

# *Exploration into the Digital Transformation of Foreign Language Teaching*

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**Abstract:** In the context of globalization of education, digital transformation has entered a critical acceleration period. The overall development of digitalization-driven teaching innovation can be divided into three stages: technology, innovation, and transformation. In this process, foreign language teaching has undergone profound changes, showing a series of new characteristics in terms of teaching environment, teaching tools, resource supply, and teaching models. However, the digital transformation of foreign language education in China has not yet fully materialized. Facing the impact of digital technology, it is particularly important for foreign language education to achieve a dynamic balance between technological rationality and humanistic rationality. To accelerate the digital transformation of foreign language teaching, we should focus on systematic promotion and achieve a more open, flexible, and personalized new form of foreign language teaching through the construction of a digital connection that covers the entire process and scenario.

## **1. Introduction**

In 2024, the World Digital Education Alliance was officially established, reflecting that digital transformation is gradually becoming a common action for global education reform. As an integral part of the education field, foreign language education plays an important role in promoting high-level opening up to the outside world and disseminating ideas and culture. The integration, innovation, and collaborative promotion of its instrumental and humanistic aspects urgently need to be strengthened, and digital transformation has become an urgent practical need. However, the digital transformation of foreign language education in China has not yet fully materialized. Faced with the impact of digital technology, it is particularly important for foreign language education to achieve a dynamic balance between technological rationality and humanistic rationality. Therefore, this study attempts to clarify the basic connotation and driving factors of digital transformation in foreign language education, analyze the practical challenges faced by digital transformation in foreign language education, and explore the action path of digital transformation in foreign language education.[1]

## 2. Characteristics of Foreign Language Teaching under Digital Transformation

### 2.1 Integrated and Immersive Teaching Environment

By utilizing technologies such as 3D modeling, human-computer interaction, and automated scene generation, an integrated interactive teaching environment of "teacher machine student" is created, breaking the temporal and spatial limitations of foreign language classroom teaching, creating a language learning context that integrates reality and virtuality, supporting different forms of teaching and learning activities such as human-machine collaborative dual teacher classrooms, immersive interactive learning, and open and flexible self-directed learning. This helps students practice listening, speaking, reading, writing, and translation skills in experiential learning environments such as daily communication, open debates, business negotiations, and interpretation training. Central China Normal University has built over 100 cloud integrated classrooms in seven categories, allowing foreign language teachers to achieve teaching linkage across multiple regions and time periods as needed; Beijing Foreign Studies University has established a Global Language and Culture VR Laboratory to create a virtual speech scene. Students can wear VR glasses to immerse themselves in a virtual stage with various forms, and conduct immersive speech training in front of thousands of audience members. [2]The speech, intonation, flow, etc. during the exercise can be evaluated in real time by the speech recognition system to exercise students' expression ability and psychological quality; The English Intelligent Writing Center, a discipline smart classroom at Beijing Institute of Technology, adopts an integrated design of smart hardware, intelligent writing platform and evaluation engine, and full scenario data collection. It supports personalized teaching with instant feedback, flexible and diverse interactive teaching, and data-driven intelligent teaching and research, achieving deep integration of technology and writing teaching scenarios.

### 2.2 Intelligent and Convenient Teaching Tools

The language foundation automatically generates visual oral training content, and can also guide students to determine writing themes based on contextual information, develop personalized writing tasks, and train writing skills through methods such as topic sentence completion, example rewriting, and paragraph imitation. The data-driven foreign language teaching evaluation tool can achieve automatic correction of foreign language compositions, auxiliary correction of foreign language pronunciation, and knowledge expansion of foreign language grammar. Foreign language automatic translation tools can automatically translate subtitle files of video resources into multiple language versions, efficiently generate bilingual international video resources through audio synthesis, and play an important role in the "MOOC Going Global" activity of online courses in Chinese universities.

### 2.3 Rich and Open Teaching Resources

At present, there are three main channels for the supply of foreign language teaching resources, namely shared resources invested and constructed by the government, school-based resources independently developed by schools, and commercialized resources developed by enterprises. Digitization has made the development and supply channels of foreign language teaching resources more diverse. Foreign language teaching resources provided by institutions such as digital libraries and museums, as well as foreign language course resources on various virtual laboratories, SPOCs, MOOCs, and other platforms, form a "big resource pool", enriching the supply and consumption patterns of foreign language teaching resources. Taking China's first foreign language professional

MOOC alliance, the China University Foreign Language MOOC Alliance, as an example, the alliance is committed to promoting the development of Chinese foreign language and culture MOOC courses. It can provide services such as college certification learning, online universities, and online course development.

At present, the Chinese University MOOC Alliance Platform (UMOOCs) gathers 11 languages and over 300 courses, providing services to more than 1900 universities. For example, eBookware, an intelligent foreign language teaching resource platform, optimizes the aggregation mode of foreign language teaching resources to achieve rapid digitization and multimedia integration of traditional paper textbooks. It can provide digital teaching materials, three-dimensional lesson plans, interactive transparency, and integrated online classroom services.

## **2.4 Flexible and Diverse Teaching Modes**

The concepts of intelligent guidance and human-machine co teaching provide new ideological resources for the innovation of foreign language teaching models. Data driven intelligent, precise, and personalized teaching has become a new development direction for foreign language teaching, and has promoted foreign language teachers to take on new roles such as data analysts, event organizers, and resource creators. A fragmented foreign language learning resource system constructed using technologies such as knowledge graphs, big data, and artificial intelligence can support students in utilizing fragmented time to learn foreign language knowledge. The learning situation analysis system can help teachers timely and comprehensively grasp students' foreign language learning status, progress, behavior, and grades, understand students' emotions, skill levels, and comprehensive literacy, and other deep-seated information. Teachers can flexibly organize activities such as flipped classroom, dual teacher classroom, case-based teaching, and situational teaching based on data analysis results, expand the comprehensive practice of language teaching, and meet the needs of high-quality, large-scale, and personalized foreign language teaching. Taking Xi'an University of Electronic Science and Technology as an example, the previously commonly used links in foreign language teaching, such as "high-quality resource display", "reading and discussion", and "writing/revising papers" have been reshaped and reconstructed. Blended online and offline teaching has become the new normal, and teachers have explored new models of foreign language teaching in various forms such as group interaction and online discussions using information technology, such as the "conference style flipped classroom", which significantly improves the efficiency and effectiveness of foreign language classroom teaching.[3]

## **3. The Practical Dilemmas of Digital Transformation in Foreign Language Teaching**

### **3.1 Lack of High-quality Educational Resources in Intelligence**

The popularity of mobile Internet has promoted the rapid development of online learning platforms. Most foreign language education platforms have broken through the time and space constraints and provided a wide range of teaching resources, but there are still three major defects. Firstly, there is a phenomenon of excessive pursuit of course quantity and neglect of course quality in platform construction practice, resulting in the repeated construction of low-quality resources and the lack and inefficient utilization of high-quality resources, which has a negative impact on students' learning outcomes. Secondly, the course design of the platform lacks innovation, and the form still mainly combines classroom videos, slides, and green screen cutout, with content no different from offline teacher led classroom teaching. Thirdly, the lack of intelligent interaction on the platform fails to fully reflect the integration, three-dimensional and interactive nature of digital education, and its assistance in cultivating students' thirst for knowledge and proactive exploration

spirit is limited.

### **3.2 Imbalance in the Ratio of Software to Hardware Investment**

To promote the digital transformation of education, many schools have focused on hardware equipment updates, purchasing and configuring devices such as computers, multimedia, mobile recording, and educational tablets, and promoting the construction of smart campuses. Some studies have pointed out that the digitalization of education in central and western provinces of China is still mainly based on hardware construction. However, the investment in hardware infrastructure construction is more focused on pursuing digitalization in form, while the upgrading and application of educational technology software have not received sufficient attention.[4] The hardware configuration is certainly important in the digital transformation of education, but the collaborative use of hardware and software is necessary to achieve true smart education. In actual foreign language teaching, most digital teaching equipment has not been fully utilized, and adding a projector to a classroom is still a common foreign language teaching scenario. New equipment and tools are useless. Furthermore, digital teaching equipment is simply for use, and teachers neglect the dynamic adjustment and matching of teaching methods, means, etc. with teaching equipment, which instead makes the teaching process mechanical and fancy, failing to effectively support students' learning.

## **4. Suggestions for the Path of Digital Transformation in Foreign Language Teaching**

Digitization involves the restructuring and process reengineering of teaching. In the process of promoting the digital transformation of foreign language teaching, emphasis should be placed on both systematicity and synergy, and effective promotion paths should be explored from the aspects of educational philosophy, infrastructure, application innovation, teacher capabilities, and guarantee mechanisms.[5]

**Optimize infrastructure.** The new infrastructure of education is the digital foundation for the development of foreign language teaching. We must seize the strategic opportunity of the national layout of the new infrastructure of education, actively layout a “cloud network digital end” integrated foreign language education basic environment around the goal of digital reform of foreign language teaching, create more intelligent, immersive and interactive language learning scenarios, provide personalized foreign language teaching resource services and intelligent foreign language teaching auxiliary tools, and support the new interactive foreign language teaching model of “teacher machine student” trinity.

**Strengthen application innovation.** Promote the deep integration of technology and foreign language teaching, and achieve technology driven structural changes in teaching plan revision, course content selection, and teaching process design. On the basis of promoting the construction of online foreign language teaching resources and platforms, teachers are encouraged to carry out blended online and offline teaching based on MOOCs, using technologies such as virtual reality and augmented reality to create more vivid, intuitive, and efficient language communication and learning scenarios, highlighting the interdisciplinary nature of foreign language teaching.

**Establish a sound guarantee mechanism.** Education authorities and schools should pay attention to policy guidance and institutional guarantees for the digital transformation of foreign language teaching, revise talent training plans, establish a mixed online and offline foreign language curriculum system, form a comprehensive foreign language teaching quality monitoring system covering the entire process, improve evaluation and reward mechanisms, and encourage teachers to actively participate in foreign language education and teaching reforms. At the same time, we should moderately advance the layout, increase funding for digital reform of foreign language

teaching, continuously improve the basic conditions of foreign language teaching, give full play to the guiding and driving role of government investment, and enhance the enthusiasm of social forces to participate in digital reform of foreign language teaching.

Looking ahead to the future, foreign language teaching in the digital age will inevitably shift from scale and standardization to customization and personalization, from teaching as the main focus to learning as the main focus, from knowledge imparting as the main focus to ability cultivation, and achieve deep level changes in teaching environment, content, mode, methods, and other aspects, providing students with a richer and more optimized learning experience. At the same time, foreign language teaching will gather multimodal data from the teaching process, comprehensively evaluate students' language proficiency from the aspects of language knowledge, language skills, language culture, emotional attitudes, and communication strategies, accurately assess each student's language foundation level, evaluate their language learning process, predict their language development potential, and ultimately achieve a more open, flexible, immersive, and personalized new form of foreign language teaching.

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