



# Foreign Language Education Reform and Language Services Talents Training in the Era of Large Language Models

Zhao Li, Yongliang Huang\*, Mengdi Wang

Department of Foreign Language Teaching and Research, Hebei Normal University, Shijiazhuang 050021, Hebei, China.

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\*Corresponding author: Yongliang Huang, Department of Foreign Language Teaching and Research, Hebei Normal University, Shijiazhuang 050021, Hebei, China.

## Abstract

Large language models such as DeepSeek and ChatGPT have rapidly generated profound impacts across various sectors upon their release, posing significant challenges to foreign language education as well. This paper reviews the current state of research on foreign language education in the age of artificial intelligence. It discusses the challenges that AI technologies pose to the acquisition of foreign language skills, including reading, writing, and translation, as well as their impact on academic research. Additionally, it outlines the new demands for foreign language professionals in this evolving landscape. The study further suggests that an accurate understanding of technology is essential for fostering critical thinking. It emphasizes that both teachers and students should enhance their technical skills to improve digital foreign language literacy. Additionally, it highlights the importance of language services competence in training professionals in applied digital language services. This paper serves as a reference for reforming foreign language education in the era of large language models and offers suggestions for developing a competency model for digital language service professionals.

## Keywords

Large Language Models; Foreign Language Education; Education Reform; Digital Language Services Talents

## 1. Introduction

On November 30, 2022, ChatGPT was launched and quickly went viral, reaching over 100 million monthly active users within just two months. Bill Gates publicly stated that "the era of artificial intelligence has arrived, and its significance is comparable to that of the invention of mobile phones and the Internet". In July 2023, Hangzhou Deepseek Artificial Intelligence Basic Technology Research Co., Ltd was established, focusing on AI foundational research, and released the DeepSeekV3 model in late 2024. With a training cost of only 1% of Llama 3 and performance comparable to GPT-4o, it garnered global attention as a disruptive breakthrough in AI. In January 2025, the open source model DeepSeek R1 was released to compete with OpenAI's o1, with inference costs only 3% of its peers. It surpassed 30 million daily active users within one month, making it the fastest application in history to reach this milestone.

Previously, discourse around the "technological turn in foreign language education" and the "impact of machine translation on translation courses" was dominant. However, in the era of large language models, this conversation has evolved: artificial intelligence has advanced from data comprehension to concept-based and imitative data generation. The pressing questions now are: How will AI impact our foreign language education? How should we respond to these challenges and cultivate foreign language talents that are fit for the AI era?

## 2. Research on Foreign Language Education in the Context of Artificial Intelligence

Since the early 21st century, as digital technologies have progressed, many countries and organizations (e.g., the EU, Canada, the U.S., the U.K., New Zealand, APEC, OECD, etc.) have recognized "digital competence" as one of the core 21st century skills, elevating digital literacy development to national strategy. Israeli scholar Yoram Eshet Alkalai proposed one of the most comprehensive digital literacy frameworks, comprising five key elements, which are photo-visual literacy, reproduction literacy, branching literacy, information literacy, and socioemotional literacy (Eshet, Y., 2002).

In foreign language education, international research mainly covers: 1) digital literacy components for foreign language talents, such as Pinto, M. and Sales, D. (2007) proposed a model for translator information literacy encompassing computer skills, information management, planning, problem solving, and analytical integration, 2) attitudes towards digital technology and human-computer interaction, exemplified by Olohan, M. (2011), who used Andrew Pickering's theory of scientific practice to examine the translator-technology relationship, 3) advancements in foreign language technologies, such as Moorkens, J. (2018) has discussed the pros and cons of neural machine translation and its implications for translator competence, 4) Educational reform in the AI era, for Pokrivčáková, S. (2019) has explored the impact of AI on teaching effectiveness and proposed technical competence frameworks for foreign language educators, and 5) applications of smart technologies in teaching, such as intelligent writing assessment (Lee et al., 2015), real-time oral feedback (Ayedoun et al., 2019), dynamic grammar practice (Pandiarova et al., 2019), and interactive language learning (Mageira, K. et al., 2022).

Since 2000, Chinese academia has consistently focused on digital foreign language education as well, with increasing publications including: 1) policy and planning, such as Li, Z. et al. (2020) explored the integration of digital literacy into language curricula; 2) applied research on digital tools in language education, including machine translation (Li, F., 2022), MOOCs (Zhu, L. et al., 2021), and cloud-based teaching (Xu, M., 2022); 3) digital competence surveys for teachers and students across regions (Zhang, S. et al., 2016), populations (Shi, M., 2022), and disciplines (Fang, X. & Chen, J., 2018); 4) digital literacy for foreign language talents, covering translation technology competence (Wang, H. & Wang, S., 2016), translator technical skills (Cui, Q., 2020), and translation teacher competence structures (Wang, S. & Li, C., 2021); and 5) international comparisons of digital foreign language education strategies in the EU (Niu, A. & Lu, S., 2015), the U.S. (Jia, A., 2013), Japan (Huang, J., 2020), and Australia (Luo, M. & Yao, Y., 2020).

## 3. Foreign Language Education and Talents Competences in the New Era

Large language models have significantly advanced the capabilities of general artificial intelligence, generating transformative impacts across governance, business, research, education, and personal life. While the industry is largely embracing technological change, academia remains cautious and observant. Universities such as George Washington University and the University of Hong Kong have explicitly banned the use of ChatGPT in coursework. Academic journals, including *Nature* and *Cell*, have also declared that they do not accept manuscripts authored or coauthored by AI tools, requiring clear disclosure if such tools were used in writing. However, a *Nature* survey of 672 readers has found that around 80% had used ChatGPT or similar tools, with over 20% using them frequently—8% daily, 14% several times per week—and 38% reported that their colleagues or students use these tools for teaching or research (Nature, 2023).

Given the inevitable progression of technology, how should foreign language educators respond to the AI-driven transformation? To seize opportunities amid challenges, we must first examine how AI technologies are impacting foreign language education.

### 3.1 Impact of AI on Foreign Language Teaching

Previous technologies were often applied passively to support language teaching, while AI systems now are actively engaged in knowledge production through active feedback and adjustment, by understanding teaching goals and students' interests, generating personalized content, assessing comprehension, detecting disinterest, and dynamically adjusting instructional materials.

For foreign language writing skills, information collection becomes highly efficient with AI tools. With prompts like "mimic Shakespeare" or "use Hemingway's style," LLMs can now produce vivid, engaging articles that go beyond expectation. If writing instructions remain limited to gathering information, expressing ideas, or only cover

basic skills such as terminology, grammar, or formatting—which AI tools can easily handle—they will no longer meet students' needs. Therefore, future writing instructions must focus on enhancing students' abilities to filter and critically assess large volumes of information. Core skills will include post-editing, post-evaluation, and post-appreciation of AI-generated texts, the skills which are essential in the new era.

And for foreign language reading skills, AI will handle basic comprehension tasks efficiently, turning foreign language reading into an open-book exercise. As a result, teaching must move from surface understanding to textual analysis, information synthesis, cultural literacy, critical thinking, and discourse analysis. And reading content and methods will diversify. AI provides access to massive resources and can even generate tailored texts. Teachers may move from assigning fixed materials to assigning themes and guiding students to research, read widely, and integrate knowledge.

Moreover, for the translating skills, with LLMs, even non-language majors can now reach the baseline of content understanding, bringing professional standards for translation up significantly. To be a true translator, one must outperform technology and master its application. Cultural depth and aesthetic judgment remain irreplaceable. AI must be trained by language experts, and its output still needs expert review, editing, and refinement. The translators' role will not disappear but will evolve into a knowledge plus technology-intensive profession, with higher entry barriers and greater value for high-caliber translators.

### **3.2 Impact of AI on Foreign Language Research**

Foreign language research includes problem identification, theory development, data collection, analysis, conclusion, etc., which will be fundamentally reshaped by LLMs functioning as an indispensable research assistant. Tools such as Humata, ChatPDF, and PandaGPT can leverage NLP and machine learning to accelerate multilingual literature review, and can support data-driven research by facilitating large-scale comparative analyses from diachronic and synchronic perspectives. It also enables new topics and methods, such as quantitative analysis of language use across speakers and the integration of case studies, theory, and empirical data, promoting interdisciplinary and cross-sectoral research.

LLMs will improve research productivity, outcome evaluation, and even academic resource management. However, challenges will be presented as well. In the aspect of information verification, LLMs trained on historical data often reflect biases or inaccuracies, and are lacking in full linguistic, emotional, and cultural understandings, which may generate flawed outputs. In the aspect of content security, vast datasets will be needed, while sensitive data could make data privacy a key concern. For ethical considerations, while LLMs may enhance efficiency, risks of plagiarism, misinformation, and academic misconduct will rise as well, thus clear guidelines are needed to define responsible human-AI collaboration.

As AI transforms teaching and research, basic foreign language knowledge becomes ubiquitous. What matters more is the cultivation of advanced skills such as creativity, critical thinking, communication, and aesthetic appreciation. Understanding LLMs' principles, regulating the risks, and reforming education systems will be key to training future-ready, high-quality digital foreign language talents.

## **4. Language Services Talents Cultivation in the Era of LLMs**

### **4.1 Establishing a Proper Technological Outlook to Cultivate Critical Thinking**

The advancement of artificial intelligence is unstoppable. As Microsoft defines AI-powered tools as "copilots", technology should not be seen as a replacement for humans, but as a powerful assistant that helps unleash human potential. We must avoid both over-dependence and blanket bans on LLMs. Instead, guidance should take precedence over restriction, leveraging the opportunities brought by AI to define new expectations for language talents and build a novel talent training system integrating language skills, humanities, and digital competence.

While reducing the time spent on basic language skills, educators should emphasize the development of critical thinking, idea synthesis, insight generation, information evaluation, problem solving, and innovation, which are empowered by technical skills, logical reasoning, critical awareness, creativity, and action-based practice. Since LLMs are limited to existing data and lack cognitive or innovative capacities, critical thinking becomes the core human advantage in mastering technology. The AI era calls on educators to return to their essential roles as mentors of enlightenment, instead of offering fish to the students, teachers should think again about how to let the students know how to fish by using heuristic methods such as discussion and debate.

## 4.2 Increasing Technical Courses to Enhance Digital Foreign Language Literacy

LLMs have removed many barriers, such as accessing and utilizing resources, reducing disparities in information acquisition, etc., and the next challenge is to develop the ability to leverage technology effectively. Currently, university curricula often include only theoretical overviews of computer-assisted translation or basic training on a specific software. Deeper instruction is constrained by factors such as instructors' limited technical backgrounds, outdated teaching materials, insufficient resources, and lack of industry-academic collaboration. Thus, a multidimensional digital foreign language education system should be built to address the development needs of individuals, universities, and industries. Courses must be increased to foster AI familiarity, for example, students in Beijing Language and Culture University have begun integrating ChatGPT into their foreign language courses, learning basic programming skills to develop tools such as translation quality evaluators, interpreting scoring systems, and autonomous speaking practice platforms.

It is crucial to strengthen the digital foreign language literacy which combines strong cross-lingual and humanistic competencies with the ability to use technologies such as LLMs, general abilities should contain innovation, critical thinking, and social responsibility, and professional abilities should include language skills and technical competence, plus ethical awareness such as data security and ethical conduct. Together, these will help the students to embrace and master LLMs, to meet societal and national digital demands, and to grow into qualified digital foreign language talents.

## 4.3 Emphasizing Language Services Literacy to Cultivate Applied Digital Language Services Talents

Statistics show that foreign language graduates in China—excluding those pursuing further study abroad—mostly enter the service industry and become applied language professionals, while current foreign language education often fails to emphasize language services literacy, which must be updated to meet the personal and societal development goals.

Improving this literacy starts with understanding the philosophy of language services, which emphasizes understanding and respecting the needs and expectations of language clients. This requires practitioners and companies to have acute insights, professional skills, strong senses of responsibility, service consciousness, sincerity, positivity, and high execution ability (Wang, L., 2023). In the era of LLMs, foreign language talents must evolve into applied digital language services professionals guided by the philosophy of language services, equipped with excellent digital services awareness, comprehensive capabilities, and strong entrepreneurial spirits.

## 5. Conclusion

Artificial intelligence is reshaping foreign language education in both teaching and research, while also generating new opportunities. New roles such as natural language engineers, machine translation specialists, speech recognition experts, foreign language content editors, international communication auditors, high-end foreign language teachers, and cross-border e-commerce professionals are emerging, redefining the demands placed on language talents and offering a reference point for education reform.

Looking ahead, a top-down establishment of the correct technological outlook is essential, shifting from language skills training to cultivating critical thinking. Simultaneously, we must emphasize technical proficiency and enhance digital foreign language literacy. Just as importantly, we must value language services literacy and embrace the philosophy of language services to align talents development with national strategies and society's needs. Ultimately, we aim to cultivate applied digital foreign language professionals embodied with the integration of language skills, humanities, and technology—professionals who can thrive in and contribute to the era of LLMs.

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