Research on the Multilingual Talent Cultivation System Empowered by AI under the New Liberal Arts Context

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Abstract: *This paper explores the AI (artificial intelligence) empowerment in foreign language education within the context of "New Liberal Arts" and its impact on a diversified foreign language talent cultivation system. Though challenges brought by AI, AI empowerment could facilitate the foreign language discipline development. Drawing upon this basis, the paper further explores the breakthroughs in foreign language talent cultivation. That suggests a shift from information tools to character education, from language proficiency to core competency strengthening, from single-discipline to interdisciplinary talent cultivation, and from imparting language knowledge to advancing general education understanding. This paper proposes paths for diversified foreign language talent cultivation in the AI era, including AI empowerment character education cultivation approaches, the construction of a diversified curriculum system, the innovation of interdisciplinary curriculum clusters, AI empowerment reshaping of digital teaching practice settings, and AI empowerment reconstruction of foreign language digital teaching resources. With those approaches, the adjusting focus and methods of foreign language talents cultivation, an effective Multilingual Talent Cultivation System will be established with international perspectives, cross-cultural communication skills, and innovation capabilities to meet the development needs of the AI era.*

Keywords: *AI empowerment; Multilingual Talent Cultivation System; New Liberal Arts Context*

Introduction

In the context of the New Liberal Arts, the rapid development of AI (artificial intelligence) technology has brought new opportunities and challenges to foreign language education. AI empowerment foreign language talent cultivation requires not only adapting to the trends of technological change but also profound reforms in educational concepts, curriculum design, teaching methods, and assessment systems.

1. Challenges Brought by AI Technology to Foreign Language Studies Under the New Liberal Arts Context

The New Liberal Arts emphasize interdisciplinary integration and aim to foster students' creativity and critical thinking. The development of AI technology, especially generative AI represented by tools like ChatGPT, is driving the digital transformation of education. This transformation not only alters the ways knowledge acquired but also redefines the goals and competencies required for foreign language talent cultivation. The application of AI technology provides new tools and platforms for teaching but also presents challenges in terms of teaching content, methods, teacher roles, student capabilities, ethics, safety, and assessment systems (Li Xue, Gu Xiaole, 2024).

Update of Teaching Content and Methods: AI technology provides personalized learning resources and environments (Yang Chunhui, 2000), enabling exploratory learning processes and diverse learning activities. Teachers are required to update teaching content by integrating technological elements such as data science and machine learning, while adopting blended teaching methods that combine online AI tools with offline interactions.

Transformation of Teacher Roles: In AI empowerment teaching environments, teachers' role transited from knowledge transmitters to learning guiders and facilitators. Teachers need to learn how

to employ AI tools to assist teaching while continuing to guide students in emotional, value-oriented aspects.

Reshaping of Student Abilities: In the AI era, it demands that foreign language talents equip with only language skills but also data analysis, cross-cultural communication, and technological application capabilities. Students must learn how to engage in self-directed learning with AI assistance, improving information literacy and critical thinking.

Ethical and Safety Considerations: The application of AI technology in education raises ethical issues related to data privacy and intellectual property. Strengthening ethics education and cultivating students' correct values and sense of responsibility are essential when nurturing foreign language talent.

2. The Rationale Behind AI-Empowered Foreign Language Learning

In today's rapidly evolving technological world, AI has permeated various aspects of life, including education. Specifically, in the field of foreign language learning, AI is gradually transforming traditional teaching models, providing learners with richer, more efficient, and personalized learning experiences.

2.1 Synergy of Interactive Communication

One major advantage of AI in foreign language learning is its ability to offer highly interactive communication environments, which are crucial for language learning. AI technology simulates real conversation settings, providing learners with opportunities for real-time interactions with virtual characters, thereby significantly improving the efficiency and effectiveness of language learning. Intelligent voice assistants and chatbots can offer customized conversation practice based on learners' levels and needs. These virtual characters not only understand and respond to learners' inputs but also provide timely feedback and guidance based on the context of the conversation, helping learners gradually improve their language skills through continuous practice. Additionally, AI technology can track learners' progress and performance in real-time through data analysis, offering personalized feedback and suggestions. This immediate feedback mechanism helps learners identify and correct their mistakes efficiently, leading to better mastery of language knowledge.

2.2 Ease of Use and Operability

Another significant advantage of AI technology lies in its ease of use and operability. Traditional foreign language learning often requires learners to spend considerable time and effort memorizing vocabulary, grammar rules, etc. In contrast, AI technology simplifies these tedious learning processes through intelligent learning systems. Learners can complete various learning tasks with simple clicks and drags, without worrying about complex operations or cumbersome learning processes. Additionally, AI can automatically adjust the difficulty and pace of learning content based on learners' habits and preferences, ensuring that learners remain in the optimal learning state. This intelligent learning system not only enhances learning efficiency but also increases the fun and operability of learning, enriching learners' language learning experience (Hew et al., 2023).

2.3 Enhancement of Communicative Desire

Due to language barriers and lack of confidence, many learners often feel nervous and anxious when faced with real communication settings. AI technology provides new solutions to this issue. With AI technology, learners can engage in language communication in a stress-free virtual environment, gradually overcoming communication barriers and enhancing their willingness to communicate. Virtual characters can offer different levels of language challenges based on learners' levels and needs, helping them build confidence as they improve. Moreover, AI can simulate real-life settings, such as shopping, traveling, or working, allowing learners to practice language skills in virtual environments. Additionally, AI could connect learners with others from around the world via its social feature for collaborative language learning and exchange.

2.4 Enhancing Interesting Practical Experience

AI technology, with its intelligent learning systems and abundant learning resources, provides learners with more diverse and enjoyable learning experiences. It can also offer immersive language learning environments through technologies like VR (virtual reality) and AR (augmented reality), allowing learners to feel as if they are in real language settings, thereby deepening their understanding and command of language. Furthermore, AI can recommend relevant learning contents and resources based on learners' interests and needs. This personalized learning experience not only meets learners' learning demands but also stimulates their curiosity and interest in exploring unknown fields. Therefore, AI plays an irreplaceable role in enhancing learners' practical experiences (Zhang Zhenyu, 2023).

3. Breakthroughs and Innovations in Foreign Language Talent Cultivation in the AI Era

The integration of AI technology has brought unprecedented opportunities to foreign language education. Through AI empowerment, foreign language talent cultivation has transitioned from focusing on information tools to moral education, from knowledge transmission to general education advancement, and from language proficiency to the strengthening of core competencies.

3.1 Transition from Information Tools to Character Education

In the AI era, foreign language talent cultivation has undergone unprecedented changes. Traditional information tools, such as books, dictionaries, and supplementary materials, are gradually being replaced by intelligent, personalized AI tools. This transition not only enhances learning efficiency but also profoundly influences the core value of foreign language education — character education. Future education aims to build modern civilization for the Chinese nation, inherit natural language, learn digital languages, and correctly balance Chinese and foreign languages. It aims to create an educational system that fosters comprehensive development in terms of knowledge, values, and methods (Chen Baosheng, 2023). Character education is the fundamental task of education and the core goal of foreign language talent cultivation. With the help of AI technology, character education is no longer confined to traditional explanation and reiteration but is integrated into more vivid and interactive approaches, subtly guiding students to establish correct worldviews, outlooks on life, and values.

3.2 Shifting from Strengthening Language Competence to Core Literacy

The advancement of AI technology not only demands a qualitative leap in language skills for foreign language professionals but also drives them toward profound self-improvement and transformation across education, work, and personal development. First, the emergence of AI means that foreign language professionals must not only communicate accurately and fluently but also engage in advanced linguistic activities such as literary creation and academic research. This enhancement of abilities requires not only a solid linguistic foundation but also broad cultural knowledge, sharp insight, and rich imagination. Furthermore, AI prompts foreign language professionals to develop the ability to quickly filter, integrate, and analyze information, making reasonable judgments and selections from the vast amount of data generated by tools like GPT, to address real-world issues such as ethics, morality, and social governance (Feng Yuhuan, 2023), and offer improvement suggestions. Additionally, innovative thinking pattern is an indispensable skill for foreign language professionals in the AI era. Learners must continuously explore new ways to use language and create unique and innovative texts to stand apart from the standardized content generated by AI. [1]

3.3 Shifting from Single-Discipline to Interdisciplinary Talent Development

Under the sweeping tide of AI across all fields, interdisciplinary talent development enables the integration of diverse thought processes from different domains for innovative thinking and action. It also allows for the coordination and integration of resources and knowledge across fields, breaking down disciplinary barriers and promoting the optimal allocation and efficient use of resources. Although the intrinsic logic of language has been somewhat diluted by engineers, true breakthroughs in AI still depend on talents proficient in both language logic and computer science. These individuals can accurately analyze the internal structure of language and closely link it with advanced technologies such as machine learning and deep learning, achieving precise mapping from surface linguistic forms to deeper meanings. The involvement of interdisciplinary talent will significantly advance the

intelligence of natural language processing systems, enabling them to better serve various areas of human society.

3.4 Advancing from Language Knowledge Instruction to Higher-Level General Education

In the AI era, general education emphasizes the breadth of knowledge and interdisciplinarity, aiming to foster students' comprehensive qualities and innovative capabilities through interdisciplinary course coordination, with foreign language courses as the main thread and general education courses as the foundation (Li Xue, 2024). As globalization deepens, foreign language professionals need a wider knowledge base and interdisciplinary abilities. General education provides students with more diverse learning content, including history, culture, science, and art. This cross-disciplinary learning broadens students' perspectives, cultivates their critical thinking, and enhances their innovation capabilities. AI supports the implementation of general education by using big data analysis to recommend personalized courses and learning resources to students. Moreover, AI enhances the learning process by making it more engaging through virtual simulations, interactive Q&A, and intelligent systems that guide students in exploring social and academic issues.[2-5]

4. Pathways to Multilingual Talent Cultivation System in the AI Era

In the AI era, the pathways to cultivating diverse foreign language talent have taken on a new look, deeply integrating AI technology to comprehensively enhance students' overall literacy and professional skills. By utilizing AI to empower character education, employing intelligent data analysis to offer personalized guidance, and fostering interdisciplinary course groups that promote the deep integration of foreign language disciplines with other fields, several aspects of this talent cultivation pathway emerge:

4.1 AI empowerment Pathways for Character Education

As the foreign language discipline bridges different cultures and ideas, its talent cultivation must adhere to the fundamental goal of "character education." This requires the deep integration of traditional Chinese virtues and core socialist values into the educational process, organically combining political guidance with language training, and promoting the mutual reinforcement of humanistic and scientific literacy. AI technology expands the opportunities and methods for moral education, enhancing its personalization and interactivity. In foreign language education, teachers can fully utilize AI to provide personalized educational contents and resources tailored to each student's interests, abilities, and learning style, thus stimulating their enthusiasm for learning and effectively conveying moral messages. Furthermore, the application of virtual reality and simulation technologies opens new avenues for moral education in foreign language instruction. Teachers can create virtual moral dilemma scenarios, fostering students' ethical awareness and moral self-consciousness while helping them deepen their understanding and acceptance of moral standards through simulated practice. In the AI era, foreign language education should leverage digital intelligence technology to innovate pathways and methods for cultivating moral values.

4.2 Building a Diverse Curriculum System

In the AI era, the demand for well-rounded foreign language professionals is growing rapidly. In response, a diverse curriculum system must be constructed that encompasses five integrated components: solid foreign language knowledge, proficient skill application, strong scientific literacy and IT capability, profound cultural understanding with intercultural communication skills, and interdisciplinary knowledge integration with broad career and academic prospects. With AI-driven tools like GPT supporting autonomous learning in basic foreign language skills, students can solidify their understanding of linguistic knowledge and enhance their problem-solving abilities. Courses focused on cultural depth and intercultural communication aim to cultivate students' ability to engage across cultures. In scientific literacy and IT education, humanities and natural science courses help foster diverse ways of thinking. Moreover, it is essential to cultivate students' global perspectives, making them internationally aware language professionals. A well-rounded curriculum will integrate foreign language courses, general education, intercultural studies, and IT courses, reforming and innovating to produce professionals with both strong language skills and broad interdisciplinary perspectives.[6-8]

4.3 Innovating and Integrating Cross-Disciplinary Course Clusters

The rapid advancement of AI is reshaping industries, and foreign language discipline is not exception. As a result, cross-disciplinary construction has become an inevitable trend in foreign language education, injecting new vitality into the discipline. This integration not only revolutionizes traditional foreign language education models but also promotes students' overall development. Under the "New Liberal Arts" framework, the integration of literature, history, and philosophy enriches the discipline and fosters foreign language talent capable of engaging in international affairs. Some institutions are exploring cross-disciplinary programs, merging foreign languages with engineering, medicine, agriculture, and more. These unique interdisciplinary courses break down traditional barriers, providing students with diverse learning experiences that allow them to acquire foreign language skills while gaining knowledge in other fields. With AI's rapid development, the foreign language discipline must keep pace by integrating big data and computer science education to nurture interdisciplinary talent. In doing so, students will learn how to assess and utilize AI tools like GPT for tasks such as translation, term extraction, and language style adjustments, improving translation efficiency and quality.

4.4 AI empowerment Reshaping of Intelligent Teaching Settings

AI can process vast amounts of data and provide personalized services tailored to individual learners, facilitating a transformation in foreign language education from static to dynamic and from single to multimedia resources. Moreover, virtual interactive digital resources create simulated environments for learners, promoting engagement through dialogues and cultural exploration. Additionally, intelligent interactive resources leverage machine learning to identify learners' weaknesses, track their progress, and adjust teaching plans in real time. Digital technology-based intelligent learning environments are at the heart of the AI era teaching landscape. Intelligent tutoring systems dynamically adjust content and difficulty based on students' progress and feedback, ensuring that learning remains challenging without being overwhelming. Online learning platforms eliminate time and space constraints, enabling anytime, anywhere learning. Virtual reality provides immersive learning experiences, transforming abstract concepts into tangible experiences and making complex knowledge more intuitive. Chatbots act as real-time learning partners, offering immediate feedback and enhancing the interactivity and enjoyment of learning. Intelligent teaching environments flexibly adapt strategies and resources to the emergence of new technologies and the changing needs of students, ensuring education remains timely and cutting-edge.AI technology presents opportunities for fostering a more comprehensive and personalized learning ecosystem.[9]

4.5 AI Empowerment Reshaping Digital Foreign Language Teaching Resources

The integration of AI opens up new possibilities for the transformation and upgrading of foreign language teaching resources, driving the shift from single-dimensional to multi-dimensional, from static to dynamic, and from single media to multimedia integration.While continuing to leverage the foundational role of traditional textbooks, digital textbooks present a greater focus on the development and utilization of knowledge-based and tool-based digital teaching resources, by making abstract language knowledge more intuitive and easier to understand, and enabling the customization of personalized learning paths.

Virtual interactive digital resources simulate settings, allowing learners to deeply engage in experiencing the cultural background and social customs of the target language. The advantage of intelligent interactive digital resources lies in their intelligence and efficiency. Through machine learning algorithms, the system can automatically identify learners' weaknesses and challenges. By continuously tracking learners' progress and performance, the system can also adjust the teaching plan in real time, ensuring an optimized learning path.

In summary, by actively exploring and developing diversified resource formats such as digital textbooks, virtual interactive digital resources, and intelligent interactive digital resources, we can create a more comprehensive, efficient, and personalized foreign language learning ecosystem.[10-14]

In conclusion, AI technology has brought profound changes and vast development prospects to foreign language education in the context of the new liberal arts. AI not only drives comprehensive reforms in educational concepts but also empowers talent cultivation by fostering moral character and building diverse course systems. It innovates cross-disciplinary course groups, reshapes digital teaching

practice settings and digital teaching resources. Facing the opportunities and challenges of the AI era, teachers should proactively enhance their digital literacy, keep up with the latest trends in technology, and remain attentive to the latest developments in education. Foreign language education must continue to explore and innovate, making full use of AI technology to cultivate versatile foreign language talents who can meet the needs of future society and embrace a new era of smarter, more open, and inclusive education.

Fund Project

Phase achievements of the 2023 Heilongjiang Province Education Science Planning Project (Project No.: GJB1423118) titled“Research and Practice on the Multidimensional Foreign Language Talent Training System Based on Integrated Ideological and Political Education in the Context of New Liberal Arts."

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