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Practical Exploration of AI-assisted Vocational Translation Teaching under the Background of Industry-education Integration

Fengyun Wang

Shanghai Technological Institute of Electronics & Information, Shanghai 201411, China.

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***Corresponding author:** Fengyun Wang, Shanghai Technological Institute of Electronics & Information, Shanghai 201411, China.

Abstract

On the background of the integration of vocational education and industry, the goal of foreign language teaching in higher vocational colleges has changed to focus on cultivating job-relevant skills. In recent years, AI technologies, like generative large language models, are currently transforming the industry ecosystem. At this crucial stage of digital transformation, it is essential for vocational English training to adapt to the working model of the language service industry. Currently, numerous existing studies have recognized the great value of AI in higher vocational foreign language teaching, but they lack in-depth discussion on the deep mechanisms of industry-education integration, as well as school-enterprise collaboration for training technologically skilled talent. This study focuses on the application of AI tools in translation and interpreting, aiming to enrich the studies in the digital reform of higher vocational translation teaching from the perspective of industry-education integration and provide a practical model for cultivating comprehensive language service talents.

Keywords

Vocational Translation Teaching; AI Tools; Industry-Education Integration; Translation and Interpreting; Digital Transformation

1. Introduction

Against the backdrop of China vigorously promoting the integration of vocational education with industry, the main goal of higher vocational education has changed to “cultivating job adaptability”. As an important platform for cultivating comprehensive skilled personnel, higher vocational foreign language teaching reform is now driven by two great forces: firstly, digital transformation has become an inevitable trend in vocational education development. The “employment-oriented” nature of higher vocational college inherently requires it to closely align with language service industry practices. Nowadays, the demand for language services has upgraded from simple language conversion to efficient and precise language services supported by technology, which necessitates reconstructing the teaching models through technology empowerment.

For the past few years, artificial intelligence technology has deeply changed the job roles in the language service industry, highlighting the pressing need to align teaching with industry practices. In recent years, more and more language service companies have explicitly listed proficiency in operating AI translation tools’ as an essential requirement for recruiting employees. This trend signals that vocational foreign language education must focus on the integration and application of AI tools to improve students’ employment competitiveness. Therefore, conducting a systematic exploration of the application paths for AI tools in translation and interpretation can not only enrich the academic research on digital transformation of vocational foreign language education, but also provide a practical model for cultivating skilled language service professionals within the context of industry-education integration.

1.1 Research Background

As we all know, higher vocational foreign language teaching reform is at a critical phase of digital transformation. With the in-depth implementation of the *Action Plan for Improving Quality and Excellence in Vocational Education (2020 –2023)*, cultivating technical and skilled personnel with digital literacy has become the goal of higher vocational education. In the field of English majors, the traditional teaching model focusing primarily on knowledge transmission can no longer meet the demands of the market in the digital era.

With the rapid development of artificial intelligence technology and its wide application in education, academic research on the reform of foreign language teaching in vocational colleges is also emerging, especially on technology empowerment. Shi Lihua (Shi, 2024) explored innovative pathways for applying AI in vocational English teaching from a holistic perspective, including curriculum reconstruction, teaching methods and evaluation optimization. At the level of industry-education integration, Tao Xia (Tao, 2022) proposed that school-enterprise cooperation in developing AI-assisted courses can effectively bridge the skills gap between school and industry. In terms of concrete applications, Wu Yijie (Wu, 2024) showed that large language models can effectively improve teaching outcomes, by using virtual language partners and personalized learning path design. Zhang Tong (Zhang, 2024) conducted an in-depth analysis of the application potential of large language models in Business English teaching, and pointed out the importance of balancing the use of technology with the cultivation of students' competencies.

From a review of existing studies, we can conclude that artificial intelligence technologies, especially large language models, can effectively enhance the quality of foreign language teaching in vocational colleges. However, most current research focuses on descriptive analysis of technological applications, and ignores exploration of deeper issues such as how vocational translation teaching can achieve in-depth integration of industry and education, promote beneficial development between colleges and enterprises, and foster the cultivation of technologically skilled talent through industsry-education collaboration. These will be the key focuses of the study.

1.2 Current Status of Industry Development

According to the Blue Book (Academy of Translation and Interpretation, China International Communications Group, 2025), nowadays in the field of written translation, about 63.46% of corporate translators' work relies on computer-assisted translation tools. Traditional CAT tools also integrate AI functions to better their performance. For example, Trados 2024 leverages AI plug-ins for real-time terminology suggestions and similar translation recommendations, so the translation efficiency is increased significantly. Additionally, with tools like DeepL and iFlytek Spark large translation models generating the first draft, a human interpreter only needs to focus on proofreading of culturally-loaded terms and complex clauses.

In the field of interpreting, in scenarios such as international exhibitions and cross-border business negotiations, AI real-time speech translation tools (such as iFlytek simultaneous interpretation and Google Translate' s real-time speech feature) have become common, providing synchronous transcription from one source language into three or more target languages. Thus, the core responsibilities of interpreters have shifted to contextual adaptation of AI translations and correction of cultural biases. As for the content with distinctive cultural characteristics, interpreters still need to supplement the cultural connotations that AI tools cannot convey.

Besides that, the market for computer-assisted translation software has seen the emergence of numerous online collaborative translation management platforms, such as Twinslator, YiCAT, and Transmate, which are lightweight translation management platforms. These integrated TMSs unify the management of translators, translation projects, client requirements and quality control, enabling information sharing and process control across all stages. In the field of interpretation, platforms such as the Cymo interpretation platform and iFlytek simultaneous interpretation have become useful tools for intepreters. The international version of Zoom and Tencent Meeting can both provide simultaneous interpretation functions. Technically speaking, Cymo Note uses voice recognition to push terminology prompts in real-time; iFlytek simultaneous interpretation relies on the Spark Large Model to support multilingual speech interpretation; its related speech-to-text tools offer multilingual real-time subtitles to reduce listening load. These functions have lessened a lot of memory load for interpreters and shortened the preparing time.

2. Strategies for AI-Enabled Vocational Translation Teaching under the Background of Industry-Education Integration

Although many colleges have already incorporated computer-assisted translation tools into their teaching content, the learning of technical tools in translation teaching still faces limitations of usage methods and the teaching content lacks systematic design based on the integration of industry and education overall. In the current context, vocational foreign language education needs to achieve deep integration of AI tools through systematic approaches.

Firstly, we should build a curriculum system adapted to the intelligent transformation of related industry (Han, 2025), thereby achieving alignment between talent cultivation and industrial needs. Therefore, the primary task of current vocational translation teaching is to reconstruct the curriculum system by adopting a hybrid model of "offline teaching+online practice", integrating modular teaching with real projects. For example, schools and enterprises can jointly develop AI-assisted courses centered on translation workflows, breaking down the workfolw of translation projects into skill units such as terminology management and post-editing, enabling students to master tool operation and project management skills in a simulated environment. The textbook *AI and Language Applications* studied in this project is a typical example of a school-enterprise cooperative textbook. This "project-technology-capability" integrated course framework provides vocational colleges with a replicable teaching reform model.

Secondly, higher vocational colleges should strengthen practical paths for technology-empowered education, improve technical infrastructure, and transform new industry technologies into teaching resources. In this case, upgrading technological infrastructure is a key support for practical implementation. As for the resource, schools and enterprises should be encouraged to jointly build resource-sharing platforms to address equipment shortages. At the same time, mainstream industry tool chains should be introduced, enabling students to directly engage with enterprise-level technology ecosystems. For example, Shenzhen Polytechnic has built the "Huawei 5G+Digital Talent Industry-Education Integration Base" jointly with the enterprise and introduced the "Huawei Cloud Service Training Platform" for ICT (Information and Communications Technology) college. This will shorten the skills gap between the classroom and the workplace and bring real benefit to the graduates.

Thirdly, teachers should enhance students' ability to apply digital tools, and place emphasis on the ethics of AI technology usage through digital literacy cultivation. In terms of competence cultivation, it is necessary to focus on developing students' intelligent translation literacy. First, critical thinking, which means enhancing the ability to proofread AI output, such as identifying cultural mistakes in machine translation; second, cross-cultural adaptability (Zhang, 2018), that is using appropriate words and phrases to translate and localize the product. This is quite essential in localization projects, such as game localization, website localization and so on. In addition, in industrial case-based teaching, teachers should guide students to recognize ethical risks, such as responsibility for the data security of terminology database and the duty to proofread AI hallucinations. Specifically speaking, teachers need to stress students' dialectical and critical thinking skills, and highlight the human ability to integrate and process complex information.

3. Specific Approaches to Applying AI Technology in Vocational College Translation Teaching

As for the concrete procedures, teachers should change the traditional teaching design first, and implement machine-assisted translation technology through project-based teaching. For example, in English majors, teachers can carry out full-process training of "CAT+MT+PE", allowing students to use Trados to create translation projects, use machine translation engines for initial translation, perform post-editing with YiCAT or use the Automatic Post-Editing (APE) feature, and use XBench for quality assurance in the end. In addition, large models can assist in translation optimization efficiently. Large models can automatically correct terminology, grammar and style issues in machine-translated texts. Besides, we can use DeepSeek to address the handling of certain culturally-loaded terms in translation, getting background supplementation and localized expression in translation for reference.

In the field of translation, AI tools are widely used in various translation scenarios. For example, traditional CAT tools are the popular workplace in language service industry. Recently, Trados Studio 2024 has integrated AI assistants that can use cloud-based terminology databases for intelligent matching, significantly improving translation consistency. In addition, cloud-based collaborative platforms such as Twinslator, YiCAT, and Transmate provide translators with online workflow management and work spaces, enabling them to view project progress, conduct remote collaboration, and track project progress in real time, thereby achieving real-time quality monitoring.

In terms of interpretation, AI tools can be applied across the whole working process, including pre-interpreting, during interpreting, and post-interpreting stages. In the first stage, the students can use Kimi to quickly extract terminology from conference materials and generate bilingual glossaries. In international conference simulation training, students can use Cymo GPT to generate speeches in different professional field, and utilize AI simultaneous interpretation subtitles to compare their own translations with machine translation. Besides, students can use speech database, like the Speech Repository of European Commission, to get familiar with different accents and speech content. For during-interpreting assistance, students can use Cymo Note for real-time terminology prompts via speech recognition, while speech transcription tools, like iFlytek SimulTrans (Spark Trans), can offer the students with multi-language real-time subtitles to reduce the listening load. In the post-interpreting stage, students can use AI tools like "iFlyrec" (iFlytek Hearing) to analyze their interpreting recordings using speech recognition technology. Last but not least, students can also use InterpreTutor's evaluation functions to mark their mistakes, such as number misinterpretation and grammatical errors. This platform can produce quantitative reports covering accuracy, fluency, and terminology usage to support students' future improvements.

Under the background of industry-education integration, exploring the adaptability of AI tools in vocational translation teaching holds significant values, both in theoretical and practical ways. From the perspective of education, the Applied English major needs to establish a teaching resource database aligned with the pace of technological advancements in the industry. From the perspective of industrial development, human-machine collaboration has become the new norm in language services sector: in the field of written translation, translators need to acquire new skills such as prompt design and quality assessment of machine translation; in interpreting, human-machine collaboration is required in the pre-translation stage for terminology extraction and real-time auxiliary prompting during translation. At the same time, teachers should incorporate ethical norms into the teaching evaluation system, and ensure students' correct usage of AI technology. In a word, by applying specific AI tools in different translation teaching scenarios, it is quite benefical to set up a "technical literacy+language proficiency" dual-core talent training model, helping vocational colleges cultivate translation professionals adapted to industry transformation.

4. Conclusion

From what has been discussed above, AI tools have indeed brought great impacts on vocational translation teaching. In terms of efficiency improvement, adopting AI-assisted translation workflows can significantly shorten translation project completion time. More importantly, AI tools effectively bridge the technical gap between college and the language service industry. By introducing enterprise translation management platforms and useful AI tools into teaching, the adaptation period for graduates can be greatly reduced, and this will be helpful to achieve a precise alignment between talent cultivation and industrial demand.

Facing the current bottlenecks in vocational translation teaching practice and the development trends of AI technology, vocational colleges should continue to make efforts to deepen the "human-machine symbiosis" teaching model in the future. It means that the roles of teachers and students in an intelligent environment should be redefined: teachers should shift from being knowledge transmitters to AI tool coordinators and ethical supervisors, while students should cultivate abilities in digital technology application, dialectical thinking, team coordination, and digital ethics. In the end, it's worth emphasizing that AI tools are ultimately means to enhance human capabilities rather than a substitute for human beings' professional judgment. Therefore, students should be smart users of AI instead of being slaves to it.

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