



The Teacher in the Loop: Re-conceptualizing Roles and Agency in AI-Enhanced College English Classrooms

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Abstract: The integration of generative AI and adaptive language tools into college English teaching improves teaching efficiency but challenges traditional teacher roles. Based on relevant studies from 2021 to 2026, this paper redefines teachers' roles under the "human-in-the-loop" paradigm, proposes four core positions, analyzes key tensions in human-machine collaboration, constructs a sustainable application model, emphasizes the importance of teacher agency, and discusses its implications for institutional policies, teacher development and future research.

Keywords: teacher in the loop; AI-enhanced classroom; college English teaching; teacher roles; teacher agency; human-machine collaboration; educational ethics

1. Introduction

Amid higher education's digital transformation, AI tools are increasingly embedded in college English instruction, streamlining repetitive tasks, enabling scalable large-class support and personalized learning, and easing instructors' workloads.[1][2] Yet algorithm-driven instruction has sparked heated debate, with discourse split between the extreme views of AI replacing teachers or being fully rejected. Both overlook that AI functions best as a collaborative part of a human-in-the-loop system, where teachers retain core authority over pedagogy and interaction [3] —vital for college English, a discipline rooted in communication and culture whose human dimension cannot be automated.

This paper addresses three core questions: how AI reshapes college English teachers' roles; its threats and opportunities for teachers' agency, identity and pedagogical autonomy; and how to operationalize the teacher-in-the-loop framework to balance technological efficiency with educational values and learner-centered practice. Synthesizing relevant research and implications, the study argues redefining teachers' roles is a conceptual shift to intentional human-machine collaboration, with the model centering educators in AI's design, implementation and adjustment to align technology with disciplinary and student needs.

2. Theoretical Foundations: Teacher Agency and Human-In-The-Loop Pedagogy

2.1 Teacher Agency in Digital Contexts

Teacher agency is the capacity for autonomous, context-aware pedagogical decision-making and professional judgment to pursue educational goals.[4][5] In AI-enhanced college English instruction, it is not eliminated but restructured, requiring teachers to navigate algorithm and platform constraints while retaining autonomy, encompassing intentionality, reflexivity and transformative capacity.

2.2 Human-In-The-Loop (HITL) in Educational Technology

Derived from AI and human-computer interaction, HITL stresses human oversight of algorithmic processes: AI undertakes routine, data-heavy tasks, while humans handle interpretation, ethics, culture and high-order cognition.[6] For college English, this division is distinct—AI ensures basic language accuracy, while teachers guide rhetorical awareness, intercultural understanding and creative expression.

2.3 Conceptual Linkage

Teacher agency and HITL together form a teacher-in-the-loop pedagogy that resists passive AI use and algorithmic dominance. Teachers adapt, critique and redesign AI tools to fit local curricula and learner needs, with agency acting as the core driver to prevent technology from dictating pedagogy, and uphold human judgment as ultimate authority in teaching and assessment decisions.

3. Reconceptualized Roles of Teachers in AI-Enhanced College English Classrooms

Traditional college English teachers are typically positioned as knowledge transmitters, language correctors and sole assessors—roles that AI automation has made less central, while elevating new core roles demanding higher-order pedagogical, ethical and relational expertise within the teacher-in-the-loop framework. Four key reconceptualized roles are defined as follows.

3.1 Pedagogical Architect and Adaptive Designer

AI provides standardized teaching modules, yet effective language instruction requires contextualized, learner-centered design. Teachers act as pedagogical architects to curate AI resources, align tools with syllabus objectives and design blended activities integrating automated practice with interactive instruction.[7] They customize AI task difficulty, feedback intensity and interaction sequences to match students' proficiency, learning styles and motivational states, rather than following fixed algorithms. Practically, this involves prioritizing communicative competence over mechanical accuracy when selecting AI tools, sequencing AI-driven drills with face-to-face discussions to build cumulative competence, and using learning analytics to identify learning gaps while retaining independent diagnostic judgment. Teachers who actively design AI-supported lessons report greater self-efficacy and improved student engagement compared to those using off-the-shelf AI platforms without modification.

3.2 Critical Feedback Mediator and Sense-Maker

AI delivers rapid, consistent feedback on basic grammar, vocabulary and mechanics, but struggles to evaluate rhetorical effectiveness, logical coherence, tone and creative expression.[8][9] Teachers serve as critical feedback mediators, validating, filtering and supplementing automated comments to help students distinguish algorithmic error prompts from stylistic choices and connect surface-level corrections to high-order writing and speaking goals. This role is vital for Chinese learners, as monolingual AI may misclassify their interlanguage features and cultural discourse patterns as “errors”.[10][11] Teachers translate de-contextualized AI suggestions into culturally appropriate, actionable revisions and foster students' meta-cognitive skills to independently evaluate feedback, turning feedback into a dialogic process.

3.3 Ethical and Cultural Moderator

AI systems carry implicit cultural and linguistic biases from training data.[12] Teachers act as ethical and cultural moderators, identifying such biases, fostering critical digital literacy and guiding students to question AI output, avoiding over-reliance on Western-centric “correct” English norms. They establish clear guidelines for AI-assisted learning to uphold academic integrity, distinguish legitimate AI support from deceptive generation, and educate learners on algorithmic opacity and fairness risks, modeling critical engagement with technology.[13]

3.4 Agentic Learning Mentor and Relational Leader

Language learning is inherently social and emotional, and AI cannot replicate empathy, motivation or responsive interpersonal interaction—core to successful acquisition.[14] Teachers act as agentic learning mentors, nurturing learner confidence, encouraging communicative risk-taking and supporting affective well-being, while fostering student agency via goal-setting and self-assessment guidance. In large college English classes, AI handles repetitive practice, freeing teachers to focus on small-group interaction, one-on-one consultations and formative dialogue that builds classroom community, restoring the human core of language education in the AI era.[15]

4. Tensions and Challenges in Operationalizing the Teacher-In-The-Loop Model

Despite its conceptual appeal, implementing the teacher-in-the-loop framework faces structural and practical challenges that can undermine agency and constrain role enactment.

4.1 Algorithmic Control vs. Pedagogical Autonomy

Many commercial AI platforms enforce fixed rubrics, scoring algorithms, and interaction flows that limit teacher customization. When institutions mandate specific tools without flexibility, instructors lose authority over assessment criteria, feedback logic, and task design—eroding agency and creating a “teacher outside the loop” dynamic.[3] Such top-down implementation contradicts the HITL principle and reduces teaching to technical compliance.

4.2 Data Literacy and Technical Capacity Gaps

Effective oversight of AI requires basic data literacy, interpretive skills, and technical awareness to evaluate analytics, detect bias, and troubleshoot misfeedback. Teachers without targeted professional development may feel overwhelmed or overly dependent on vendor defaults, limiting their ability to act as intentional designers and critics.[2] This capacity gap can

lead to superficial integration rather than critical, agentic use.

4.3 Time, Workload, and Institutional Incentives

The teacher-in-the-loop model demands additional time for tool curation, feedback synthesis, student consultation, and ethical reflection—resources often scarce in overloaded college English departments. Without institutional support such as reduced teaching loads, collaborative planning time, and recognition for digital innovation, instructors may revert to passive, efficiency-driven AI use that prioritizes speed over quality.

4.4 Perceived Threats to Professional Identity

Some teachers view AI as a challenge to their expertise and status, leading to resistance or symbolic adoption without genuine integration. Conversely, uncritical enthusiasm may lead to over-reliance that dilutes pedagogical judgment. Both extremes prevent the balanced, reflexive practice central to teacher agency.[16]

5. Toward a Sustainable Teacher-In-The-Loop Framework: Strategies for Practice and Policy

To address these challenges and empower teachers as central actors in AI-enhanced classrooms, a multi-level framework is proposed, emphasizing agency, flexibility, ethics, and professional growth.

5.1 Pedagogical Strategies

(1) Intentional Tool Selection and Adaptation: Prioritize open, customizable AI platforms that allow rubric modification, feedback adjustment, and cultural localization; reject closed black-box systems that limit teacher control.

(2) Blended Feedback Hierarchy: Use AI for low-stakes, routine error correction; reserve teacher feedback for high-order rhetorical, cultural, and strategic dimensions; structure dialogic reflection to help students synthesize multiple sources.

(3) Critical AI Literacy Instruction: Integrate lessons on algorithm bias, data privacy, and responsible use into regular English instruction; model critical evaluation of automated feedback.

(4) Relational Pedagogy Restoration: Allocate class time for interactive discussion, peer collaboration, and affective support; use AI to automate drills and free instructors for relationship-building.

5.2 Institutional and Policy Recommendations

(1) Agency-Centered Professional Development: Offer targeted training in AI tool adaptation, data literacy, bias detection, and ethical feedback design; emphasize hands-on practice over technical lectures.

(2) Flexible Technology Governance: Allow department-level and instructor-level choice of AI tools; avoid mandatory one-size-fits-all platforms that restrict pedagogical autonomy.

(3) Workload Redistribution: Recognize the labor of AI curation, feedback mediation, and ethical oversight; reduce teaching burdens to enable reflective, high-quality integration.

(4) Ethical Assessment Guidelines: Establish clear policies for AI use in assessment, including human review for high-stakes scoring, transparency requirements, and appeal procedures for algorithmic judgments.

5.3 Teacher Self-Development for Agentic Practice

(1) Reflective Practice: Regularly document AI tool use, student responses, and pedagogical adjustments; refine practices based on evidence and student feedback.

(2) Collaborative Innovation: Participate in communities of practice to share adaptations, troubleshoot challenges, and co-design AI-supported lessons.

(3) Critical Technological Skepticism: Maintain awareness of algorithmic limitations, bias risks, and ethical boundaries; avoid overconfidence in automated scoring or feedback.

(4) Identity Reconstruction: Embrace the shift from knowledge transmitter to learning architect, feedback mediator, and relational mentor; frame AI as a resource that enhances rather than diminishes professional expertise.

6. Conclusion

AI integration in college English teaching transforms rather than diminishes teachers' roles; the teacher-in-the-loop framework centers teacher agency, human judgment and educational values, redefining teachers' core roles to realize sustainable human-machine collaboration. This study confirms AI's effectiveness relies on teachers retaining curricular, assessment, feedback and ethical authority, with a balance between algorithmic efficiency and pedagogical flexibility. The human element is irreplaceable in college English teaching. Future research should focus on the longitudinal impacts of the

framework, cross-cultural AI adaptation and the influence of institutional policies on teacher agency, as effective educators treat AI as a collaborative partner for human-centered language learning. In the AI-enhanced classroom, the teacher is not out of the loop—they are the loop.

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