Innovation in English Translation Teaching based on Artificial Intelligence

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Abstract: English translation teaching must also evolve against the backdrop of rapid advancement in AI. There are many problems and limitations in the traditional English translation teaching model, such as students' over-reliance on translation software, teachers' insufficient understanding of intelligent technology and insufficient integration of teaching and intelligent technology, which cannot meet the diversified learning needs of students. This paper tries to explore Innovative strategies for Artificial Intelligence (AI) based English translation teaching, including enhancing students' understanding and application of translation software, optimizing teachers' thinking on the application of AI technology, expanding ways to integrate translation courses with AI technology and increasing attention to AI in the course evaluation process. It aims at promoting AI-based English translation teaching and cultivating qualified English translators who meet the needs of the times.

Keywords: English translation; Artificial intelligence (AI); Innovation strategies

1. Introduction

Language communication has become increasingly important in the context of accelerating globalization. With the function of connecting different cultures, English translation plays an irreplaceable role in international business, cultural exchanges, academic research and other fields. With the rapid development of science and technology, AI is changing all walks of life at an unprecedented speed, and the field of education is no exception. As an important competence for English majors, translation is pivotal through those undergraduate studies. Translation course needs to integrate AI technology since the ability to just convert a source language into a target language is not sufficient to meet the demands of today's job market. However, translation teaching is facing unprecedented challenges in the wave of AI. By exploring the AI-based English translation teaching mode, this paper aims to improve the English translation course so as to English majors' expertise and competitiveness in the market.

2. Problems in AI-based English translation teaching

2.1. Students' excessive dependence on translation software

In today's digital age, intelligent translation software has gradually become an important tool in the process of English translation learning [1]. However, many students have excessive dependence on translation software which is not conducive to their studies. There are two reasons. Firstly, lots of students themselves do not have in-depth understanding of such AI technology. Many students only know how to input the original text and click the translation button to get the translation result, but they lack an in-depth understanding of the complex algorithm principles and operation mechanisms behind the software. This superficial cognitive style makes it impossible for them to evaluate the accuracy of the answers given by the software correctly when facing complex sentence structures or terminology in specific fields. They are prone to blindly trust the results output by the machine, which affects the development of their ability to think independently and solve problems [2].

Secondly, there is no training or guidance for students on the application of translation software. On the one hand, due to the influence of traditional educational concepts, teachers may pay more attention to the imparting of theoretical knowledge rather than the cultivation of practical operation ability. On the other hand, due to the limited colleges' hardware facilities or individual technical proficiency, it is difficult for teachers to effectively guide students to master these modern techniques. In the English translation courses in some colleges, there is no efficient training on computer-aided translation technology and machine translation technology [3]. As a result, although many students have access to relevant software, they can only use it simply as an auxiliary tool due to the lack of correct guidance and support, and cannot tap its potential value in depth, thus forming an excessive dependence on intelligent translation software [4]. They do not know how to improve their translation proficiency rationally by applying AI technology.

2.2. Teachers' insufficient understanding of AI technology

The insufficient understanding of AI technology by some teachers is a key factor of restricting the improvement of AI-based English translation teaching [5].

Firstly, some teachers of English translation courses rarely use AI translation software and translation platforms. They are accustomed to traditional teaching methods and hold a conservative attitude towards emerging AI technologies [6]. Taking translation software only as an auxiliary tool, they occasionally mention it in class, and rarely discuss its working principles, functional characteristics and application scenarios in depth. This not only limits students' access to advanced tools, but also makes it difficult for teachers themselves to keep up with the pace of technological development.

Secondly, although there are rich books and online course resources about AI in the market, it is still a great challenge for lots of teachers to learn AI technology and apply it in translation teaching. This leads to a vicious circle: teachers dare not easily apply AI technology in translation course due to insufficient AI knowledge, and it would be more difficult for them to learn more AI knowledge due to insufficient AI technology application in translation course.

Thirdly, the support from colleges or universities is insufficient. AI training programs for teachers are insufficient, which makes it difficult for teachers to explore the application of intelligent technology in English translation teaching [7].

2.3. Insufficient integration of teaching and intelligent technology

In the extracurricular time, some students only use intelligent translation software as a convenient tool to look up words or phrase, without exploring its potential in depth [8]. When faced with a complex English document,

students tend to input it word by word into online translation platforms for literal translation, resulting in translations that are usually grammatically incoherent and logically confusing. With this approach, students not only fail to understand the connotation of the source text accurately, but also cannot improve their own translation ability.

2.4. Limited intelligent application in course evaluation

Firstly, there is insufficient evaluation on teachers' application of AI technology in translation course. In the current educational environment, some colleges and universities have limited application of AI technology. In English translation teaching based on AI, the ways that teachers use AI technology in the translation teaching process are not evaluated comprehensively and accurately. Evaluators can only observe superficially whether teachers use these tools, but it is difficult to conduct in-depth assessments of whether their usage is scientific and reasonable, and whether they truly improve teaching quality [9].

Secondly, there is no sufficient and rational evaluation on students' application of AI technology in translation course. There is insufficient coverage of AI technology in the curriculum evaluation standards of English translation majors in some colleges and universities. The existing evaluation standards focus more on the mastery of basic knowledge and the proficiency of basic skills, while the requirements for knowledge and skills related to AI technology are relatively low [10]. In the course assessment stage, there are almost no special questions or weights set for students' understanding and operation of intelligent translation systems, as well as their ability to analyze and improve machine translation results. This evaluation orientation is not conducive to stimulating students' enthusiasm for actively exploring emerging technologies, nor is it conducive to schools timely adjusting and improving talent training programs to meet the needs of industry development, which further exacerbates the disconnection between course evaluation and actual teaching objectives.

3. Innovative strategies for AI based English translation teaching

3.1. Enhancing students' understanding and application of translation software

Firstly, College English teachers need to guide students to have a correct understanding of using AI translation technology, making students realize that AI translation tools are only auxiliary tools, not a complete replacement for human translators [11]. Students should be aware that traits such as human thinking, cultural understanding, and language sensitivity cannot be replicated by machines. Teachers can set up special training on how to apply translation software correctly. For translation exercises of specific text types, teachers can guide students to make adequate preparations before translation, such as vocabulary accumulation, grammar sorting, and background knowledge acquisition. When dealing with a scientific and technological literature, students need to master relevant terms first and then use translation software for assistance to ensure the quality of translation.

Secondly, teachers teaching English translation need to actively publicize and popularize knowledge about different AI translation software and platforms. For example, Google Translate has the advantage of a huge corpus, which can handle translation among multiple languages and is constantly updated to adapt to language changes. However, it has some shortcomings. For instance, it is difficult to accurately grasp the implicit cultural elements and emotions in literary works, which can lead to misunderstandings. DeepL Translator performs well in terms of sentence structure and semantic coherence, especially in translation between European languages, but there would be some problems in the translation of non-European languages. In this regard, teachers can organize lectures or classroom discussion to enable students to have an in-depth understanding of the characteristics of each platform, so that they can choose appropriate tools according to specific translation tasks [12].

Thirdly, teachers should integrate translation courses with AI technology in the teaching process closely to improve students' translation proficiency. On the one hand, students can do translation appreciation by comparing the machine translation and the translation of themselves under the teacher's guidance, helping them to improve their translation skills and cultivate their critical thinking. For example, while translating a news report, students need to translate it all by themselves, then use translation software to compare the two versions and discuss the differences. On the other hand, encourage students to participate in project-based learning, such as simulating a translation project for a multinational company. From receiving orders to delivering the final translation, students need to use translation software for assistance throughout the process, and incorporate manual proofreading to ensure the accuracy of the final manuscript.

3.2. Optimizing teachers' thinking on the application of AI technology

In the present education mode, teachers are the core of teaching activities, and their understanding and mastery of new technologies directly affect the quality of teaching. For English translation courses, teachers need to actively adapt to and make full use of the new opportunities brought by AI technology to improve their teaching ability and better serve students' development [13].

Therefore, schools should constantly optimize the training mechanism for teachers of translation courses. On the one hand, colleges and universities should organize various training activities regularly such as lectures and seminars on AI-based teaching, and invite scholars and experts to share cutting edge research and technical trends to help teachers obtain the latest information in a timely manner and master advanced teaching concepts and methods. On the one hand, colleges and universities should organize various training activities regularly such as lectures and seminars on AI-based teaching, and invite scholars and experts to share cutting edge research and technical trends to help teachers obtain the latest information in a timely manner and master advanced teaching concepts and methods. On the other hand, teachers need to participate in online and offline hands-on training courses on AI-assisted instruction to learn the functions and application scenarios of various AI tools. In this way, teachers can integrate AI technologies into translation teaching rationally.

3.3. Expanding ways to integrate translation courses with AI technology

In the pre-class activity, AI tools can be quite effective in teachers' teaching design and students' translation practice. On one hand, teachers can use AI tools to collect instructional resources and convert key content into short videos, creating micro-lectures that students can preview on their own. This not only helps to reduce teachers' preparation workload and boosts their efficiency, but also sparks students' interest in learning through digital ways.

In class, both teachers and students need to actively integrate AI into teaching or learning. On the one hand, teachers need to continually update teaching content, integrating the latest technologies and real-life corpora. For example, when analyzing a specific translation strategy, teachers can pair it with AI-translation demonstrations on the spot so that students can have a better understanding of the strategy. On the other hand, students need to learn CAT tools like Trados and MemoQ. For example, students can learn to use MemoQ to translate, review to ensure both translation quality and productivity. They can also do pre-translation to boost efficiency based on Translation Memory and Terminology Database. When students are proficient in CAT tools, they can process repetitive texts a lot faster. Besides, this allows the students to have the experience of evolving from mere language converters into language engineers. Apart from CAT tools, the mainstream machine translation tools, such as DeepSeek, ChatGPT, DeepL and Google Translate should also be integral in translation courses. Under

the guidance of teachers, students can compare their own translation with the translation from DeepL to analyze the translation's fluency, logic, choice of words, etc. When transiting complicated lengthy sentences that are beyond students understanding, ChatGPT can help students to understand the complicated sentence structures and cultural background and help them to translate the sentences better.

After class, teachers can use AI tools to assign diversified homework that boosts students' motivation. By allowing students to submit their work through a specific online platform, such as Xuexitong, AI can sometimes help to correct and evaluate their translation, which helps to deliver feedback to a certain extent. On the other hand, students can use AI translation tools to analyze texts and explore different translation strategies. When confronted with complex sentences or passages, they can compare multiple machine outputs and learn how to select the most appropriate translation, thereby enhancing their translation skills and cultivating the ability of thinking and solving problems independently [14].

3.4. More application of AI in the course evaluation

Traditional evaluation methods are unable to meet the needs of teaching in modern times. Traditional evaluation is result oriented, namely only paying attention to the quality of the translation while ignoring students' ability of solving problems with the help of AI tools in the translation process. It is particularly crucial to increase the proportion of AI technology application appropriately since AI technology can provide more accurate data analysis, which helps to record subtle changes in students' learning process. In this regard, the new evaluation criteria should cover more dimensions, such as whether students can reasonably select and efficiently use Translation Memory and Terminology Database, whether they are capable of judging the accuracy of machine translation results, whether they can adjust translation strategies flexibly based on the context, etc. Specifically, the score for each dimension should be clearly listed in the grading rule for each assignment, prompting students to pay attention to and cultivate these skills actively. In the meantime, teachers also need to improve their knowledge of relevant technologies and tools constantly to fairly evaluate students' performance.

4. Conclusion

To sum up, the application of AI technology in English translation teaching has broken the limitations of traditional teaching mode. In the past, translation teaching mainly relied on teachers' analysis and students' translation practice without little integration of AI technology, which needs to be improved in terms of efficiency and personalization even though it is quite effective for some students. Therefore, this paper proposes some effective ways for improving the translation course with the help of AI technology, including enhancing students' understanding and application of translation software, optimizing teachers' thinking on the application of AI technology, expanding ways to integrate translation courses with AI technology and more application of AI technology in the course evaluation process.

With the constant development of AI technology, there would be more extensive application scenarios in English translation teaching. New AI technologies, such as intelligent speech recognition, natural language processing, machine translation and deep learning, will bring both opportunities and challenges to translation teaching. Teachers need to keep up with the cutting-edge technology, update teaching methods in time and cultivate students' interest and sensitivity to emerging technologies so as to cultivate more translation professionals for society.

Disclosure statement

The author declares no conflict of interest.

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