

Analysis of practice model for translation technology teaching based on artificial intelligence

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Abstract. This paper presents the development of artificial intelligence and the necessity of teaching reforms in the teaching of translation technology. By analyzing the teaching process in the first national translation technology teaching competition in 2021, it explores the classroom practice model of translation technology in China from four main dimensions -- teaching philosophy, teaching content, teaching methods, and teaching evaluation. It then sheds light on some difficult points in the teaching technology model with the purpose of providing new insights for the teaching practice of translation technology.

1 Introduction

With the rapid development of technology in the era of artificial intelligence (AI), a revolution in translation technology has struck mightily, giving birth to a variety of computer-assisted translation tools and translation technologies. In recent years, translation majors in many Chinese colleges and universities have realized the importance of translation technology, and have offered translation technology courses and equipped language laboratories, auxiliary translation software, online teaching platforms, and other facilities. However, there are still many problems in the teaching of translation technology, such as the incomplete translation technology curriculum system, insufficient teaching resources, lack of professional teachers, lagged curriculum construction, inappropriate teaching methodology, backward teaching environment, oversimplified teaching and learning evaluation, and deficient teaching studies [1]. In response to these problems, [2-4] proposed some corresponding solutions and countermeasures, which had a great effect on transforming teachers' education concepts and popularizing educational technology. To meet the professional requirements of language services for translators, reforms in teaching concepts and practice models of translation technology become imperative.

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2 Model of translation technology teaching based on AI

2.1 Definition of AI

AI is an emerging technologic science that simulates human intelligence through machines and research. It develops new technologies for simulating, extending, and expanding human intelligence, for example, perception ability consists of hearing and other perceptions, as well as intelligent behavior covering learning, reasoning, thinking, and other abilities [4]. AI mainly uses computers to imitate human intelligence, and complex activities such as learning and reasoning within the scope of AI imitation. With the rapid development of AI, translation technology has gradually evolved into a dynamic system with increasingly rich connotations and it runs through the whole process of translation, greatly expanding the scope of traditional translation ontology research and opening up new research frontiers for translation studies.

2.2 Requirements of translation technology teaching

In 2013, based on extensive investigation and scientific argumentation, "National Standard" (National Standard for Teaching Quality of Undergraduate Translation Specialty") first clarified the training objectives, training specifications, curriculum system, teaching staff, teaching conditions, and quality management of foreign language majors [5]. In 2017, the State Council in China issued the "New Generation Artificial Intelligence Development Plan", which identified the development of AI as one of the national key development strategies. With the advent of computer-assisted translation, online translation, neural network machine translation, machine simultaneous interpretation, and other technologies, the impact of information technology on the language service industry is no longer limited to one or more aspects of the translation industry, translation education, and translation research. In 2019, the "Teaching Guide" (Undergraduate Teaching Guide for Translation Major) was promulgated and implemented. In April 2020, the new "Teaching Guide" established the "Translation Technology" course as a core course for the undergraduate translation majors.

2.3 Classroom teaching model

The era of AI has revolutionized the model of translation practice, human-computer interaction has become the mainstream of current and future professional translation models. To adapt to the changing working environment and learning needs of translators, teaching contents and methods of translation technology should be also changed accordingly. Kiraly [6] systematically expounds on the content of translation teaching objectives, teaching paradigms, teaching environment, and effective evaluation. Kiraly believes that translation education should be "a dynamic interactive process based on stimulating learners' autonomy", in which teachers should help students to familiarize themselves with complex translation processes, guide students to simulate real translation activities, and help students autonomously construct translator's knowledge and competence.

Kiraly proposed three levels of the translation teaching model in his monograph: namely theoretical level, methodology level, and practical development level of the teaching model. Among them, the theoretical level mainly emphasizes the interdisciplinary nature of translation teaching model research, pointing out that translation is a language behavior, a cognitive information processing behavior, and interactive communication behavior in a certain social and cultural context. The above interdisciplinary research

results on the nature of translation can provide theoretical support for teaching model research; at the methodological level, he proposed to build translation teaching methods and principles based on the results of translation process research and translation ability acquisition research, suggesting embodying the relationship between the four elements: professional translation behavior, translation skills learning model, translation teaching and cognition of the translation process, social and linguistic attributes; the third is the practical development level of the teaching model, including classroom arrangements and specific implementation activities.

3 Analysis of translation technology teaching practice for Witta competition

3.1 Data and witta competition

In 2021, the "First National Translation Technology Teaching Competition"(NTTC) was held under the guidance of the National Steering Committee for postgraduate education in Translation and the World Association for Translation Education (Witta). 346 contestants from 249 universities across the country attended the contest which was broadcast live via Tencent, Site B, and other platforms, with an online audience of more than 10,000. After the contest, the Organizing Committee specially invites twelve finalists to share their teaching experience and hold public welfare academic seminar of "Translation Technology Course Teacher Growth Road" through live broadcast. In this paper, we will extract and use the audio and video data of Witta Competition to analyze teaching goals, content, methods, and evaluation.

3.2 Teaching goals and content

In the teaching practice of the academic seminar of "Translation Technology Course Teacher Growth Road", all the teachers agree that it is necessary to cultivate professional, application-oriented, and innovative talents to meet the national conditions and the needs of the regional talent market in the teaching process. They advocate that the goal of teaching content can be based on the technical means required for the document translation process, in which teachers can set problem-oriented or result-oriented activities. Apart from the contents of technological innovation, they also believe scientific practice and teaching contents should be integrated with some ideological and political values, like socialist core values, big data concepts, ethics, and intellectual property protection. In addition, some teachers hold the belief that teaching should be based on school characteristics, that is, integrate the course of translation technology with other school-based characteristic courses. For example, Song from Zhengzhou Aviation Industry Management College integrates the course of translation technology with other courses, such as the school's characteristic compulsory course "Introduction to Aviation", the optional course "Civil Aviation Translation Workshop". Relying on the school's characteristics of forestry and ecological major, teachers in Central South University of Forestry and Technology, intend to cultivate application-oriented and professional talents of interpretation and translation in the fields of agriculture, forestry, economics, trade, and machinery. Another example of this is the teacher from Northwest University of Political Science and Law, advocating the cultivation of "law + translation"-oriented talents.

Currently, translation technology teaching mainly includes basic translation courses and advanced translation technology courses, as is shown in the cloud (Fig. 1).

3.4 Evaluation

Evaluation is an important part of translation technology teaching, which has the functions of diagnosing learning problems, regulating the teaching process, stimulating learning motivation, and promoting learning investment [7]. In the teaching practice of NTTC, the evaluation process of classroom teaching practice involves formative evaluation, process evaluation, and summative evaluation. The subjects of evaluation include students, teachers, project team members, etc. Specifically, the form of summative evaluation includes final practice report, computer test, comprehensive test, etc, while the form of process evaluation and formative evaluation includes attendance, project work, group report, learning situation of a teaching video, individual classroom performance, self-assessment, and peer-evaluation, etc. In the cooperation and exploration process, students work in groups to complete the project tasks, the teacher explains the difficulties, and then gives comments based on the students' presentations with the help of AI teaching tools. Timely, comprehensive, and dynamic evaluation methods, are combined with a variety of information-based teaching tools or communicative platforms, such as WeChat, DingTalk, QQ, Tencent Conference, Chaoxing Questionnaire, Star-vote system, etc., which can help evaluate students' learning status more comprehensively.

4 Discussion

4.1 Reconstruction of course content and methods

As translation technology is constantly updated, the teaching content of translation technology should also be updated and improved to reflect the characteristics of the times. When setting the curriculum objectives of translation technology, teachers need to first consider the talent training objectives of this major, and then take the following factors into accounts, such as the characteristics of this major based on educational conditions of the students' employment orientation, software and hardware facilities conditions, students' major direction, and technical basis in combination with the characteristics of the school. Based on the analysis of the teaching practice, an investigation and analysis of the learning situation can be carried out before opening the course, so that teachers can set an appropriate threshold for this course and know students' real learning needs. Another important issue is to guide students to rationally view the role of translation technology and its impact on the translation profession in the era of AI. Curriculum teaching should not be limited only to the demonstration and practice of various translation technology tools. In the process of translation teaching, students should be encouraged to exert their human characteristics and focus on improving their ability and information literacy. The point to note is that teachers' reconstruction of teaching content and methods should be based on full use of technology and software that keep pace with the times including advanced teaching platforms, online and offline intelligent courses to achieve cross-border integration of human-machine collaboration in task setting of teaching and learning.

4.2 The role of teachers and students

The development of AI has promoted the innovation of teaching models and also changed the roles of teachers and students in teaching. Faced with the impact of ever-changing technologies, it is difficult for students to master a large number of technologies and use them flexibly in a limited time. Concerning the learning of any professional technology, especially when one wants to reach a professional level, if the learning process is not

completed through well-designed teaching, but purely by self-study, it will often waste time, take detours, and even lead to serious problems in individual cases [8]. To better solve this problem, teachers can adopt the real project-driven teaching model, which organically combines the new forms of modern information technology display, interaction, simulation, and remote communication with translation teaching. Real translation projects have a direct role in promoting students' mastery and proficiency in translation technology. In the era of AI, teachers should be transformed into designers and learners of teaching activities. By selecting appropriate texts, and planning students' learning goals and methods through classroom design, teachers build scaffolding for students through heuristic, interactive, and inquiry-based teaching methods. In terms of evaluation, multiple evaluation forms in the process are necessary, based on which teachers can adjust the learning progress in time and ensure that students receive effective guidance in a real project. Through mutual assistance and cooperation, this form of learning effectively improves their "translator ability" rather than just "translation ability" in a real sense, guiding them to think actively and cultivating their innovative spirit, cooperative ability, and practical ability.

4.3 Cultivation of learning consciousness

[9] point out that translation majors need to have good thinking ability, practical ability, innovation, and entrepreneurship, emphasizing that the focus of translation major talent training is not knowledge imparting, but ability training and skill training. In a big data environment, intelligent educational platforms and tools provide more space and more possibilities for cultivating students' abilities and skills. Students' learning behavior and learning results can be better quantified and personalized, which makes students' autonomous learning possible. To constantly adapt to the rapidly changing technical knowledge and keep up with the pace of the times, cultivating autonomous learning abilities appears to be key important. Students with self-learning awareness always have a greater purpose and stronger learning willingness. To a large extent, students can reduce their dependence on teachers. In addition, by cultivating students' learning awareness, teachers can also have more time to pay attention to the "whole person" development of students, that is, to practice the humanistic concept of "people-oriented", pay attention to the integration of "Engineering" and "humanism" of technology, realize the diversified teaching orientation and research orientation focusing on students' "translation technology literacy", and avoid the homogenization of translation talent training [10].

5 Conclusion

With the booming development of AI, translation technology has become an integral part of education in colleges and universities. This paper presents the development of translation technology and the necessity of teaching reforms in the teaching of translation technology. By analyzing the teaching process in the first national translation technology teaching competition in 2021, it explores the classroom practice model of translation technology in China from four main dimensions: teaching philosophy, teaching contents, teaching methods, and teaching evaluation. It then discusses some difficult points and offers some suggestions for the teaching practice. The exploration of the translation technology teaching practice model is never-ending. As the facilitator and designer of the teaching practice, teachers must change the traditional teaching ideas, pay close attention to the development of translation technology, and keep up with the pace of the Times, striving to create a new era for the teaching of translation technology.

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