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A Case Study on Blended Teaching of Chinese-English Translation in the Era of Artificial Intelligence

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This article explores in-class practice of blended teaching of Chinese-English (C-E) translation for English as a Foreign Language (EFL) majors in the era of artificial intelligence (AI). It examines the opportunities and challenges AI presents in enhancing translation education, particularly in fostering student engagement, improving teaching efficiency, and promoting self-motivated learning. Case study suggests that AI can enhance the flexibility of teaching and motivate students, yet challenges such as over-reliance on AI and diminished critical thinking need to be addressed. While acknowledging the indispensability of human translators, the article concludes that effective blended teaching requires purposeful curriculum design, proper integration of AI, and a collaborative effort of teachers and students to maximize the potential of AI while ensuring high-quality, independent learning outcomes.

Keywords: blended teaching, C-E translation, AI integration, collaboration

Introduction

The increasingly wide application of artificial intelligence (AI) has significantly transformed higher education; simultaneously college classroom teaching and learning has ushered in many changes, embracing both opportunities and challenges. For English majors in colleges and universities, AI has sparked discussions such as whether AI will replace human translators, the necessity of learning translation, and how students can embrace technology to conduct in-depth learning and gain interdisciplinary expertise. These discussions are promoting the transformation of English teaching methods and the innovation in EFL student cultivation and development. Therefore, in the era of AI, given the necessity and inevitability of integrating AI technologies into Chinese-English (C-E) translation classrooms, this paper aims to examine the actual practice of blended teaching of C-E translation in EFL English majors and analyze the effect and challenges of blended teaching of AI-assisted C-E translation.

Previous Research

With the advances in computer technology, the Internet, and big data, the classroom teaching mode of translation has made progresses, and translation technology has been gradually entering into classroom teaching practice and teacher-student interaction. Traditional translation education faces transformation. To promote college classroom teaching and learning, scholars have investigated into various aspects of translation education: Wang Huashu and Chen Nieao (2021) examined the application of translation technology in “Research on

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Translation Education Technology in the Age of Artificial Intelligence: Problems and Countermeasures" and points out the difficulties of integrating translation technology into classroom teaching, and proposes some coping methods. Xiao Weiqing and Qian Jiajun review the relevant domestic and foreign studies on translation technology published from 2000 to 2020 in "Progress and Trends of Research on Teaching Translation Technology (2000-2020): A Comparative Analysis Based on Domestic and International Core Journal Papers" and state that there is a "relative lack of empirical studies on classroom integration of translation technology" home and abroad (2021, p. 68). Besides, "Measuring Translation Revision Competence and Post-Editing Competence in Translation Trainees: Methodological Issues" (Robert, Schrijver, & Ureel, 2024) explores the tools for assessing translation revision and post-editing capabilities.

In "Foreign Language and Translation Education in the Era of Artificial Intelligence: An Exploration and Reflection on the Cultivation of Language and Translation Talents", scholars take actual classroom teaching as an example to explore the ways to cope with the challenges that translation talents are facing in the era of artificial intelligence, and hold that translation education should be upgraded from teaching students about "Shu", the practical functionality of languages, to "Tao", the cultural nuances behind languages (Liu & Yu, 2024, p. 2). The research emphasizes the necessity to advance from learners gaining technical skills to thinking cross-culturally in translation. "Pedagogical Reflections on the Design of a Course in Computer-Assisted Translation" (Qian, 2009) affirms the necessity of setting up computer-assisted translation courses. However, the above studies mostly focus on the innovation and application of translation technology and the research on translation technology as an independent course in college education. Few studies look into the integration of AI technology into translation classroom teaching, or the application of AI technology in blended translation classroom. Based on previous research and the classroom teaching practice of C-E translation, while acknowledging that human translation is indispensable in the recent future, this paper attempts to analyze the practice and the effect of blended teaching integrated with AI technology.

The Inevitability of Integrating AI Into C-E Translation Teaching

The wide application of AI and currently low barrier to accessing AI tools make the adoption of blended teaching inevitable. With the advancement of AI translation technologies, translators can utilize specific software such as Trados, and Deja Vu, etc., and non-professional users can access various open AI-assisted translation platforms, such as Baidu Translate, Youdao Translate, DeepL, and ChatGPT, etc. AI enables translation much easier and translation quality increasingly improved. Accordingly, "translation technology" has been listed as a core course for English majors so as to improve the students' capability of technology-assisted translation under the guidance of the National Foreign Languages Teaching Advisory Board Under the Ministry of Education of China. Given the integration of technology into traditional classroom, Hu Jiehui (2023) suggested that "the core courses of translation technology should adopt a blended teaching method" (p. 4). The application of blended teaching in translation courses, in addition to translation technology courses, has become inevitable and the logical choice of students and teachers.

Moreover, teachers and students have integrated AI into translation teaching and learning effectively and efficiently. During the past three-year teaching practice, it is noted that students often employ the above-mentioned AI tools or platforms to validate, revise, or refine their translations, while teachers increasingly turn to AI to compare or verify student translations more effectively and efficiently. Blended teaching, which can flexibly integrate course learning and technology, "can improve learning outcomes and/or save costs" (Banados,

2006, p. 534). With the development of AI, blended teaching models have naturally emerged and entered into the C-E translation classroom.

A Case Study of Blended Teaching for C-E Translation

Over the past three years, the blended teaching for C-E translation[1] has been implemented as follows:

1. Pre-class preparation: Students are required to preview related Massive Online Open courses (MOOCs) or other online resources and complete translation exercises before in-class teaching begins;

2. Interactive teaching: In-class discussions focus on AI-assisted translation exercises and analysis, emphasizing targeted learning objectives and challenges encountered in the translating process;

3. After-class reflection: Online platforms (e.g., Rain classroom and WeChat groups) facilitate extended discussions and consolidate the reflection on in-class learning.

To demonstrate the blended teaching model, this paper investigates more into the second part of interactive teaching in classroom, where teachers guide students to discuss and analyze AI-assisted translation practice. The teaching objectives include evaluating AI-assisted translation, enhancing students' translation capability, developing their critical thinking abilities, fostering human-computer collaboration, and improving teaching and learning efficiency.

Blended Teaching Scenario and Effect

Basic Scenario

The blended teaching enhances the flexibility, diversity, and interactivity of the teaching and learning procedure from sentences, paragraphs, to the whole text, and initiates students to voluntarily understand the basic principles of C-E translation from the characteristic features of Chinese and English syntax, word order adjustment, to translation addition and subtraction, and cultural nuisances, etc.

For example, after finishing online learning of the characteristics of Chinese null-subject sentences or Chinese run-on sentences, students are given some sentences from current affairs or economic and trade texts to translate, because these texts have more null-subject or run-on sentences, relatively stable sentence structures, high repetition rates of vocabulary usage, and similar translations for reference, which are in line with the exercise selection principle of "regularly updated texts with relatively standardized content and format" (Qian, 2009, p. 53) when teachers conduct AI-assisted translation research.

The following examples are from current affairs texts and employed to teach the translation of Chinese null-subject sentence to the undergraduate students. They typify the AI-assisted translation and the post-editing.

Example 1: 稳定和扩大消费。多渠道增加居民收入。健全城乡流通体系。

Two intelligent platforms offer the following translation:

Stabilize and expand consumption. Increase residents' income through multiple channels. Establish a sound urban-rural circulation system. (Baidu Translate)

Stabilize and expand consumption. Increase residents' income through multiple channels. Improve the urban-rural circulation system. (ChatGPT)

Due to the lack of context, the two platforms provide translation of English imperative sentences rather than the grammatically complete sentence to fulfil the seeming equivalence in sentence structure. However, students

[1] The reason for taking blended teaching in the C-E translation course as an example is that Chinese EFL students' native language is Chinese, and they usually prefer to start translating from the familiar source language to another target foreign language.

easily recognize the necessity of translating them into the complete English sentence and Chinese null-subject sentence does not necessarily equal to English imperative sentence. Hence, the teacher can take the chance to further call the students attention to the lack of subject in the two platform translation versions, which embody the characteristic difference between Chinese null-subject sentence and English sentence. To translate Chinese null-subject sentence into English, the grammatically complete English sentences are most often needed.

In above examples, the intelligent platform translation invites the student to notice the mis-translation and the differences between Chinese and English syntax. With such exercise and teacher's guidance, the student will summarize different ways to add subjects when translating Chinese null-subject sentence into English. The translation after the editing is like the following:

We will stabilize and expand consumption. Personal incomes will be increased through multiple channels. Networks for the flow of goods and services in urban and rural areas will be improved.

Comparing the above final version and the above AI-assisted translation, the student can easily understand they can add "we" as the subject or change the sentence from active voice to passive voice when translating Chinese null-subject sentence. Moreover, as the AI-assisted translation platform still makes simple mistakes and is not that intelligent as supposed, the student might be more confident to learn to interact with AI.

Besides, the inadequacy of AI's translation of cultural or emotional texts brings the students into deep thinking and reflection. During the teaching of the C-E translation to the graduate students, the current affairs texts selected are more complex. As the Chinese null-subject sentence is no longer the focus of learning, the priori learning objective becomes the interpretation of textual connotations. This is particularly important when the text contains metaphorical or allusive expressions, as AI-assisted translation often struggles with these, even often leading to frequent mis-translations. The following is the typical example:

Example 2: 在这个过程中，我们呛过水，遇到过漩涡，遇到过风浪，但我们在游泳中学会了游泳。这是正确的战略抉择。

The translation from intelligent platforms is as follows:

1. In this process, we've encountered choppy waters, whirlpools, and storms, but we've learned to swim by swimming. It was the right strategic choice. (Youdao Translate)

2. In the process, we have choked, encountered whirlpools and storms, but we have learnt to swim in swimming. This is the right strategic choice. (DeepL)

3. In this process, we have choked on water, encountered whirlpools, and faced storms, but we have learned to swim while swimming. This is the right strategic choice. (ChatGPT)

The above Chinese sentences are written in figurative language and the literal translation from platforms are not so satisfactory, lacking in authenticity and the faithful translation of the connotative meaning in "我们呛过水". Students feel the necessity to edit the translation, or students must interpret the Chinese first, and then use AI-assisted translation to obtain a more faithful and authentic translation. Compared with the following edited translation: "From time to time we have struggled to keep our heads above the water, and we have encountered whirlpools and choppy waters, but we have learned how to swim in this process. It has proved to be the right strategic choice" (Sun, 2022, p. 233), students will easily understand cultural connotations and figurative language still present challenges for AI-assisted translation platforms.

Advanced Scenario

AI integration enables the teacher to differentiate student translation, classify, analyze, and exemplify the

effect of AI assistance in the actual translation. In the classroom, it is observed that the student final translation is usually acquired by the following three methods:

(a) AI-assisted translation and post-editing;

(b) Human translation and AI editing;

(c) Chinese interpretation, AI translation, and human and AI interactive editing.

In terms of translation efficiency, Mode 1 shows the highest efficiency per unit time. However, the Chinese source text should have no much connotation, and the students should be good at editing, so as to obtain high-quality translation most efficiently. Mode 2 is ranked second in efficiency. AI editing can improve the authenticity of the translated language, and hence the final translation quality is relatively higher, but students should be careful about the faithfulness of the AI editing. Mode 3 requires proper human interpretation of Chinese source text, smoother human-computer interaction, and targeted editing. The process might be a little prolonged, but in this way, the connotative meaning in the source text can be more faithfully and authentically translated. Students can learn a lot from the interaction and the reflection.

Concerning the above Example 1 (稳定和扩大消费, 多渠道增加居民收入, 健全城乡流通体系), students can add one subject (italicized Chinese) in the source text as "*我们*稳定和扩大消费，多渠道增加居民收入，健全城乡流通体系", which can be regarded as the first step of Chinese interpretation in Method 3.

Then ChatGPT offers the translation like the following T1.

T1: We stabilize and expand consumption, increase residents' income through multiple channels, and improve the urban-rural circulation system.

Then if the student writes the prompt like this: "Please translate the following Chinese into one complicated English sentence", the translation is T2.

T2: Efforts will be made to stabilize and expand consumption, increase residents' income through multiple channels, and improve the urban-rural circulation system *to promote balanced economic development*.

T3 is the edited sample translation.

T3: We will stabilize and expand consumption. Personal incomes will be increased through multiple channels. Networks for the flow of goods and services in urban and rural areas will be improved.

However, without the Chinese interpretation, under the prompt "as an expert in Chinese and English translation, please translate the following Chinese into one English complicated sentence: "稳定和扩大消费，多渠道增加居民收入，健全城乡流通体系", the ChatGPT translation is T4:

T4: Stabilizing and expanding consumption, increasing residents' income through multiple channels, and improving the urban-rural circulation system are essential measures *to promote balanced economic development and enhance the overall living standards of the population.*

Comparing the above T1 and T2, the edited T3, and the T4, the teacher should guide the students to notice the differences between T1, T2, T3, and T4, find out what students can learn, like Chinese null-subject translation techniques, and recognize the importance of human editing and the proper ways to interact with AI, such as giving various prompts to ChatGPT, so as to get varied translation and find out the suitable prompts for the most authentic and faithful translation. Special note should be given to T2 and T4. The two expand the meaning of the source Chinese with the italicized phrases (*to promote balanced economic development*, and *to promote balanced economic development and enhance the overall living standards of the population*) as to make the statement full and logical. To a certain extent, ChatGPT displays the feature of creative writing through

expansion of the source Chinese, which students majoring in translation should handle properly or learn to avoid according to the context.

With blended teaching practice, more thoughts come from the reflection over the different translation modes mentioned above in terms of revised content and applicability. In mode a, after AI translation, the content that still needs to be edited mostly includes cultural or emotional elements. In Mode 2, after human translation, the content that AI edits is more about the adjustment of grammatical structure and the improvement of English authenticity. In terms of translation quality, the AI-assisted translation is often more authentic or idiomatic, but displays more semantic deviations or mis-translations, or free translation with more departure from faithfulness. The human translation following with AI editing shows more language authenticity and fewer semantic deviations and mis-translations. However, although the English expression is authentic, if students do not master English well enough, the lowered fidelity to Chinese might surrender to the aspiration for idiomatic expression of English.

In terms of teaching and learning effect, in Mode 1, through AI translation and human editing exercise, students can better understand language features of source Chinese and target English and improve their command of both languages, but correspondingly, the initiative of students to learn basic language skills is often lowered unawares due to easy access to AI. However, at present stage, too much reliance on AI's understanding and interpretation of Chinese will often lead to some mis-translation, which deviates from the priority put on the faithful translation of the source language so as to tell China's story well.

Meanwhile, in Mode 2, through human translation and AI editing exercise, students are more involved and motivated in learning, and their command and interpretation of the source language promote the faithfulness and expressiveness of translation. Through the subsequent AI editing, the final translation tends to be more idiomatic and authentic. Classroom observation notes that the error rate of complete AI-assisted C-E translation without human participation is slightly higher or the quality is a little lower compared with the initial human translation in Mode 1, mainly due to AI's inadequate understanding or interpretation of the Chinese. Conversely, in blended teaching, AI's mis-translations often promote students to explore the differences between Chinese and English expressions, thereby contributing to the advancement of AI translation.

Reflection on Blended Teaching

Classroom practice detailed above, students' interviews, and classroom observation testify that efficient is the blended teaching and learning based on the discussion on and analysis of C-E translation gained from the above mentioned three modes. Students feel more confident or motivated to learn especially when facing the mistakes or inabilities from AI translation. Teachers easily get more targeted teaching materials, while being encouraged that human participation or human teaching of translation is still irreplaceable at current stage of teaching and C-E translation. To be specific, Mode 2 of human translation followed by AI editing is more conducive to developing good translation habit of fully understanding source language and proficiently mastering target language, while helping improve students' translation capability and smooth interaction with AI, and lower their dependence on AI. In comparison, Mode 3 is more time-consuming as AI translation is often inadequate or even misleading, while if the source Chinese text is more cultural or emotional, to obtain a better translation, Mode 3 is a better choice with more human participation and interaction with AI's targeted language efficiency to remove the mistranslation.

However, it should be noted that traditional teaching of translation with or without AI assistance is still desirable and necessary. The face-to-face and emotional interaction between the teacher and students is irreplaceable. With the timely response from the teacher, students are more motivated and comfortable to learn and focus on their own learning of language skills. In the blended teaching mode, rather than unawares relying too much on external support for translation, students are timely encouraged and more willing to improve both language capability and the mastery of AI technology, and well-prepared for the future requirements for inter-disciplinary knowledge. Moreover, the blended teaching helps students recognize the importance of commanding AI technology and utilizing it to enhance human translation. In this way, the blended teaching prepares for high-end translation talents that machines or AI cannot replace even if AI is updated and iterated in the future.

Conclusion

AI technologies will inevitably be integrated into teaching and learning of C-E translation and reshape translation education, promoting teaching and learning efficiency. The above blended teaching scenario highlights the flexibility of teaching and learning and the motivation blended mode provides for student learning, facilitated by the timely integration of AI and the teacher's effective guidance. However, as analyzed above, in the actual C-E translation classroom, effective blended teaching requires teachers' purposeful design, timely notice of drawbacks, and tapping into the strengths of human-AI collaboration just as is shown with purposeful prompts for ChatGPT. Besides, the student should consider about other challenges, including increasing reliance on AI technology, less active learning and independent thinking, unconscious acceptance of AI's errors, and unsystematic learning habit, etc., while noticing data privacy, algorithm discrimination, and ethical issues.

Facing challenges in blended teaching, teachers need spend more time and energy analyzing the students, planning the teaching purposefully, choosing content with clearer focus, and complying with the AI-assisted learning procedure not only from word choice, syntax, to grammar, but also from passage, chapter, to the whole text so as to provide high-quality and effective teaching and enhanced student learning. Meanwhile, the teacher and student should work together to identify areas where AI falls short and drive AI's development, continuously fostering improved human-machine collaboration and using AI technology to elevate translation quality while promoting student's overall capabilities.

References

Banados, E. A. (2006). Blended learning pedagogical model for teaching and learning EFL successfully through an online interactive multimedia environment. *CALICO Journal, 23*, 533-550.

Fan, P., Gong, H., & Gong, X. (2023). The application of ChatGPT in translation teaching: Changes, challenges, and responses. *International Journal of Education and Humanities, 11*, 49-52.

Hu, J. S., & Qi, Y. J. (2023). Chinese foreign language education in the ChatGPT era: Seeking change and adaptation. *Technology Enhanced Foreign Language Education, 45*(1), 3-6.

Kim, J. (2023). Leading teachers' perspective on teacher-AI collaboration in education. *Education and Information Technologies, 29*, 8693-8724.

Liu, K. L., & Yu, J. (2024). Foreign language and translation education in the era of artificial intelligence: An exploration and reflection on the cultivation of language and translation talents. *Contemporary Foreign Language Education, 9*(2), 1-11.

Qian, D. X. (2009). Pedagogical reflections on the design of a course in computer-assisted translation. *Chinese Translators Journal, 30*(4), 49-53.

Robert, I., Schrijver, I., & Ureel, J. J. (2024). Measuring translation revision competence and post-editing competence in translation trainees: Methodological issues. *Perspectives, 32*(2), 177-191.

Sun, Y. Z. (2022). *Understanding contemporary China: Advanced Chinese-English translation*. Beijing: Foreign Language Teaching and Research Press.

Wang, H. S. (2021). Research on translation education technology in the age of artificial intelligence: Problems and countermeasures. *Chinese Translators Journal, 42*(3), 84-88.

Wang, H. S., & Chen, N. A. (2021). Research on the application of machine translation and post editing in Chinese language service enterprises. *Journal of Beijing International Studies University, 43*(5), 23-37.

Wang, H. S., & Liu, S. J. (2022). Research on translation data ethics in the era of big data: Concepts, issues, and suggestions. *Shanghai Journal of Translators, 37*(2), 12-17.

Xiao, W. Q., & Qian, J. J. (2021). Progress and trends of research on teaching translation technology (2000-2020): A comparative analysis based on domestic and international core journal papers. *Foreign Language World, 42*(1), 62-70.