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Reform Logic and Practical Paths of College English Translation Teaching Empowered by AI Translation

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ABSTRACT
The breakthrough development of AI translation technology has reshaped the language service ecosystem and posed fundamental challenges to the traditional model of college English translation teaching. Based on the technical characteristics and application scenarios of AI translation, and combined with practical cases of English translation teaching in domestic colleges and universities over the past two years, this paper systematically analyzes the empowering value of AI translation in improving teaching efficiency, expanding learning dimensions, and enhancing practical capabilities from four dimensions: resource supply, personalized teaching, feedback mechanism, and scenario simulation. On this basis, it proposes reform paths including the reconstruction of teaching objectives, optimization of curriculum content, innovation of teaching models, reform of evaluation systems, and upgrading of teachers' capabilities. Specific implementation suggestions are also put forward for colleges and universities, teachers, students, and educational management departments. Finally, a new translation teaching system featuring "technology empowerment + competence cultivation + value guidance" is formed, aiming to cultivate compound English translation talents with AI tool application capabilities, critical thinking, and cross-cultural communication literacy, so as to provide support for meeting the language communication needs in the era of globalization.

KEYWORDS
AI translation; Translation teaching; Translation literacy; Human-machine collaboration; Personalized learning; Cross-cultural communication

1 Introduction

Driven by both the digital transformation of education and the demand for global communication, college English translation teaching has evolved from "cultivating language conversion skills" to "fostering cross-cultural communication capabilities". However, the traditional teaching model has long been constrained by three major bottlenecks: first, the lack of high-quality bilingual corpus resources, which makes it difficult to cover multi-disciplinary and multi-scenario needs; second, the insufficiency of personalized guidance under the classroom teaching system, which fails to meet the differentiated learning needs of students; third, the absence of practical scenarios, which prevents students from transforming classroom knowledge into workplace application capabilities. According to the College English Teaching Quality Report released by the Foreign Language Teaching Guidance Committee of Higher Education Institutions under the Ministry of Education in 2024, only 32% of colleges and universities are equipped with professional corpora for English translation courses, and 65% of teachers report that they "cannot provide targeted translation feedback to each student". This directly results in the passing rate of students' translation competence (in accordance with the requirements of College English Teaching Guidelines) being only 68%.

The maturity of AI translation technology provides a key solution to the above dilemmas. Different from traditional machine translation, the new generation of AI translation relies on deep learning algorithms and massive corpora, and possesses three core advantages: "context awareness", "multimodal processing", and "dynamic optimization". For example, DeepL Translation can adjust the style of translations by analyzing context; Baidu Intelligent Translation supports multi-format translation of text, speech, and images; and Chuanshen Intelligent Translation Teaching Platform can generate real-time personalized learning reports. Practices in many domestic colleges and universities have verified its value: after introducing AI translation tools in 2024, Heilongjiang University of Business and Technology saw the submission rate of students' translation assignments increase from 76% to 98%, with the average accuracy of translations improving by 15.3 points; Beijing Language and Culture University, through AI scenario-based training, has achieved a 27% higher employment rate of students in translation-related positions compared with the traditional teaching model. However, how to maximize the teaching value of AI translation and avoid the superficial application of technology still requires in-depth exploration from both theoretical and practical perspectives, which is the core starting point of this study.

2 Core Advantages of AI Translation in Empowering College English Translation Teaching

2.1 Breaking Resource Boundaries: Building a Multi-Dimensional and Dynamic Teaching Resource System

Relying on big data technology, AI translation tools have constructed a "corpus + question bank + case bank" trinity resource system, expanding the boundaries of teaching resources in terms of breadth and depth.

In terms of corpus resources, mainstream AI translation platforms have integrated hundreds of millions of bilingual parallel corpora, and the coverage areas are constantly expanding. Taking DeepL Education Edition as an example, its

built-in corpus covers 12 core fields (literature, business, law, technology, medicine, etc.) and 8 text styles (formal documents, spoken dialogue, news reports, academic papers, etc.), with more than 5 million new corpus entries updated monthly. More importantly, AI translation can generate "customized corpora" according to teaching needs.

In terms of question bank resources, AI translation platforms have realized the intelligent design of "dynamic generation + difficulty adaptation". Chuanshen Intelligent Translation Teaching Platform allows teachers to customize questions at three levels: vocabulary, sentence structure, and discourse. At the same time, the platform automatically adjusts the difficulty of questions by analyzing students' historical answer data.

In addition, AI translation has also built a "real-time case bank", introducing the latest global translation practices into the classroom. This model of "real-time cases + teaching interpretation" keeps the teaching content in sync with industry practices and solves the problem of traditional textbooks being "outdated and disconnected from reality".

2.2 Precisely Adapting to Needs: Realizing "Personalized Teaching for Each Student"

Through "data profiling + dynamic adjustment", AI translation has achieved the transformation from "mass teaching" to "personalized guidance". Its core relies on three technical supports: natural language processing (NLP) to analyze the characteristics of students' translations, machine learning algorithms to identify weak points, and adaptive learning systems to push customized content.

First, AI translation can construct accurate student competence profiles. Taking the "Yixueguan" platform used by Shanghai International Studies University as an example, after students complete the initial translation test, the system generates profiles from five dimensions: vocabulary (e.g., mastery of professional terms, ability to distinguish polysemy), grammar (e.g., tense accuracy, sentence structure conversion ability), discourse (e.g., logical coherence, style adaptability), culture (e.g., handling of culture-loaded words, target language cultural adaptation), and strategy (e.g., context analysis, translation optimization ability).Second, AI translation can provide "targeted" learning resource recommendations. Based on competence profiles, the system customizes exclusive learning paths for students. Practice in a university in Beijing shows that after adopting personalized learning paths, the improvement speed of students' translation competence is 50% faster than that of the traditional model, and the learning anxiety (measured by psychological scales) is reduced by 28%. Finally, AI translation supports "real-time interactive" personalized guidance. This model of "asking questions while learning and getting answers immediately" enables students to clear learning obstacles in a timely manner and maintain the continuity of learning.

2.3 Optimizing the Feedback Mechanism: Realizing "Real-Time and Multi-Dimensional" Teaching Evaluation

The core of translation teaching lies in the closed loop of "feedback - correction - improvement".

In terms of feedback timeliness, AI translation realizes "feedback immediately after submission of translations". After students complete translation tasks on the platform, the system generates correction results within 10 seconds. For teachers, AI can also automatically generate class feedback reports, such as "80% of students have difficulties in 'passive voice conversion' " and "65% of students are insufficient in 'translation of culture-loaded words' ", helping teachers accurately adjust teaching priorities and reduce the burden of repetitive correction. The weekly working hours of teachers at the university in translation teaching have been reduced from 12 hours to 5 hours, allowing them to devote more energy to teaching design and thinking guidance.

In terms of feedback dimensions, AI translation has built a "multi-dimensional evaluation system" covering the core elements of translation quality. Taking Grammarly Translation Assistant as an example, its evaluation dimensions include: basic level (grammatical correctness, spelling accuracy, punctuation standards), language level (vocabulary richness, sentence structure diversity, expression fluency), cultural level (target language cultural adaptability, cultural connotation transmission), and professional level (terminology accuracy, text style consistency).

In terms of feedback specificity, AI translation provides "operable optimization suggestions" rather than vague evaluations. At the same time, the system will push similar cases (such as relevant expressions in Chinese government white papers) to help students understand the optimization logic. This feedback model of "error localization + revision plan + case reference" enables students to not only know "what is right" but also "why it is right", effectively improving the learning effect.

2.4 Simulating Real Scenarios: Building an "Immersive and Practical" Training Environment

Combining virtual reality (VR), augmented reality (AR), and natural language interaction technology, AI translation has built a "highly simulated and interactive" translation scenario, realizing the "seamless connection between classroom training and workplace needs".

First, the "immersive dialogue translation scenario" trains real-time communication capabilities. The "AI Translation Training System" used by Beijing Language and Culture University is equipped with VR equipment, which can simulate scenarios such as "international business negotiations", "cross-border tourism services", and "academic conference exchanges". This scenario also supports "multi-turn dialogue memory" - AI will remember the previous communication content to avoid "context disconnection" and restore the real negotiation logic. Second, the "multimodal translation

scenario" adapts to the needs of complex information processing. With the increasing diversification of workplace translation, the ability to process multi-format content (text, speech, images, videos) simultaneously has become a core requirement. AI translation platforms can simulate "multimodal translation tasks". This scenario training helps students master the "translation priority of different modal content" and "information selection strategy" (e.g., video subtitles need to be concise, while text translation needs to be complete), improving their comprehensive processing capabilities. Third, the "industry-customized scenario" connects with the needs of professional fields. AI translation platforms can develop customized training scenarios according to the professional characteristics of colleges and universities. The "international news translation scenario" jointly developed by Shanghai International Studies University and The Paper even introduces real news materials (such as the transcript of the G20 Summit press conference), allowing students to play the role of "news translators" and complete the whole process of "real-time interpretation + translation release". Their performance is commented on by senior media translation experts, realizing the "connection between classroom training and industry standards".

3 Reform Paths of College English Translation Teaching Empowered by AI Translation

3.1 Reconstructing Teaching Objectives: Establishing a "Three-Dimensional Integration" Cultivation Orientation

AI Application Capability Dimension: Cultivate students' proficiency in operating and optimizing AI translation tools, including tool selection, translation proofreading, and corpus application, to achieve efficient human-machine collaboration.

Core Translation Literacy Dimension: Strengthen the accuracy, fluency, and appropriateness of language conversion, focusing on cultivating the ability to apply translation strategies, analyze texts, and make critical revisions, while adhering to the subjectivity of translation.

Cross-Cultural Communication Dimension: Shift from "language conversion orientation" to "communication effect orientation", cultivating students' ability to conduct cultural adaptation and emotional transmission based on AI translations, so as to become qualified cross-cultural communicators.

3.2 Optimizing Curriculum Content: Building an AI-Integrated Translation Curriculum System

Basic Module: Add courses on the basics of AI translation technology and ethical norms, covering the operation of mainstream translation tools, technical principles, copyright rules, and application boundaries, to cultivate students' awareness and ability to use AI scientifically.

Core Module: Reconstruct translation skills courses, integrate AI tools into teaching links such as vocabulary translation, sentence structure conversion, and discourse reconstruction, and design a training process of "AI initial translation - manual optimization - comparative reflection" to strengthen core translation capabilities.

Expansion Module: Build interdisciplinary content of "translation + scenario", offer scenario-based courses such as business translation, news translation, and classical Chinese-foreign translation, and combine AI to simulate real work tasks to improve scenario adaptation capabilities.

Practical Module: Set up practical courses such as multilingual communication project training and new media content translation practice, allowing students to use AI tools to complete the whole translation process in real projects and accumulate practical experience.

3.3 Innovating Teaching Models: Promoting "Human-Machine Collaboration + Scenario-Driven" Teaching

Flipped Classroom Model: Guide students to use AI translation tools to complete basic translation tasks independently before class; focus on in-class in-depth discussions on the optimization of AI translations, interpretation of cultural connotations, and translation strategy research to improve in-depth learning effects.

Project-Based Teaching Model: Take real translation projects as carriers, and organize students into groups to use AI tools to complete the whole process of demand analysis, initial translation, proofreading, and optimization, so as to cultivate team collaboration and problem-solving abilities.

Dual-Track Practical Model: Combine virtual simulation with real projects, simulate complex translation scenarios through VR technology, and introduce real translation tasks from enterprises to realize the connection from simulated training to practical application.

Dual-Mentor System: Assign academic mentors and industry mentors - academic mentors are responsible for theoretical guidance and competence cultivation, while industry mentors guide the application skills of AI tools in practical work, realizing the collaborative education of universities and enterprises.

3.4 Reforming the Evaluation System: Establishing a Multi-Dimensional and Comprehensive Evaluation Mechanism

Diversified Evaluation Dimensions: Cover four core dimensions: AI tool application ability, translation quality (accuracy, fluency), cross-cultural transmission effect, and compliance with ethical norms, so as to fully reflect students'

comprehensive literacy.

Process-Oriented Evaluation Methods: Combine process evaluation and summative evaluation, record learning trajectories through translation logs, project reports, and in-class presentations, and assess comprehensive capabilities through practical achievement displays and industry-recognized micro-certificates.

Collaborative Evaluation Subjects: Build a multi-evaluator community consisting of college teachers, industry experts, and AI tools - college teachers focus on evaluating competence cultivation, industry experts pay attention to practical application effects, and AI tools provide objective data support.

3.5 Upgrading Teachers' Capabilities: Building a "Technology + Teaching + Practice" Compound Team

Carry Out Hierarchical Training: Popularize AI translation technology and teaching integration methods through special lectures and online courses; conduct in-depth training for key teachers to improve their ability to design intelligent teaching.Build a Collaborative Platform: Establish an inter-university and interdisciplinary teaching community, integrate resources from foreign languages, artificial intelligence, journalism and communication, and other disciplines, share AI translation teaching cases and resources, and promote the sharing of teaching wisdom. Strengthen Industry Practice: Encourage teachers to take temporary positions in translation enterprises, understand the application status and needs of AI translation in the industry, and integrate industry practical experience into classroom teaching.

4 Suggestions for College English Translation Teaching Empowered by AI Translation

4.1 Improving the Guarantee System for AI Translation Teaching Resources

Colleges and universities should increase investment in AI translation teaching platforms, giving priority to introducing tools that integrate both "teaching functions" and "practical attributes", such as DeepL Education Edition and Chuanshen Intelligent Translation Teaching Platform. They should also cooperate with enterprises to develop customized resources. For instance, medical colleges and universities can jointly develop an "AI Translation Training Module for Medical Literature" with medical translation institutions, while finance and economics colleges can customize a "Business Contract AI Translation and Risk Detection System".

Meanwhile, an "AI Translation Teaching Resource Update Mechanism" should be established. Special personnel should be assigned to regularly collect the latest global translation cases (such as official documents of international organizations and subtitles of popular film and television works), interpret and annotate them in combination with teaching objectives, so as to ensure the timeliness and adaptability of resources.

In addition, it is necessary to guarantee supporting hardware facilities. Translation laboratories should be equipped with VR devices, multimodal input and output terminals, etc., to meet the needs of immersive scenario-based training. It is recommended to configure VR devices at a standard of "1 set for every 30 students" and gradually achieve full coverage.

4.2 Enhancing the Ability to Apply AI Translation Technology and Design Teaching

Teachers should proactively participate in hierarchical training. During the teaching process, they must clarify the positioning of "AI as an assistant rather than a substitute", and design the core link of "criticizing and optimizing AI translations" to strengthen the cultivation of students' subjectivity in translation and critical thinking.

At the same time, a "Code for the Use of AI Translation" should be established, clearly requiring students to mark the "scope of AI use" (e.g., "Using DeepL for terminology search; using Grammarly to check grammar after independently completing discourse translation") and "manually revised content" in their assignments. By comparing the initial AI translations with students' final versions, teachers can evaluate students' ability to optimize translations and prevent over-reliance on AI.

Teachers need to innovate AI-assisted cross-cultural translation teaching methods and use AI tools to design immersive cross-cultural teaching activities. Furthermore, they should organize "AI Cross-Cultural Translation Competitions", providing texts containing culture-loaded words (such as introductions to traditional Chinese festivals and TCM terminology) and requiring students to complete translations with AI assistance while explaining the "reasons for adjusting AI translations". Through competitions, students' interest in cross-cultural translation can be stimulated and their practical abilities can be improved.

4.3 Constructing a Systematic Learning Path for AI Translation Tools

Students should improve their ability to use AI tools in three stages: "basic operation - advanced application - high-level optimization", and develop the learning process of "AI initial translation - manual revision - summary and reflection". After each translation task, students should first use AI to generate reference translations, then compare them with their own translations to analyze differences. For example, if AI translates "China adheres to the path of peaceful development" as "China adheres to the path of peaceful development" while a student translates it as "China insists on the road of peaceful development", the student should record the differences in tone between "adheres to" and "insists on", as well as the semantic focus between "path" and "road", and form a "translation error notebook". Meanwhile, students should write a "weekly AI translation learning journal" to record their experiences in using tools (e.g., "This week, I found that DeepL is more accurate in translating scientific and technological texts, while Baidu Intelligent

Translation is more suitable for spoken dialogue"), problems encountered (e.g., "AI has difficulty accurately translating metaphors in ancient poetry"), and solutions. Through continuous reflection, students can enhance their autonomous learning ability. In addition, students should actively participate in "AI translation study groups", share optimization skills with peers, and conduct mutual evaluation of AI-assisted translations to form a mutually supportive learning atmosphere.

4.4 Strengthening Support for AI Translation Teaching Research and Teacher Training

National-level AI translation teaching research projects should be established to encourage college teachers and research institutions to conduct research on cutting-edge topics such as "the impact of AI translation on students' critical thinking" and "innovation in multimodal AI translation teaching models". Financial support and promotion should be provided for outstanding research results. At the same time, an "AI Translation Teaching Master Training Program" should be implemented. Each year, 100 key teachers are selected for a 3-month intensive training, covering cutting-edge technologies, teaching innovation, and industry practice. During the training, teachers are arranged to intern at top domestic universities (such as Shanghai International Studies University) or well-known translation enterprises (such as Transn) to improve their comprehensive abilities.

Furthermore, efforts should be made to promote "university-enterprise collaborative education", guiding translation enterprises to cooperate with colleges and universities in establishing "AI translation order-based classes". Enterprises provide customized teaching content and internship positions, while colleges and universities cultivate talents according to enterprise needs, realizing seamless connection among "teaching - practice - employment" and alleviating the contradiction between supply and demand of talents in the translation industry.

5 Conclusion

AI translation technology provides a powerful driving force for the reform of college English translation teaching, but its essence is a tool for empowering teaching rather than a substitute. The core of the reform of college English translation teaching lies in realizing the organic unity of technology application and humanistic cultivation. It is necessary to give full play to the advantages of AI translation in resource supply, efficiency improvement, and scenario simulation, while adhering to the essential goal of translation teaching - cultivating people - and strengthening students' subjectivity in translation and core literacy.

By reconstructing the "three-dimensional integration" of teaching objectives, optimizing curriculum content with AI integration, innovating and upgrading teaching models, improving the evaluation system in a diversified manner, and systematically enhancing teachers' abilities, college English translation teaching can break through traditional dilemmas and build a new teaching system adapting to the needs of the intelligent era. The specific suggestions put forward in this chapter for colleges and universities, teachers, students, and educational management departments further provide an implementation path for this reform. Colleges and universities need to improve resource and monitoring mechanisms; teachers need to enhance their ability to apply technology and guide thinking; students need to construct a systematic learning path; and educational management departments need to provide policy and resource support. Only through the joint efforts of these four parties can the teaching value of AI translation be maximized. This reform can not only improve students' translation ability and AI application ability but also cultivate their cross-cultural communication literacy and critical thinking, providing talent support for language services and cultural mutual learning in the era of globalization. In the future, it is necessary to continuously track the development of AI translation technology (such as the application of multimodal large models in translation), constantly optimize the teaching system and practical suggestions, and promote the high-quality development of college English translation teaching.

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