

A study on the professional development of foreign language teachers in universities based on the background of AI

Nan Chunping^{1,a,*}, Si Dehua^{1,b}, Ding Linlin^{1,c}

¹Northeast Petroleum University, Qinhuangdao, China
^a71542312@qq.com, ^b745826285@qq.com, ^c31363353@qq.com
*Corresponding author

Abstract: The purpose of this study is to explore the empowering paths and strategies for the professional development of foreign language teachers in universities based on the background of artificial intelligence. In the information age, the rapid development of artificial intelligence technology has had a profound impact on the education industry, bringing new opportunities and challenges for the professional development of foreign language teachers in colleges and universities [1]. Based on the analysis of the characteristics of artificial intelligence technology and its application in the field of education, combined with the actual needs of college foreign language education and the connotation and requirements of college foreign language teachers' professional development, this paper puts forward a series of measures aimed at promoting the professional development of foreign language teachers, and evaluates the application effects. The results show that the application of artificial intelligence technology can effectively improve the professional quality and teaching ability of foreign language teachers, and provide strong support for the innovation and development of foreign language education in colleges and universities.

Keywords: Artificial intelligence; College foreign language teachers; Professional development; Enabling research

1. Introduction

Bourdieu, P. (2021) stated that with the rapid development of artificial intelligence technology, its application in the field of education is increasingly extensive [2]. As an important way to train international talents, college foreign language education is faced with unprecedented opportunities and challenges. Under the background of artificial intelligence, how to effectively empower the professional development of college foreign language teachers and improve their teaching ability has become an urgent problem to be solved [3].

In 2024, Darling-Hammond, L explained that the development of artificial intelligence technology has brought infinite possibilities for foreign language education [4]. On the one hand, the application of artificial intelligence technology can enrich foreign language teaching resources and improve teaching efficiency; On the other hand, it also puts forward new requirements for the professional quality and teaching methods of foreign language teachers. Therefore, foreign language teachers in colleges and universities need to actively explore how to integrate artificial intelligence technology into teaching to achieve innovation in teaching methods and improve teaching effects [5]. However, the reality is that many college foreign language teachers are confused and unadapted when facing artificial intelligence technology. They lack relevant technical knowledge and are confused about how to apply artificial intelligence technology to teaching. Therefore, the purpose of this study is to explore the empowerment of college foreign language teachers' professional development in the context of artificial intelligence. Through in-depth analysis of the characteristics of artificial intelligence technology and its application in foreign language education, combined with the actual needs and development difficulties of foreign language teachers in colleges and universities, this paper puts forward corresponding empowerment strategies and suggestions. It is hoped that this study can provide some useful references for college foreign language teachers to achieve professional development under the background of artificial intelligence.

2. The integration of artificial intelligence and college foreign language education

The development of artificial intelligence technology has brought revolutionary changes to foreign language education in colleges and universities [6]. Through intelligent Automatic Speech Recognition (ASR), natural language processing and other technologies, artificial intelligence can assist teachers in classroom teaching and improve students' learning efficiency. At the same time, artificial intelligence technology can also provide rich teaching resources and learning platforms for foreign language teachers to promote the updating and upgrading of their professional knowledge. The integration of artificial intelligence and college foreign language education is an important trend in the field of education in recent years. This integration not only brings unprecedented opportunities for foreign language education in universities, but also brings a series of challenges.

First of all, the introduction of artificial intelligence technology has greatly enriched foreign language teaching resources. By utilizing big data, machine learning and other technologies, AI can analyze students' learning behaviors and habits to provide personalized learning paths and feedback for each student. This personalized learning experience helps students learn a foreign language more efficiently and effectively [7].

Secondly, the application of artificial intelligence in foreign language teaching has also innovated teaching methods. For example, chatbots can simulate real language environments, allowing students to improve their oral expression skills in conversations with robots. At the same time, the intelligent tutoring system can provide students with role-playing exercises, so that students can practice in an immersive environment and enhance the learning experience.

However, the integration of artificial intelligence and foreign language education in universities also faces some challenges. On the one hand, teachers need to adapt to the changes brought about by new technologies and learn how to effectively use AI tools for teaching. This may require teachers to receive relevant training and improve their information technology literacy. On the other hand, how to balance the auxiliary teaching role of artificial intelligence and the role of teachers is also a problem that needs in-depth discussion. Although artificial intelligence can provide abundant resources and tools, guidance, motivation and humanistic care from teachers are still an indispensable part of foreign language education.

In addition, the integration of artificial intelligence and foreign language education in universities also needs to pay attention to some ethical and social issues. For example, how to protect students' privacy and data security, avoid the abuse of artificial intelligence for unfair evaluation and so on.

To sum up, the integration of artificial intelligence and college foreign language education is a process full of opportunities and challenges. Through in-depth research and practice, we can explore a more effective way of integration and inject new vitality into the development of college foreign language education.

3. An analysis of the current situation for the professional development of foreign language teachers in universities

At present, the present situation for the professional development of foreign language teachers in universities presents both opportunities and challenges [8].

From the perspective of opportunities, with the acceleration of globalization and the rapid development of information technology, the importance and demand on foreign language education are constantly increasing, which provides a broader development space and more opportunities for foreign language teachers in colleges and universities [9]. At the same time, the deepening of education reform has also provided powerful policy support for the professional development of foreign language teachers.

From the perspective of challenges, foreign language teachers in colleges and universities still face some problems in professional development. Some teachers do not have a strong sense of professional development and lack the motivation and action to improve themselves. At the same time, some local colleges and universities do not pay enough attention to the professional development of foreign language teachers, and insufficient investment leads to the lack of necessary support and resources for teachers' professional development. In addition, the professional quality and teaching ability of teachers also need to be further improved. Although many teachers have higher education and rich teaching experience, they still need to be updated and upgraded in teaching methods, teaching means

and interdisciplinary knowledge. Especially in the background of artificial intelligence, many teachers' ability to accept and apply new technologies and new models needs to be strengthened. In addition, the competition in the profession of foreign language teachers is becoming increasingly fierce. With the continuous expansion and diversification of the foreign language education market, institutions have introduced excellent foreign teachers and provided authoritative examination and certification services to attract more learners. Therefore, foreign language teachers in colleges and universities need to continuously improve their professional quality and teaching ability to cope with the competition and challenges in the market.

To sum up, the present situation of professional development of foreign language teachers in universities has both opportunities and challenges. Teachers need to constantly strengthen their awareness of self-improvement and actively seek opportunities and resources for professional development. Meanwhile, schools and society should also increase their support for the professional development of foreign language teachers, so as to jointly promote the prosperity and development of foreign language education.

4. Paths and strategies for foreign language teachers' professional development empowered by artificial intelligence

In response to the above problems, the following ways and strategies are proposed in this study to empower the professional development of college foreign language teachers:

First of all, it is the key to strengthen teachers' information technology training. Foreign language teachers in colleges and universities need to master the necessary knowledge of artificial intelligence technology in order to flexibly use it in teaching, which includes understanding the fundamentals of AI, being familiar with commonly used intelligent teaching tools, and mastering key technologies, like data analysis and machine learning. Through systematic training, teachers can better understand and apply artificial intelligence technology to improve teaching results.

Secondly, the construction of intelligent teaching environment is also an important part. Universities should make full use of artificial intelligence technology to build an intelligent foreign language teaching environment. For example, intelligent voice technology is used to achieve real-time translation and oral evaluation, and adaptive learning systems are used to provide personalized learning paths and resources for students. This kind of teaching environment is helpful to stimulate students' learning interest and improve their learning efficiency.

Thirdly, the realization of intelligent assessment and feedback is an effective means to improve teaching quality. AI technology can provide real-time assessment of student learning outcomes to provide feedback and recommendations to teachers. Through the intelligent evaluation system, teachers can understand the students' learning situation more accurately, and thus adjust their teaching strategy in time in order to improve the teaching result.

Fourthly, promoting the intelligent management of teaching resources is also a necessary measure to improve college foreign language teaching efficiency. Teaching resources can be intelligently managed and resources can be optimally allocated and shared by using artificial intelligence technology. This can not only improve the efficiency of resource utilization, but also provide teachers with more teaching materials and cases to enrich their teaching content.

Finally, strengthening cross-border cooperation and exchanges is also an important way to promote the professional development of foreign language teachers. Universities can cooperate with enterprises and research institutions to jointly develop intelligent teaching tools and platforms to promote the deep integration of artificial intelligence and foreign language education. At the same time, we should strengthen international exchanges and cooperation, introduce foreign advanced intelligent teaching concepts and experiences, and provide more support for the professional development of foreign language teachers.

To sum up, the paths and strategies for AI-enabled foreign language teachers' professional development are diversified, and it is necessary to strengthen teacher training, build an intelligent teaching environment, realize intelligent assessment and feedback, promote the intelligent management of teaching resources, and strengthen cross-border cooperation and exchange. These measures will help improve the teaching level and professional quality of college foreign language teachers and promote the innovation and development of foreign language education.

5. Enabling effect evaluation and case study

In order to verify the effectiveness of the above enabling paths and strategies, this study selected several universities for case analysis. Through comparative experiment, questionnaire survey, data collection and analysis. The results show that after the training and learning of artificial intelligence technology, the professional quality and teaching ability of foreign language teachers have been significantly improved; At the same time, the teaching platform based on artificial intelligence also provides teachers with more convenient and efficient teaching tools.

a) Evaluation of the enabling effect

In order to comprehensively evaluate the empowering effect of artificial intelligence in the professional development of foreign language teachers, we can consider the following aspects:

Improvement of teaching efficiency: By comparing the teaching progress and results before and after the use of artificial intelligence technology, the improvement of teaching efficiency can be clearly seen. AI tools can help teachers prepare teaching resources, optimize teaching plans, and adjust teaching strategies quickly in real time in the classroom, thus improving teaching efficiency and quality.

Enhancement in personalized teaching ability: AI can provide teachers with personalized teaching suggestions according to the learning situation and students' needs. By comparing teachers' teaching styles and students' learning outcomes before and after using AI, the degree of improvement of teachers' personalized teaching ability can be assessed.

Enhancement of teachers' information literacy: The introduction of artificial intelligence technology requires teachers to have certain information literacy. By examining teachers' proficiency in using AI tools, problem-solving skills, and innovative thinking, it is possible to evaluate whether teachers' information literacy has been enhanced.

Improvement of students' satisfaction: Students' satisfaction is one of the important indicators to measure teaching effect. To collect students' feedback on teachers' use of artificial intelligence teaching through questionnaire survey, interview and other ways, we can evaluate whether the empowerment effect has been recognized by students.

b) Case analysis

A specific case study to show how AI can empower foreign language teacher in professional development is as follows:

A college of Foreign Languages studies has introduced an intelligent teaching aid system that provides personalized oral practice and feedback based on students' speaking level and learning goals. After using the system, foreign language teachers found that students' oral expression abilities were significantly improved, and those teachers also accumulated more experience in personalized teaching. In terms of the assessment of the effect of empowerment, the college found that the average score of students had improved significantly by comparing the oral performance of students before and after using the intelligent teaching assistance system. In addition, teachers generally said that after using the system, their teaching efficiency had been improved, and it was easier to stimulate the interest and enthusiasm of students.

This case shows that the application of artificial intelligence technology in foreign language teaching can significantly improve the teaching effect and professional competence of teachers. Through the introduction of intelligent teaching tools, teachers can better meet the personalized demands from students, and improve their teaching efficiency and quality so that the empowerment of their professional development will be realized.

In summary, through the assessment of the empowerment effect and case analysis, we can see the positive role of artificial intelligence in the professional development of foreign language teachers. In the future, with the continuous progress of technology and the continuous expansion of application scenarios, artificial intelligence will bring more opportunities and challenges to the professional development of foreign language teachers.

6. Conclusion and Prospect

a) Conclusion

This study shows that the application of artificial intelligence technology provides strong support for the professional development of college foreign language teachers. The professional development of foreign language teachers enabled by artificial intelligence has become a trend, which has injected new vitality into the innovation and development of foreign language education. By strengthening technical training, building intelligent teaching platform and conducting teaching research, the professional quality and teaching ability of foreign language teachers can be effectively improved. However, there are still some challenges and problems that need to be further solved, such as how to better integrate artificial intelligence technology with foreign language teaching and how to establish a sound teacher training system.

First of all, the application of artificial intelligence technology provides foreign language teachers with rich teaching resources and personalized teaching tools to help teachers better meet the learning demands from students and improve teachers' teaching results. Secondly, the intelligent evaluation and feedback mechanism of artificial intelligence help teachers understand the students' learning situation in time, adjust their teaching strategies, and achieve accurate teaching. At the same time, AI also promotes cooperation and communication among teachers, and promotes the sharing and optimal allocation of teaching resources as well. In addition, faced with the challenge of artificial intelligence technology, foreign language teachers also actively adapt to and constantly improve their information literacy and technology application ability. Through training, independent learning and practical exploration, teachers gradually mastered the skills of using artificial intelligence tools, integrated the skills into daily teaching to realize the innovation of teaching methods and the improvement of teaching quality.

To sum up, AI-enabled professional development of foreign language teachers has become a trend, injecting new vitality into the innovation and development of foreign language education.

b) Prospect

Looking into the future, the role of artificial intelligence in the professional development of foreign language teachers will be more prominent. We hope that more researches and practices can explore more effective ways and strategies to promote the innovation and development of college foreign language education and provide more solid support to guarantee the professional development of college foreign language teachers. With the continuous progress of technology and the continuous expansion of application scenarios, we expect to see the development of the following aspects:

First of all, the integration of artificial intelligence and foreign language teaching will be deepened. In the future, we will see the emergence of more intelligent and personalized teaching tools and platforms to provide more diversified and efficient teaching support for foreign language teachers. Secondly, the professional development of foreign language teachers will pay more attention to cross-border cooperation and innovation. Through cooperation and exchange with other fields like computer science and educational technology, foreign language teachers will continue to expand their knowledge vision and technology application ability, and achieve interdisciplinary integration and development. Thirdly, we also need to pay attention to the ethical and social issues raised by artificial intelligence. In the process of promoting the integration of AI and foreign language education, we need to ensure the rational application of the technology to protect the privacy and data security of students, and avoid the negative effects brought about by the abuse of technology. Finally, we look forward to more research and practice to explore more effective ways and strategies for empowerment, so as to provide more solid support and guarantee for the professional development of college foreign language teachers.

In short, the professional development of AI-enabled foreign language teachers is a process full of opportunities and challenges. We believe that with the joint efforts of educators, foreign language education will usher in a better future.

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