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Challenges and support systems for in-service college English teachers in integrating AI tools into spoken English teaching

Xinyan REN

Qingdao City University, Qingdao 266106, China

Abstract: In the context of educational digitalization, AI tools can address long-standing issues in college English speaking teaching, such as limited one-on-one practice and delayed feedback. However, as the critical bridge between AI and classroom practice, in-service English teachers face significant challenges when effectively integrating AI into their classrooms. This study combines literature and teaching scenarios to identify core challenges and proposes targeted support systems, aiming to facilitate smooth AI integration and improve the quality of English speaking instruction.

Keywords: AI in spoken English teaching; in-service college English teachers; integration challenges; support systems

1 Introduction

Against educational digitalization, AI tools like intelligent speech evaluators can solve college spoken English teaching issues such as insufficient one-on-one practice and delayed feedback. Yet in-service teachers face four core challenges in integrating AI [1]. This study builds a support system (layered training, etc.) to promote AI integration, improve teaching quality, and guide colleges, teachers and AI developers.

2 Core challenges in AI integration

2.1 Insufficient AI-related digital literacy among teachers

Digital literacy—including AI tool operation, teaching design integration, and data interpretation—is foundational for AI use. Yet most in-service teachers lack systematic training:

Operational barriers: A survey found 68% of teachers struggle to customize AI functions (e.g., adjusting pronunciation error sensitivity), and 57% cannot interpret AI-generated data reports (e.g., analyzing students' fluency trends) [2].

Integration dilemmas: Many adhere to "teacher-centered" models, failing to design AI-aided student-centered activities (e.g., using AI agents for pre-class situational practice).

Conceptual skepticism: Some doubt AI's ability to replace human guidance—for example, AI cannot explain cultural connotations of pragmatic errors (e.g., inappropriate greetings in cross-cultural dialogues), strengthening distrust.

2.2 Poor contextual adaptability of AI tools

Oral communication relies on context (culture, emotion, intent), but current AI tools have limitations:

Context misinterpretation: AI often misreads slang or idioms (e.g.,"break a leg" as a literal error) and fails to guide cross-cultural communication [3].

One-dimensional evaluation: Most AI focuses on pronunciation/grammar, ignoring fluency (e.g., pauses) or pragmatic

appropriateness, leading to misleading proficiency assessments.

2.3 Inadequate institutional support

Colleges often lack resources and policies to enable AI integration:

Facility gaps: Outdated language labs (poor audio, unstable networks) reduce AI tool accuracy—e.g., poor audio distorts pronunciation recognition.

Resource access issues: Free AI tools have limited functions, while high-quality paid tools (e.g., professional speech analyzers) are unaffordable without institutional funding.

Lack of incentives: AI integration is not included in teacher evaluation (e.g., promotion criteria), so teachers lack motivation to invest extra time in learning AI.

3 Targeted support system

To address these challenges, a multi-stakeholder support system is needed, as aligned in Table 1.

Table 1. Alignment of core challenges and targeted support measures

Stakeholders	Recipients	Objectives
School	Teachers	Assist teachers in effectively integrating AI tools into oral English teaching
Teachers	Oneself	Core objective: Break through bottlenecks in AI integration capabilities and shift from passive acceptance to proactive practice
School	Students	Eliminate students' concerns about using AI
Teachers	Students	Resolve disparities in students' AI acceptance and their cognitive concerns

3.1 School support for teachers' professional development and teachers' self-directed development actions

3.1.1 Core school support for teachers: from "resource provision" to "capacity empowerment"

As a key enabler for teachers to integrate AI tools, schools provide targeted support to address teachers' practical difficulties, with specific measures as follows:

1. Tiered Training Empowerment: For teachers' varying AI proficiency, basic training includes AI tools' core operations and practical assessments. Advanced training uses real scenarios (e.g., ChatGPT-like pre-class exercises) to embed AI into pre/in/post-class teaching. Trainers: ed-tech experts and AI developers for technical issues.

2. Platform and Resource Support: Establish a "Teacher AI Teaching Learning Community" to facilitate monthly seminars (online/offline) aimed at addressing teachers' specific challenges in AI integration. Meanwhile, develop an AI teaching resource hub that includes excellent AI lesson plans, tool guides, and solutions to common issues (e.g., emergency responses for language lab network disruptions) for teachers to access anytime [4].

3. Incentive and Guarantee Mechanisms: Incorporate the effectiveness of AI integration (e.g., excellent AI teaching cases, significant improvements in students' oral English proficiency) into teacher evaluation systems (e.g., bonus points for professional title promotion, teaching bonuses). Provide workload subsidies for teachers engaged in AI training or curriculum restructuring to mitigate demotivation stemming from "unrecognized extra efforts".

3.1.2 Teachers' self-directed development actions: from "passive acceptance" to "proactive practice"

As direct implementers of AI integration, teachers need to proactively overcome capacity bottlenecks with school support, including the following specific actions:

1. Targeted Gap-Filling: Prioritize addressing key challenges in AI operation and teaching integration. Through training, master the custom functions of AI tools and design student-centered AI activities

2. Compensating for AI Limitations: Rather than dismissing AI's value, leverage it as a basic practice tool (for

pronunciation/grammar correction) while supplementing it with teacher-led guidance on pragmatic appropriateness and cross-cultural communication skills, forming an "AI + Teacher" complementary model.

3. Community Engagement and Feedback: Share attempts at AI-integrated teaching (e.g., the effectiveness of AI-based post-class assignments) in the learning community, and promptly provide feedback on tool defects (e.g., idiom misjudgments) to assist in tool optimization.

3.2 School and teacher support for students and students' self-adaptation actions

3.2.1 Basic school support for students: eliminating "data security concerns" and "facility barriers"

Schools provide guarantees from both hardware and institutional perspectives to indirectly support teaching practices:

1. Data Security Assurance: Sign a "Student Data Protection Agreement" with AI suppliers, clearly stipulating that student data (e.g., voice recordings, learning records) is only used for teaching evaluation and will not be leaked. The agreement is made public via the school website and class notifications.

2. Facility Adaptation Support: Upgrade language labs, provide AI tool operation guide cards for students with low digital literacy, and assign volunteers or teacher assistants to answer students' operational questions.

3.2.2 Teacher guidance for students: resolving "acceptance disparities" and "cognitive concerns"

Teachers provide personalized guidance based on students' individual differences:

1. Designing Differentiated AI Activities: Provide step-by-step task sheets for students anxious about using AI; design open-ended tasks for tech-savvy students.

2. Proactive Communication and Q&A: Reserve "AI Learning Feedback Time" in class to address students' questions.

4 Conclusion

AI in college spoken English teaching is not just a technical challenge but a systemic one needing teacher-college-AI developer collaboration. This study's support system eases AI integration (as a teacher supplement), boosts instructional quality, and guides the three. Future research could explore AI's limitations in emotional interaction to further deepen its value [5].

Conflicts of interest

The author declares no conflicts of interest regarding the publication of this paper.

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About the author

Xinyan Ren (1996.9--), Female, Han ethnicity, from Datong, Shanxi Province. Education: Master's degree in English Teaching, Qingdao City University.