Digital Empowerment in College English Teaching: Exploring Implementation Pathways and Strategies

Ying Gu[1] Bianqi Sun[2] Haifang Zhao[3]

[1,2] *School of Basic Education, Beijing Institute of Graphic Communication, Beijing, China*
[2]*Corresponding author. Email: sunbianqi@bigc.edu.cn*

ABSTRACT
Amidst the exponential advancement of information technology, digital empowerment has emerged as a critical enabler for optimizing pedagogical quality in college English teaching and addressing contemporary educational imperatives. This study, based on the empirical data derived from triangulated questionnaires administered to both educators and learners, conducts an in-depth analysis of the current use of digital platforms within tertiary-level English pedagogy. It proposes actionable implementation pathways and strategies from perspectives such as optimizing platform functionalities, innovating teaching models, and improving teachers' digital literacy. The research outcomes aim to offer theoretical and practical referents for orchestrating digital transformation initiatives in higher education English language programs.

Keywords: *Digital empowerment, College English teaching, Implementation paths, Questionnaire survey.*

1. INTRODUCTION

In the current digital age, information technology has integrated into education at an unprecedented pace, profoundly reshaping teaching methodologies and paradigms. As a critical component of higher education, college English teaching is actively exploring pathways for digital transformation [1]. Digital platforms, with their advantages of resource richness, interactivity, and personalized customization, have injected new vitality and opportunities into college English education [2]. These platforms break the temporal and spatial constraints of traditional teaching, enabling students to access learning resources and engage in self-directed learning anytime and anywhere. Simultaneously, they provide teachers with diverse instructional tools and methods to innovate pedagogy and enhance teaching effectiveness [3].

A thorough understanding of the practical use of digital platforms in college English teaching, along with the exploration of effective implementation pathways and strategies, holds significant importance for improving teaching quality, cultivating students' comprehensive English application abilities, and meeting the demand for innovative talents in the digital era. This study analyzes data from two questionnaires: A Survey on the Use of Digital Platforms in College English Learning (Student Version) and A Survey on the Use of Digital Platforms in College English Teaching (Teacher Version). By comprehensively examining current practices and identifying challenges, targeted solutions are proposed to offer insights for the digital development of college English teaching.

2. CURRENT USE OF DIGITAL PLATFORMS IN COLLEGE ENGLISH TEACHING

2.1 Platform Usage

Among students, survey data reveal that 99.67% of students have used digital platforms for college English learning, including platforms such as Chaoxing Learning Platform (Superstar), U Campus, and Juku Proofreading Network. This high adoption rate indicates that digital platforms have become essential tools for students. Variations exist across grades and majors. For instance, freshmen, being more receptive to digital learning, prefer platforms with basic functionalities and user-

friendly interfaces, while upperclassmen tend to choose specialized platforms (e.g., for academic English) as their self-directed learning abilities mature.

Among teachers, all 20 surveyed teachers have used digital platforms, with U Campus, Juku Proofreading Network, and Chaoxing Learning Platform being the most popular. Junior teachers are more open to innovative platforms, whereas senior teachers favor stable, familiar platforms that align with traditional teaching methods.

2.2 Functions and Duration of Use

The most frequently used functionalities by students include online course learning (85.81%), assignment submission and feedback (83.21%), and online discussions (65.44%). Weekly platform usage for English learning primarily ranges from 2–5 hours (57.31%). High-performing students spend more time on platform-based extended learning, while lower-performing students focus on completing assigned tasks.

Platforms are primarily used by teachers for resource sharing (90%), assignment management (100%), and learning progress tracking (95%). Teachers spend 2–5 hours weekly (55%) on platform-related tasks. For instance, pre-class preparation involves distributing materials, while in-class teaching leverages interactive features to boost engagement.

2.3 Learning and Teaching Effectiveness

From the perspective of students' learning effects, 47.78% of students believe that digital platforms are very helpful in enhancing their comprehensive English abilities, with significant improvements in various aspects. 54.5% of students report an improvement in their academic performance, and a certain proportion of them have achieved a significant increase. 50.6% of students have seen a great improvement in their learning interest. However, some students think that the platform is of limited help to their learning, which may be related to students' independent learning ability, learning habits, and the way they use the platform.

Among teachers' feedback, 70% believe that the platform has a significant impact on improving teaching effectiveness. Students have made obvious improvements in independent learning ability (100%) and comprehensive English application ability (60%). Teachers generally believe that digital platforms provide more resources and means for teaching, which helps to stimulate students' learning interest and cultivate their independent learning ability. However, some teachers also point out that the use of platforms cannot completely replace traditional teaching, and it is necessary to make reasonable choices and applications according to the teaching content and students' actual situations.

2.4 User Experience and Challenges

Students encounter a variety of problems during the use of digital platforms. The most common issues include unstable network connections that affect learning progress (53.52%), occasional platform malfunctions or lagging (67.28%), inconsistent quality of learning resources (19.28%), lack of face-to-face interaction with teachers making it difficult to solve problems (25.68%), and concerns about the security of personal information and learning data (19.72%). There are also differences in the user experience of students from different regions, with those in areas with poor network infrastructure being more severely affected by network issues.

Teachers face several challenges, including complex platform operations that require time to learn (35%), unstable networks that affect teaching progress (50%), low acceptance and usage rates of platforms among students (50%), mismatch between platform functions and actual teaching needs (45%), lack of effective technical support and training (35%), and difficulties in ensuring students' focus and effectiveness in learning on the platforms (85%). Some teachers mention that although the platforms offer a wide range of functions, some of these functions are not practical in actual teaching. Moreover, the rapid updates of platforms require teachers to continuously learn new operating methods, adding to their teaching burden.

3. IMPLEMENTATION PATHS AND STRATEGIES FOR DIGITAL EMPOWERMENT OF COLLEGE ENGLISH TEACHING

3.1 Optimizing Digital Platform Functions

Based on the problems reported by teachers and students, optimizing the platform interface design is of utmost priority. Through simplifying the operation process, employing a clear layout and

intuitive interaction methods, the operational convenience can be enhanced, and the usage threshold for teachers and students can be lowered. For instance, certain platforms can draw on the design concepts of well - established mobile applications, place common functions in prominent positions, and reduce the number of operation steps to enhance the user experience. Simultaneously, the platform should offer personalized interface - setting options, enabling teachers and students to customize the interface layout according to their usage habits, thereby improving the convenience of use.

In the realm of resource construction, platforms ought to augment investment and incorporate high - quality English learning resources. Beyond the existing course materials, it is necessary to introduce more authoritative foreign - language periodical reading resources, classic English film and television works, and a diverse array of listening materials. This is to satisfy the learning interests and requirements of different students. Concurrently, a rigorous resource review mechanism must be established to guarantee resource quality and preclude the inclusion of low - quality content [4]. For example, professional English teachers and education experts can be invited to conduct resource reviews to ensure their accuracy, timeliness, and educational worth. Furthermore, the platform should continuously update and optimize resources in light of students' learning data and feedback to enhance resource practicality.

The improvement of interactive functions is pivotal for elevating teaching effectiveness. Platforms are capable of developing more robust real - time interactive tools, such as high - definition and seamless video conferencing systems and instant messaging functions, to facilitate seamless real - time communication between teachers and students. The functions of the online discussion area should be optimized by incorporating features like topic classification and the recommendation of top - quality posts. This is to boost students' enthusiasm for participation and the quality of discussions, thereby promoting the sharing and exchange of knowledge. For instance, a dedicated English learning communication section can be established to encourage students to share learning experiences and deliberate on problems encountered during learning. Teachers can regularly engage in these discussions to offer guidance and feedback. Simultaneously, artificial intelligence technology can be harnessed to analyze and summarize students' discussion content, providing teaching references for teachers.

Strengthening the data analysis function is the linchpin for achieving personalized teaching. Through in - depth analysis of students' learning behavior data, including learning duration, question - answering patterns, and participation in discussions, comprehensive learning situation reports can be furnished for teachers. This enables them to comprehend the learning status of each student. Consequently, personalized learning paths and resource recommendations can be provided for students, enhancing the relevance and efficiency of learning. For example, personalized learning plans can be formulated for students based on their English proficiency levels and learning objectives, and appropriate courses and exercises can be recommended. For students with slow learning progress or difficulties, relevant tutoring materials and learning suggestions can be promptly delivered.

Moreover, enhancing the stability and compatibility of the platform is equally indispensable. The platform development team should intensify technical research and development, optimize server performance, enhance adaptability to diverse network environments and terminal devices, mitigate network issues and failure lags, and ensure the unhindered progress of teaching activities [5]. Simultaneously, a comprehensive technical support system should be established to expeditiously resolve technical problems encountered by teachers and students during usage, thereby improving user satisfaction.

3.2 Innovating Teaching Models

The implementation of blended learning models through digital platforms represents a significant pathway for pedagogical innovation. This instructional framework comprises three distinct phases: pre-class preparation, in-class engagement, and post-class consolidation. During the preparatory phase, educators utilize platform functionalities to distribute pre-class tasks, including digital courseware consumption and formative assessments on key concepts, enabling learners to achieve foundational knowledge acquisition through self-directed study. The classroom session prioritizes targeted instruction and collaborative discourse addressing difficulties identified during the pre-class phase, thereby facilitating deeper cognitive processing of subject matter. Post-class activities involve platform-

mediated assignment completion and extended learning opportunities, while instructors employ platform analytics to systematically monitor and assess learner progress. For example, before explaining an English text, teachers can release background knowledge related to the text, vocabulary preview tasks, and video explanations on the platform for students to learn independently before class. In class, students are organized to have group discussions to share preview experiences, and teachers provide comments and supplementary explanations. After class, online assignments such as reading comprehension and writing exercises are assigned, and the automatic grading and data analysis functions of the platform are used to understand students' learning situations and provide references for subsequent teaching.

By leveraging the functions of the platform, collaborative learning activities can be carried out, which can effectively enhance students' teamwork ability and English application ability. For example, students can be organized to carry out project - based learning, where they complete an English - related project in groups, such as an English drama performance or an English cultural research. During the project implementation process, students communicate, collaborate, and share resources through the platform to complete the project tasks together. At the same time, the interactive functions of the platform can provide opportunities for students to showcase project results, promoting mutual learning and communication among students. For example, students can publish project result demonstration videos, documents, etc. on the platform, which can be watched and evaluated by other students, and teachers can also provide targeted feedback and suggestions.

Through systematic analysis of platform-generated learning analytics data, adaptive learning frameworks can be developed to deliver personalized learning trajectories and resource recommendations tailored to individual learner profiles. Specifically, learners demonstrating foundational English proficiency gaps receive targeted remediation materials and core competency reinforcement exercises. Conversely, students who demonstrate academic readiness are directed toward enrichment resources such as academic writing enhancement modules and advanced oral communication courses. This personalization extends to aligning recommendations with learners' intrinsic motivations and professional aspirations through interest-driven content curation, thereby enhancing learner engagement and educational outcomes. Illustratively, prospective international students receive prioritized access to standardized test preparation resources (e.g., IELTS/TOEFL training modules), while those exhibiting career orientations toward business communication are provided with specialized materials such as professional negotiation simulations and commercial correspondence writing workshops.

3.3 Enhancing Teachers' Digital Literacy

Schools and educational authorities ought to place significant emphasis on the augmentation of teachers' digital literacy and systematically arrange for teachers to partake in digital - teaching training programs on a regular basis. The training curriculum should not merely encompass platform - operation proficiencies but also incorporate knowledge and skills in areas such as digital - teaching design, data - analysis application, and online - teaching management [6]. For example, specialized training sessions can be organized, and experts can be invited to expound on the utilization of digital - teaching tools, the design of effective online - teaching activities, and the analysis of students' learning data. Teachers should be guided to engage in hands - on operations and case - based analyses, enabling them to master digital - teaching skills through practical experience. Concurrently, teachers are encouraged to engage in online learning communities and academic exchange events, sharing experiences with their colleagues and collaboratively enhancing their digital - teaching capabilities.

Teachers are urged to embark on digital - teaching research and practice, exploring teaching models and methodologies tailored to the students in their respective institutions. Teachers can conduct teaching experiments in consonance with the actual teaching context, compare the impacts of diverse teaching approaches, and distill lessons learned. For example, a blended - teaching experiment can be executed based on a digital platform, comparing the alterations in the academic achievements, learning motivation, and autonomous - learning abilities of students in the experimental and control groups, analyzing the factors influencing teaching efficacy, and providing a foundation for teaching improvement. Simultaneously, schools can institute special research funds to support teachers in undertaking digital - teaching research projects and encourage

teachers to publish relevant academic papers and teaching outcomes.

An incentive framework should be established to recognize and reward teachers who demonstrate exceptional performance in digital teaching. For example, dedicated digital - teaching awards can be instituted, and teachers who excel in aspects such as platform utilization, teaching - model innovation, and teaching - effectiveness enhancement can be rewarded, thereby spurring more teachers to actively engage in digital - teaching reforms. Moreover, teachers' digital - teaching accomplishments should be integrated into the performance - appraisal and professional - title - evaluation systems to heighten teachers' enthusiasm and proactiveness in participating in digital teaching. For instance, during professional - title evaluations, appropriate score increments and preferential treatment can be accorded to teachers who have made remarkable contributions in digital teaching.

3.4 Strengthening Student Guidance and Management

Educators should strengthen instructional guidance to help students accurately understand the educational value and functions of digital platforms. During teaching, instructors should clearly explain the advantages and operational features of these platforms, guiding students to effectively utilize their resources for learning [7]. Practical strategies include organizing dedicated workshops to introduce the characteristics and usage methods of various platforms, enabling students to select those best suited to their needs. Additionally, regular peer-sharing sessions could be arranged, inviting high-performing students to discuss their platform-based learning strategies, thereby enhancing collective motivation and engagement. Concurrently, developing students' digital literacy is essential. This involves training them to identify high-quality resources and improve learning efficiency. For example, institutions could offer courses focused on: 1) extracting valuable materials from extensive online content, and 2) evaluating the credibility and relevance of these resources through critical analysis.

Educators should systematically guide students in developing structured learning plans and fostering effective learning habits. Personalized learning plans should be created based on curriculum objectives and individual learner profiles, with clearly defined academic goals and implementation phases [8]. For instance, weekly schedules could be designed according to course progression and language proficiency levels, incorporating three key components: 1) dedicated time for digital module completion, 2) structured periods for assignment execution, and 3) supplementary enrichment materials. Concurrently, instructors should train students in strategic time allocation while preventing excessive platform dependency or off-task digital behaviors, thereby strengthening autonomous learning capabilities. Practical implementation may involve teaching time-management strategies through digital tools for optimized task prioritization and productivity improvement. Institutions should emphasize consistent adherence to self-regulated learning schedules to cultivate disciplined academic routines.

A robust monitoring framework should be implemented to ensure sustained academic engagement through platform-enabled progress tracking, assignment verification, and behavioral analytics [9]. For learners demonstrating suboptimal engagement or delayed progress, educators must conduct timely interventions through diagnostic communication and targeted support to maintain learning efficacy. Practical applications may include: 1) automated progress notifications prompting task completion, and 2) personalized platform alerts with instructor follow-ups to identify obstacles and deliver remedial guidance for chronically underperforming students. Complementing these measures, a multi-dimensional evaluation system should be developed to holistically assess learning processes and outcomes while fostering academic initiative. This could involve weighted assessment parameters encompassing online engagement metrics, assignment quality, assessment performance, and discussion participation. Subsequent feedback mechanisms should enable learners to 1) visualize their academic trajectories through data-driven insights, and 2) implement strategic adjustments to optimize learning approaches.

4. CONCLUSION

Digital empowerment in college English teaching represents an inevitable trend that aligns with the developmental trajectory of the times [10]. An analysis of the current state of digital platform utilization in college English teaching reveals that while the application of digital platforms has yielded certain achievements, numerous challenges persist. By implementing strategies such as

optimizing digital platform functions, innovating teaching models, enhancing teachers' digital literacy, and strengthening student guidance and management, the issues inherent in current digital - based teaching can be effectively addressed. These strategies are capable of fully harnessing the advantages of digital platforms, elevating the quality of college English instruction, cultivating students' comprehensive English proficiencies and innovative thinking, and fulfilling the talent requirements of the new era. In the future, continuous vigilance should be maintained regarding the development trends of digital technology within the educational domain. Moreover, ongoing exploration and refinement of the pathways and methods of digital empowerment in college English teaching should be carried out to foster the sustainable development of college English teaching.

ACKNOWLEDGMENTS

This study is supported by research programs of BIGC (Beijing Institute of Graphic Communication, Project Numbers: 22150225011, 22150225004) and the University-Industry Collaborative Education Program of the Ministry of Education (Project Number: 231101339132335, 240901339250432).

REFERENCES

[1] Cai, Jigang. Digital Teaching of College English in the Big Data Era [J]. Computer - Assisted Foreign Language Education in China, 2020, 38(2): 15 - 20.

[2] Wang, Y., & Li, X. The Impact of Digital Platforms on College English Teaching: A Literature Review [J]. Journal of Educational Technology, 2022, 15(2): 45 - 56.

[3] Zhang, Lingli, & Wang, Qiang. Exploration of Blended Teaching Model for College English under the Support of Information Technology [J]. Foreign Language World, 2019(3): 63 - 70.

[4] Zhao Wei, Liu Hongxia, Wang Pengjiao, et al. Design and Development of Digital Learning Resources [M]. Beijing: Higher Education Press, 2017.

[5] Yu, Shengquan, & Chen, Min. Teaching Resource Design and Application Model Based on the Learning Yuan Platform [J]. China Educational Technology, 2012(1): 72 - 78.

[6] Yang, Meng, & Chen, Jianlin. Research on the Construction of the Digital Teaching Ability Development Framework for College English Teachers [J]. Computer - Assisted Foreign Language Education in China, 2021, 39(3): 78 - 84.

[7] He, Gaoda, & Fan, Jiaolian. Investigation on the Application of Digital Teaching Resources in College English Teaching [J]. Computer - Assisted Foreign Language Education in China, 2018, 36(4): 54 - 60.

[8] Liu, Qin, & Chen, Shiqing. Construction of the "Pair - Sharing Classroom" Teaching Model for College English Based on Digital Platforms [J]. Computer - Assisted Foreign Language Education in China, 2021, 39(1): 45 - 51.

[9] Gu, Peiya, & Cai, Jigang. College English Teaching in the Big Data Era: Influences on Teaching Concepts and Models [J]. Computer - Assisted Foreign Language Education in China, 2016, 34(5): 10 - 17.

[10] Chen, Jianlin. Research and Practice of Foreign Language Teaching in the Big Data Era - Challenges and Opportunities [J]. Computer - Assisted Foreign Language Education in China, 2018, 36(6): 3 – 8.