



RECONFIGURING TEACHER AGENCY: A DESIGN-BASED STUDY ON
HUMAN-AI SYMBIOSIS IN TESOL PEDAGOGY

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Abstract: *The rapid integration of Artificial Intelligence (AI) into education has transformed the landscape of Teaching English to Speakers of Other Languages (TESOL). While many studies focus on the technical capabilities of AI tools, less attention has been paid to how these technologies reshape teacher agency and professional decision-making. This article explores the concept of human-AI symbiosis in TESOL through a design-based research perspective. It argues that AI should not be viewed as a replacement for teachers but rather as a collaborative partner that enhances pedagogical effectiveness. Drawing upon recent developments in generative AI, teacher agency theory, and educational technology, the study examines how TESOL practitioners can strategically integrate AI tools into lesson planning, assessment, and classroom interaction while maintaining professional autonomy. The findings suggest that successful human-AI collaboration depends on teachers' critical engagement, pedagogical expertise, and contextual decision-making. The paper concludes that teacher agency remains central to effective language instruction, even in increasingly AI-supported learning environments.*

Keywords: *teacher agency, TESOL, artificial intelligence, human-AI symbiosis, design-based research, language education*

INTRODUCTION

The rapid development of Artificial Intelligence (AI) has significantly influenced educational practices worldwide, particularly in language education (Zawacki-Richter et al., 2019). Generative AI tools such as ChatGPT have introduced new possibilities for lesson planning, assessment, and instructional support, transforming traditional TESOL practices (Luckin, 2018). As a result, researchers have begun examining how AI affects teacher autonomy and professional decision-making (Selwyn, 2019).

Teacher Agency in TESOL. Teacher agency refers to educators' capacity to make purposeful choices and influence teaching and learning processes through professional judgment (Priestley, Biesta and Robinson, 2016). According to Bandura (2001), agency involves intentional action, self-reflection, and the ability to shape one's environment. In TESOL contexts, teacher agency is particularly important because language instruction requires continuous adaptation to learners' linguistic, cultural, and educational needs (Biesta, Priestley and Robinson, 2015).

Human-AI Symbiosis in Education. Human-AI symbiosis describes a collaborative relationship in which human expertise and artificial intelligence complement one another to achieve shared goals (Luckin, 2018). Rather than replacing teachers, AI can support pedagogical tasks such as material development, feedback generation, and learner support (Selwyn, 2019). However, effective educational outcomes depend on teachers' ability to evaluate and adapt AI-generated content according to specific classroom contexts (Zawacki-Richter et al., 2019).



Design-Based Research Perspective. Design-Based Research (DBR) is a methodological approach that seeks to develop and refine educational innovations within authentic learning environments (Wang and Hannafin, 2005). Unlike traditional experimental methods, DBR emphasizes iterative cycles of design, implementation, evaluation, and redesign (Wang and Hannafin, 2005). This approach is particularly suitable for investigating AI integration because it allows researchers to examine how technologies function in real-world TESOL settings (Anderson and Shattuck, 2012).

Reconfiguring Teacher Agency Through AI. The integration of AI reshapes teacher agency by shifting teachers' roles from content creators to critical evaluators and instructional designers (Selwyn, 2019). While AI can generate lesson plans and educational materials, teachers remain responsible for determining their pedagogical appropriateness and alignment with learning objectives (Shulman, 1987). Consequently, agency is not diminished but reconfigured through new forms of human–technology interaction (Priestley, Biesta and Robinson, 2016).

Planning Agency. AI-supported lesson planning can reduce administrative workload and increase instructional efficiency (Luckin, 2018). However, teachers continue to exercise professional judgment when selecting, modifying, and contextualizing AI-generated resources (Shulman, 1987).

Assessment Agency. Recent developments in AI have enabled automated feedback systems capable of analyzing learner performance and identifying language errors (Zawacki-Richter et al., 2019). Nevertheless, teachers remain responsible for interpreting assessment results and considering broader aspects of learner development such as motivation and communicative competence (Biesta, Priestley and Robinson, 2015).

Benefits of Human–AI Symbiosis. Research suggests that AI can support differentiated instruction by enabling teachers to adapt materials to diverse learner needs more efficiently (Luckin, 2018). Additionally, AI-generated suggestions may stimulate pedagogical creativity and facilitate professional development through access to new teaching ideas and resources (Selwyn, 2019).

Challenges and Ethical Considerations. Despite its potential benefits, AI integration raises concerns regarding privacy, bias, transparency, and excessive dependence on technology (Selwyn, 2019). AI systems may inadvertently reproduce social and linguistic biases present in their training data, requiring careful human oversight (Zawacki-Richter et al., 2019). Therefore, ethical implementation depends on teachers' critical engagement and professional responsibility (Luckin, 2018).

Implications for TESOL Teacher Education. Future TESOL teacher education programs should incorporate AI literacy, ethical technology use, and critical evaluation skills alongside traditional pedagogical competencies (Trust et al., 2023). Such preparation can help teachers maintain professional agency while effectively collaborating with AI technologies in increasingly digital learning environments (Luckin, 2018).



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