Guangdong and aligned with global standards.

5. Conclusion

Based on a bibliometric analysis using knowledge mapping techniques from 2018 to 2025, this study provides a comprehensive examination of the development, evolution, and future prospects of translation teaching in private universities across the Greater Bay Area. Through the application of *CiteSpace* visualization tools, an ecological model of translation education was constructed, encompassing four interrelated layers: the core, inner, outer, and environmental layers. This model systematically reveals the developmental trajectory and intrinsic logic underpinning translation pedagogy in the region.

Findings indicate that translation education in private universities within the Greater Bay Area is undergoing a profound transformation—from traditional to modern approaches, from single-track to diversified models, and from closed to open systems. This transformation is driven by technological innovation, centered on pedagogical reform, grounded in intercultural communication, facilitated through industry–education integration, and oriented toward quality enhancement. Together, these factors constitute a development paradigm that is both reflective of the times and distinctively regional.

The deep integration of cutting-edge technologies such as artificial intelligence, machine translation, and deep learning is not only reshaping the fundamental structure of translation instruction but also giving rise to new paradigms of human–machine collaboration. Pedagogical innovations such as flipped classrooms, blended learning, and task-based approaches have catalyzed a shift from teacher-centered to student-centered learning, thereby enabling more personalized and data-informed instruction. The cultivation of intercultural competence and the expansion of global perspectives have further positioned translation education as a key contributor to China’s cultural soft power and the Belt and Road Initiative.

Crucially, the Greater Bay Area’s unique geographic position, economic vitality, and policy advantages offer unparalleled opportunities for the growth of translation education in private institutions. The coordinated development of Guangdong, Hong Kong, and Macao; the preservation and reinvention of Lingnan culture; and the rapid rise of cross-border e-commerce have all injected new momentum into translator training. Within this dynamic environment, private universities have demonstrated acute market awareness and

institutional flexibility, carving out a meaningful role in serving regional socio-economic development and redefining their value and positioning within the higher education landscape.

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