

Exploration and Research on the Construction of Vocational English Curriculum in China under the Context of Digital Transformation

Luo Han*

College of Early Childhood Education, Sichuan Preschool Educators' College, Mianyang, Sichuan, China

**corresponding author*

Abstract: This study delves into how digital transformation affects vocational English education in China, revealing the positive impacts of digital tools and strategies on teaching methodologies, curriculum content, and educational quality. The research indicates that the application of online Learning Management Systems (LMS), Virtual Reality (VR), and interactive platforms has significantly enhanced interactivity and practicality in vocational English education. Innovative teaching methods such as flipped classrooms and project-based learning have been effectively employed, enhancing students' critical thinking and practical skills. However, the study also highlights issues that still need attention and resolution, such as insufficient digital skills among teachers, unequal distribution of technological resources, and a disconnect between teaching practices and student needs. To address these challenges, it is recommended to strengthen policy support, enhance teachers' digital teaching capabilities, improve curriculum content to better meet student needs, and promote school-enterprise cooperation to strengthen practical teaching.

Keywords: Vocational English Education; Digital Transformation; Curriculum Development; Strategies

1. Introduction

In the global educational framework, digital transformation is reshaping how education is delivered, particularly in higher vocational education where technology enhances educational quality and efficiency[1]. As the global lingua franca, English is essential in vocational education due to the deepening of global economic integration. In China, increased

foreign trade activities and internationalization efforts necessitate robust vocational English education, not only for individual career success but also for national competitiveness in global markets [2].

Vocational colleges are pivotal in nurturing technical talents, with the quality of English education significantly impacting graduates' global perspectives and communication skills. The digital era demands that vocational English education adapt by incorporating online learning resources, virtual communication platforms, and digital tools to elevate teaching interactivity and practical relevance, aligning with the industry's demand for proficient language professionals [3]. Furthermore, national projects like the "Belt and Road" initiative underscore the need for vocational English programs to enhance students' international cooperation and cross-cultural problem-solving capabilities. Thus, courses should extend beyond basic language skills to include modules on international business and specialized English, fostering comprehensive professional skills [4].

This study seeks to analyze how China's vocational English education can progress qualitatively through advanced teaching technologies and methods amidst global digital transformation. It emphasizes the importance of integrating digital tools to improve educational outcomes and align with global economic integration. The following sections will delve into the theoretical underpinnings of digital transformation in education, examining its impact and the application of modern educational technologies worldwide. This will aid in identifying effective strategies tailored to China's vocational education landscape.

2. Theoretical and Practical Foundations of Digital Transformation

2.1 Definition and Characteristics of Digital Transformation

Digital transformation in the field of education refers to the use of digital technologies and tools to fundamentally change the way teaching and learning occur, aimed at improving the quality and experience of education through enhanced accessibility, interactivity, and personalization. The rapid development of educational technology, particularly at the international level, is driving a shift from traditional classrooms to online and blended learning environments, supported by emerging educational technologies, platforms, and applications [5]. Specific characteristics include real-time data analytics, cloud computing educational resources, and Artificial Intelligence (AI)-assisted teaching, all of which significantly enhance the flexibility and efficiency of education. Real-time data analytics enable educators to track students' progress and outcomes, allowing for personalized and optimized instruction. Cloud technology facilitates remote access to educational resources, supports learning from different locations, and promotes the sharing and collaboration of resources. The application of AI in education, such as intelligent teaching assistants and personalized learning systems, is helping students learn in ways that best suit their individual learning styles [6].

In China, digital education emphasizes enhancing educational equity and expanding educational opportunities. The government promotes online education platforms and virtual classrooms to ensure that students in remote and rural areas also have access to quality educational resources. Moreover, China supports the development of digital resources for teaching in both the national language and bilingual content to meet the educational needs of different regions and ethnic groups [7]. These efforts not only drive the development of domestic educational technology but also promote exchanges and cooperation with international educational technologies.

2.2 Application in Vocational Education

The application of digital technologies in vocational education is expanding rapidly and showing great potential. Vocational education, as an important base for training professional talents, places a special emphasis on practical skills training, and digital technologies offer a unique opportunity to enhance the effectiveness

and efficiency of these training programs. Internationally, vocational institutions utilize various digital tools, such as online learning management systems, simulation technologies, and Virtual Reality (VR), to simulate real work environments, enhancing the authenticity of the learning experience and making the learning process more flexible and interactive.

In China, with the advancement of national strategies such as "Internet Plus" and "Made in China 2025", the digital transformation of vocational education has been significantly strengthened. These strategies aim to improve educational quality and students' employability by integrating innovative digital technologies. Government-supported digital projects such as "Smart Classrooms" and "Cloud Classrooms" are being promoted in vocational institutions to provide more personalized and efficient learning environments [7].

2.3 Related Policies and Strategies

China's policy framework and strategic goals in the field of digital education are comprehensive and detailed. The "Ten-Year Development Plan for Educational Informatization (2011-2020)" and the subsequent "Action Plan for Educational Informatization 2.0" issued by China's Ministry of Education emphasize the importance of enhancing the level of educational informatization, particularly in the field of vocational education [8]. The main goals of these policies include building digital campuses, developing online educational resources and platforms, and improving teaching and management efficiency through information technology.

Furthermore, with advancements in AI and big data technologies, China particularly emphasizes the application of these technologies in vocational education, aiming to achieve precise and personalized education through intelligent teaching and assessment systems. These measures are not only intended to improve students' learning outcomes but also to train high-skill talents that meet future industry demands [8].

While digital transformation offers unprecedented opportunities for the educational sector, particularly in terms of enhancing interactivity and accessibility of teaching, its practical implementation, especially in the field of vocational English education in China, faces many challenges. Next, we will explore the

current practices in China's vocational English education and the specific problems and challenges encountered in the digital transformation process, revealing the gap between theory and practice and its causes.

3. The Current Status and Challenges of Vocational English Education in China

3.1 Curriculum Setting and Teaching Practices

The current curriculum setting in China's vocational English education typically revolves around the cultivation of basic English skills, such as grammar, listening, speaking, and writing. However, facing the dual demands of globalization and specialization, this traditional curriculum setting has proven insufficient. Vocational colleges urgently need to more closely integrate English courses with professional disciplines, such as by offering professional English and vocational scenario English courses, to enhance students' abilities to apply English in their careers [9]. Additionally, there is a disconnect between the teaching content and the actual needs of students in teaching practices, with teaching methods heavily relying on lecturing, and insufficient active participation from students [10]. Assessment methods also need improvement, as traditional written tests fail to comprehensively evaluate students' practical language application abilities. More hands-on and project-based assessments are needed to improve evaluation methods.

3.2 Teacher and Technological Challenges

Despite the new possibilities provided by digital technology for teaching, the digital teaching capabilities of vocational English teachers are generally inadequate. Many teachers lack the experience and skills to effectively utilize digital tools (such as educational software and online platforms) for teaching, which limits the implementation of digital teaching [11]. Moreover, the investment in teaching technology infrastructure in vocational colleges is insufficient, with limitations on network bandwidth and computing resources affecting the construction and maintenance of digital teaching environments [10]. These technological challenges hinder the pace of teaching innovation and affect the improvement of educational quality. Unequal distribution of

technological resources, especially between different regions and institutions, exacerbates this problem, preventing some students and teachers from fully accessing and utilizing modern educational resources.

3.3 Student Needs and Feedback

Vocational students' needs for English education are becoming increasingly diverse and practical. They prefer to learn practical English skills that can be directly applied to their jobs, such as writing emails and communicating in business meetings. However, the current curriculum often overlooks these needs. Although students generally welcome digital teaching methods, perceiving them to offer flexibility and interactivity, they also express concerns about the inconsistent quality of some online courses and the lack of face-to-face interaction [11]. Student feedback indicates a desire for more direct interaction with teachers and greater focus on the quality and relevance of course content.

These challenges highlight the shortcomings of vocational English education in adapting to digital and global trends, requiring educators and policymakers to work together to improve teaching quality and meet the diverse needs of students through strategic adjustments and resource redistribution. In light of these challenges, the following section will delve into specific strategies implemented through digital transformation and their actual effects in vocational English education. The analysis of these strategies aims to demonstrate how modern technology can be effectively used to overcome current difficulties and enhance both the quality of education and students' learning experiences.

4. Practical Applications and Effects of Digital Transformation in Vocational English Education

In vocational English education, digital transformation has significantly improved the quality of teaching resources, the relevance of course content, and the overall effectiveness of education through the introduction of various advanced technologies. Here are some key practical applications and their positive impacts on the education process as following.

4.1 Innovation in Teaching Resources and Methods

Digital tools have greatly enriched the resources

and methods available for teaching vocational English. Online Learning Management Systems (LMS) like Moodle and Blackboard provide comprehensive course management features, including uploading teaching materials, organizing online tests, managing student forums, and tracking grades. These features make teaching activities more systematic and support continuous interaction between teachers and students. Additionally, virtual reality (VR) technology can simulate real-world communication scenarios, such as creating simulated business meeting environments where students can practice business English communication in a simulated setting, thus enhancing their practical application skills. Moreover, platforms like “English Corner” allow students to interact with English speakers from around the world in an informal setting, enhancing their practical language skills and making learning more applicable.

4.2 Curriculum Content Update

With the integration of digital technology, vocational English course content has also been innovated and updated to better meet market demands and students’ career development needs. Modern vocational English courses cover not only traditional listening, speaking, reading, and writing skills but also include practical skills like email writing, customer service communication, and technical report writing. English modules tailored for specific industries, such as medical English, legal English, and engineering English, are also incorporated into the curriculum, improving students’ communication abilities in specific fields. The application of data analysis tools allows teachers to adjust teaching content and difficulty based on students’ progress and feedback, ensuring the timeliness and adaptability of the teaching material. For example, for tourism management English courses, teachers can use digital tools like online role-playing games and virtual reality tourism experiences to vividly teach professional English knowledge related to tourism. This teaching method not only makes the learning content more relevant to actual job requirements but also more engaging and effective, improving students’ learning efficiency and engagement.

4.3 Enhancement of Educational Quality and Effectiveness

Vocational English courses integrated with

digital tools have significantly enhanced the quality and effectiveness of education. Intelligent teaching systems use artificial intelligence to provide each student with customized learning suggestions and resources, optimizing their learning paths. Through big data analysis, teachers can more accurately assess students’ learning outcomes and make targeted teaching adjustments. Learning Management Systems (LMS) can detail students’ participation, assignment submissions, and test scores, providing teachers with real-time data to support teaching decisions. Moreover, through online feedback tools, students can directly provide feedback on their learning experiences and content-related issues, enhancing the transparency and bidirectionality of teaching, thus increasing student satisfaction and learning outcomes. These changes not only enhance the efficiency and quality of teaching but also make the educational content more relevant to actual needs, helping students better prepare for future career challenges.

Although digital transformation has significantly enhanced the richness of teaching resources, the diversity of course content, and the overall quality of education in vocational English education, to continue optimizing educational outcomes and address current challenges, more targeted educational strategies need to be systematically advanced. Next, we will explore specific strategies for teacher training, curriculum content innovation, and the integration of practice and theory, aimed at further enhancing teaching effectiveness and ensuring significant progress in the digital transformation of vocational English education.

5. Strategies for Digital Transformation in Vocational English Education

5.1 Teacher Training and Development

In the context of digital education, vocational colleges must provide comprehensive digital skills training for teachers. Based on adult learning theory and the Technology Acceptance Model (TAM), this training should include basic operations of online teaching tools such as Moodle and Blackboard, as well as more advanced teaching technologies like interactive whiteboards and AI-assisted teaching tools. For example, Beijing Vocational and Technical College has successfully implemented a six-month digital skills enhancement program for

teachers in collaboration with a local educational technology company, which has helped teachers master Virtual Reality (VR) and Augmented Reality (AR) technologies, significantly enhancing the interactivity and practicality of language teaching [9]. Regular online teaching seminars and workshops are also essential, helping teachers update their teaching methods and technological applications to ensure that teaching activities keep pace with technological advancements.

5.2 Curriculum and Teaching Method Innovation

To meet the demands of the digital age, vocational English courses need to incorporate innovative teaching methods to enhance educational effectiveness and student engagement. Blended learning and flipped classrooms are two effective teaching models that adapt to the trends of modern educational technology. Blended learning combines the advantages of traditional face-to-face teaching and online instruction, allowing students to study via online platforms outside of class, while class time is used for discussions and practical activities. This model enhances learning flexibility and accessibility, allowing students to learn at their own pace and schedule while maintaining the benefits of face-to-face interaction. The flipped classroom model involves students learning the lecture content in advance through videos, while class time is focused on deep discussions and problem-solving. This method helps enhance students' English application abilities and critical thinking, enabling them to explore and apply the knowledge more deeply in class. Moreover, Project-Based Learning (PBL) fosters students' critical thinking and teamwork skills through real or simulated business project tasks, effectively integrating theory with practice and enhancing the practical application value of the curriculum. By participating in specific projects, such as planning an international conference or designing a marketing campaign, students can apply and practice English communication and professional skills, thus better preparing them for the workplace.

5.3 Integration of Practice and Theory

In vocational English education, especially in a digital environment, effectively integrating theoretical knowledge with practical skills is a

key strategy for enhancing educational quality. By using online simulation tools and on-site practice, students can apply their knowledge in realistically simulated environments, which not only deepens their understanding of theory but also provides practical experience, greatly enhancing the practicality and engagement of learning. For instance, Guangzhou Modern Vocational College uses Virtual Reality (VR) technology to simulate business meetings and international negotiation scenarios, allowing students to use English in role-playing and problem-solving tasks within a virtual environment. This immersive learning experience significantly improves students' practical language skills and professional competitiveness. Additionally, the school uses a simulated trading platform for teaching international trade English, where students can operate in a controlled simulated market environment to deepen their understanding of international trade processes and professional English terminology.

Moreover, by using data analysis tools to assess students' practical performance, teachers can obtain scientific feedback and improvement suggestions, enabling timely adjustments to teaching methods and content. This data-driven teaching assessment approach makes teaching more adaptive and efficient, ensuring that teaching activities truly meet students' learning needs and career development requirements. By combining online simulation tools with on-site practice, vocational English education not only enhances students' English abilities but also strengthens their problem-solving skills, laying a solid foundation for their future careers.

The implementation of these strategies, through systematic teacher training, innovative teaching methods, and the organic integration of practice and theory, can ensure a qualitative leap in vocational English education during its digital transformation, better meeting the needs of students and the market, and laying a solid foundation for students' future careers.

6. Conclusion

This study examines the impact of digital transformation on vocational English education, highlighting its enhancements in teaching methods, course content, and quality. Digital tools like online LMS, VR, and interactive platforms have significantly improved the interactivity and applicability of teaching.

Additionally, methods such as flipped classrooms and project-based learning have advanced students' critical thinking and practical skills. Nonetheless, challenges remain, including insufficient digital skills among teachers, uneven access to technology, and some teaching practices not meeting student needs.

Addressing these challenges, it is recommended that governments and educational bodies develop clear policies to support teacher training and resource renewal, ensuring equitable technology access. Further research into the digital application in vocational English education is crucial, especially its long-term effects on learning outcomes. Moreover, enhancing school-business collaborations can integrate more practical projects into curricula, improving the real-world applicability of learned skills.

This research offers insights into digitalizing vocational English education and suggests future directions, such as incorporating AI to optimize educational practices and increase learning efficiency, providing a foundation for educators and policymakers to effectively use digital technologies.

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