

New Paradigm of Foreign Language Talent Cultivation in Vocational Education Empowered by Artificial Intelligence

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ABSTRACT

In the context of digital transformation of education, artificial intelligence (AI) technology has injected new vitality into the cultivation of foreign language talents in vocational education, while this process is confront with numerous practical challenges. Based on the actual needs of foreign language talent cultivation in vocational education, this paper sorts out the issues that arise during the process of AI empowerment, such as insufficient technical adaptability, teachers' inability to keep up with development, and mismatch between training orientation and practical demands. And then, according to the distinctive characteristics of vocational education and the inherent attributes of the foreign language discipline, it proposes practical countermeasures, including constructing a precisely adaptable technology application system, improving the collaborative training mechanism for teachers, and optimizing the cultivation path based on job requirements, in order to provide guidance for constructing a new paradigm of foreign language talent cultivation in vocational education empowered by AI.

KEYWORDS

Artificial intelligence; Vocational education; Foreign language talent

1 Introduction

The "Opinions on Accelerating the Advancement of Digital Transformation in Education" jointly issued by the Ministry of Education and eight other departments clearly states that it is necessary to "integrate artificial intelligence (AI) technology into all elements and the entire process of education, and promote the integration of science and technology education and humanities education" ^[1]. Vocational education is an important platform for cultivating technical and skilled talents, and the quality of foreign language talent cultivation directly affects the international competitiveness and job adaptability of graduates. Driven by the digital transformation of education, the integration of AI and foreign language teaching in vocational education has become an irreversible trend. It can not only solve the long-standing problems in traditional foreign language teaching, such as resource shortage and the difficulty of truly implementing individualized teaching, but also align with the practical-oriented demand of foreign language talent cultivation in vocational education. However, in the actual implementation process, the integration of the two still faces quiet a few challenges. Therefore, it is imperative to clarify the current predicaments and identify feasible response strategies to enable AI to truly promote the quality improvement and efficiency enhancement of foreign language talent cultivation in vocational education.

2 Challenges for Foreign Language Talent Cultivation in Higher Education Empowered by AI

2.1 Inadequate Alignment between Technology Application and Cultivation Demands

Currently, the application of AI technology in foreign language teaching of vocational education has often fallen into the misconception of emphasizing form over effectiveness, and thus has failed to precisely meet the core demands of foreign language talent cultivation in vocational education. Foreign language training in vocational education is inherently job-oriented, with a focus on cultivating students' foreign language application competence and practical operational skills that align with industry scenarios. However, the mainstream AI foreign language teaching tools on the market mostly remain confined to the popularization of general linguistic knowledge, such as basic functions like helping students memorize words, learn grammar rules, and practice listening exercises. Meanwhile, there are relatively few professional foreign language teaching resources tailored for different industry scenarios, failing to meet the individualized cultivation needs of students in different professional fields such as business foreign language, cross-border e-commerce foreign language, and medical foreign language. Most significantly, existing AI teaching systems mainly apply standardized teaching processes and evaluation systems, without fully considering the characteristics of vocational school students' generally weak foreign language foundation and significant disparities in learning abilities. As a result, they are unable to achieve the precise cultivation goal of differentiated instruction.

2.2 Lagging AI Application Competence of the Teaching Staff

The teaching staff serves as a bridge connecting AI technology with foreign language teaching practice, and the application competence of teachers in AI directly affects the actual effectiveness of the technology implementation. However, at present, the competence and quality of some foreign language teachers in vocational colleges obviously cannot keep pace with the demands of the integration of technology and teaching^[2]. On the one hand, some foreign language teachers are graduates of traditional language majors and have hardly received systematic training related to AI. Therefore, they have a limited understanding of the principles, core functions, and applicable teaching scenarios of various AI tools. In actual teaching, most of them can only use some basic functions superficially, failing to fully explore the teaching value of the technology or design scientific and feasible AI-integrated teaching plans in line with specific teaching objectives and job-oriented talent demands. On the other hand, some teachers have clear weaknesses in interdisciplinary integration capabilities, making it difficult to truly integrate AI technology with foreign language teaching content, methodologies, and evaluation systems. And it often leads to the awkward situation where technology and teaching are misaligned in teaching practice. For example, many teachers merely use AI tools as aids for students to complete exercises, but are unable to use the technology to build immersive foreign language practice scenarios and to accurately identify students' learning difficulties through AI data analysis to promptly adjust teaching strategies.

2.3 The Deviation of Educational Positioning from the Orientation of Vocational Education

Under the backdrop of AI empowerment, the educational positioning of foreign language talents in some vocational education institutions has gradually become blurred, and significantly deviated from the orientation of vocational education, failing to truly integrate technological empowerment with vocational quality cultivation. After introducing AI technology, some vocational colleges have overemphasized the dominant role of technology and focused on the rapid dissemination of linguistic knowledge in foreign language teaching. They, in turn, have neglected the employment-oriented tenet of vocational education, and cannot effectively cultivate students' abilities in industry-specific foreign language application, cross-cultural communication, and job competence matching. At the same time, the existing cultivation system also lacks relevant education on the ethics of AI technology application and information literacy for students. When some students use AI tools to learn foreign languages, they tend to overly rely on technology, resulting in weakened independent thinking abilities and insufficient information discrimination. This problem is extremely detrimental to the cultivation of students' core vocational competencies.

3 Practical Strategies for the Cultivation of Foreign Language Talents in Vocational Education Empowered by AI

Vocational colleges should strive to establish an accurately adapted AI technology application system, improve the mechanism for cultivating the application capabilities of teachers in AI, and optimize the construction of the cultivation system based on vocational orientation, in order to promote the high-quality cultivation of foreign language talents in vocational education.

3.1 Establish an Accurately Adapted AI Technology Application System

In response to the issue of the mismatch between the application of AI technology and the demand for cultivating foreign language talents, colleges need to closely adhere to the position-oriented principle of foreign language talent cultivation in vocational education, and take into account the individual development needs of students to build an accurately adapted system for the application of AI technology. Specific measures can be taken from the following aspects.

On one hand, it is necessary to adhere to a demand-oriented approach to promote technology selection and collaborative research and development. Vocational colleges should take the initiative to collaborate with industry enterprises and technology companies to establish joint research and development teams, and develop highly targeted AI resource libraries for professional foreign language teaching in response to the foreign language competency demands of different professional positions. For example, for the major of cross-border e-commerce, priority should be given to creating AI immersive teaching resources covering scenarios such as platform operation communication, product promotion language skills, and cross-border logistics coordination. For the medical and nursing major, efforts should focus on links such as doctor-patient communication, medical record writing norms, and international medical communication to build a professional foreign language practice scenario library, so that the teaching content truly aligns with the practical operation requirements of the positions^[3]. At the same time, vocational colleges should optimize the

personalized adaptability of the AI teaching system. By leveraging big data to accurately analyze students' foreign language basic levels, learning habits, and weak competency areas, the optimized system can create a personalized learning profile for each student and further push customized learning content and plans. For instance, for students with weak foundations, it should focus on delivering resources for consolidating basics such as vocabulary reinforcement and intensive grammar instruction. For high-ability students, it can provide professional foreign language extension and practical scenario training to truly implement the concept of teaching students in accordance with their aptitude.

On the other hand, it is necessary to simplify the operation process to lower the technology application threshold, and establish a dynamic optimization mechanism. Vocational colleges should develop lightweight and convenient AI teaching tools based on actual scenarios of foreign language teaching in vocational education, such as integrated lesson preparation platforms and one-click scenario-building tools, in order to effectively reduce teachers' workload in lesson preparation. Meanwhile, colleges should establish a dynamic optimization mechanism for the AI teaching system. They should regularly collect teachers' and students' usage feedback, iterate the system functions, as well as supplement and update teaching resources in a timely manner in light of actual changes such as the adjustment of teaching goals and the updating of job requirements, so that the technology application can always keep up with the pace of teaching practice.

3.2 Improve the Training Mechanism for Teachers' AI Application Competencies

At present, the AI application abilities of foreign language teachers in vocational colleges fail to meet the development needs. To address this issue, colleges should establish a teacher ability improvement system featuring systematic training and practice empowerment, truly creating a team of foreign language teachers with interdisciplinary integration capabilities in vocational education.

First, starting with establishing an precise training system, colleges should conduct differentiated training related to AI based on the current abilities and actual teaching needs of foreign language teachers^[4]. For teachers with weak AI foundations, the training should focus on introductory content such as basic AI theories and the operation of common teaching tools, helping teachers quickly master basic technology application methods. For teachers with a certain foundation, advanced training should be promoted, which focuses on AI teaching plan design, teaching data interpretation, and interdisciplinary teaching integration to guide teachers to achieve a deep combination of technology and teaching. Training methods should also be flexible and practical, and adopt a combination model of online course learning, offline studio practice, and enterprise field internships. Online, educational digital platforms can provide independent learning resources to facilitate teachers' improvement of weaknesses at any time. Offline, experts in the AI field and outstanding teachers from the front line can be invited to conduct hands-on practice and case sharing activities, allowing teachers to learn experience in an intuitive way. Moreover, there is a need to organize teachers to visit technology enterprises and the frontline of the industry to gain a firsthand understanding of the practical application of AI technology in industry-specific foreign language scenarios, thus making their lesson preparations more targeted.

On this basis, it is necessary to build a collaborative development platform for teachers to facilitate their communication and cooperation. Vocational colleges can establish a dedicated AI foreign language teaching innovation team, and regularly organize teaching discussions, collaborative lesson planning, and achievement sharing to encourage teachers to jointly explore technology-integrated solutions to practical problems encountered in teaching, thereby achieving experience sharing and ability complementarity. In addition, colleges should promote interdisciplinary collaboration, and strengthen the linkage between foreign language teachers, computer professional teachers, and industry technical experts to jointly develop integrated teaching resources and design personalized teaching plans, thus enhancing teachers' interdisciplinary integration capabilities through such cooperation.

3.3 Optimize the Construction of the Cultivation System Based on Vocational Orientation

Vocational colleges should closely adhere to the requirements of vocational education featuring employment orientation and competency-centeredness, and optimize the foreign language talent cultivation system empowered by AI, thus enabling the in-depth integration and mutual reinforcement of technology empowerment and vocational quality cultivation.

The first is to clearly define the positioning of cultivation goals, prioritize the development of industry foreign language application capabilities, cross-cultural communication capabilities, and job competence matching capabilities, and build a trinity cultivation model integrating theoretical learning, practical exercises, and job simulation by leveraging AI technology. In the theoretical teaching stage, AI tools can be used to precisely identify students' knowledge gaps, and achieve personalized instruction of linguistic knowledge. In the practical exercise stage, immersive virtual simulation scenarios can be adopted to enable students to develop their foreign language application abilities in a highly realistic industry environment. In the job simulation stage, it precisely aligns with the actual needs of enterprises, introduce real industry project cases, and guide students to use AI tools to complete foreign language-related job tasks, thus effectively

enhancing their occupational adaptability^[5]. At the same time, attention should also be paid to the cultivation of students' AI application ethics and information literacy. These contents can be integrated into all links of foreign language teaching to guide students to correctly understand the value of technology, develop their abilities of autonomous thinking and information discrimination, and prevent them from falling into the trap of excessive reliance on technology.

The second is to deepen the college-enterprise collaboration education, and establish a long-term cooperation mechanism of joint construction, resource sharing, and mutual benefit between colleges and enterprises. Vocational colleges should establish stable cooperative relationships with industry enterprises, and actively invite enterprise technical backbones and industry experts to participate in the design of foreign language teaching plans and the development of teaching content, and ensure that the teaching content always aligns with the latest job requirements and technical standards of the industry. Meanwhile, AI technology can be used to build a college-enterprise collaborative teaching platform, and digitize the real job scenarios of enterprises, thus allowing students to directly access real working scenarios and business processes on campus. Enterprises can provide internship and training positions for students to enable them to flexibly apply foreign language knowledge and AI technology to solve practical problems in real working scenarios, thus truly achieving seamless a connection between campus learning and job practice.

4 Conclusion

AI technology has brought unprecedented development opportunities and posed entirely new challenges for the cultivation of foreign language talents in vocational education. To solve practical problems such as inaccurate technology adaptation, inadequate teacher capabilities, and deviations in cultivation orientation, it is necessary to advance the work in a coordinated manner from multiple aspects including the establishment of a technology application system, the improvement of teacher capabilities, and the optimization of the cultivation system. Only by establishing a precisely adapted technology application system, improving the collaborative training mechanism for teachers, and optimizing the cultivation system in line with vocational needs, can it truly promote the in-depth integration of AI and foreign language teaching in vocational education, create a new paradigm of talent cultivation that combines technology empowerment and vocational orientation. Therefore, it can effectively improve the quality of foreign language talent cultivation in vocational education, provide more technical and skilled talents with international competitiveness for industrial development, and consolidate the foundation for the high-quality development of vocational education in the context of educational digital transformation.

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