METHODOLOGICAL FOUNDATIONS OF USING ARTIFICIAL INTELLIGENCE IN TEACHING ENGLISH AND ITS ROLE IN DEVELOPING COMMUNICATIVE COMPETENCE

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Abstract: This paper investigates the methodological foundations for using Artificial Intelligence (AI) in English Language Teaching (ELT) and examines how such pedagogical interventions contribute to the development of learners' communicative competence. Drawing on empirical studies, systematic reviews, and teacher perspectives, the study identifies best practices, pedagogical affordances, and challenges, and reports on the effects of AI-mediated learning on speaking ability, engagement, learner confidence, and methodological innovation. The implications suggest that appropriately designed AI tools, integrated with communicative methodology, can significantly enhance communicative competence, provided that teachers are supported, tasks are real-world oriented, and assessment practices adapt.

Key words: artificial intelligence (ai), english language teaching (elt), communicative competence, language learning technology, ai-assisted instruction, adaptive learning, chatbots in education, pedagogical methodology, teacher training, learner autonomy

Introduction

In recent years, Artificial Intelligence (AI) has increasingly penetrated educational settings, promising innovations in adaptive learning, chatbots, automated feedback, and personalized instruction. In the domain of English Language Teaching (ELT), researchers have begun to explore how AI-supported tools may facilitate communicative competence — that is, the ability of learners not just to know grammar and vocabulary, but to use language effectively in authentic communicative contexts. Yet, despite growing interest, there remain gaps in understanding the methodological foundations for integrating AI in a way that truly supports communicative learning — which methods work, under what conditions, and what challenges must be overcome.

Communicative competence, originally theorized by Hymes and elaborated by others, includes grammatical competence, sociolinguistic competence, discourse competence, and strategic competence. Traditional communicative language teaching approaches have emphasized interaction, meaning negotiation, task-based learning,

and authentic input/output [1]. The integration of AI raises questions: how do AI tools align with communicative methodology? What design features and pedagogical practices are most effective? What is the empirical evidence that AI use leads to gains in communicative competence (especially speaking, interaction, fluency)? And what constraints (teacher beliefs, infrastructure, assessment) limit or moderate these effects?

This study aims to synthesize recent research to address these questions, drawing from empirical studies, systematic reviews, and teacher reports between 2023–2025 [2]. Specifically, the research questions are:

1. What methodological foundations (design, tasks, feedback, interaction) are reported for AI-mediated ELT aimed at communicative competence?
2. What is the evidence of AI's impact on dimensions of communicative competence (especially speaking, engagement, confidence)?
3. What challenges and constraints are identified, and what implications do they have for methodological practice?

Methods

Literature Selection

A systematic literature search was conducted across academic databases (e.g. Scopus, Web of Science, ERIC, Google Scholar) for articles published between **2023 and 2025** using keywords such as "AI in ELT", "artificial intelligence in English language teaching communicative competence", "chatbots for speaking practice", "adaptive learning in language education" [3]. From an initial pool of ~120 articles, inclusion criteria were:

- Empirical studies, systematic reviews, conceptual/theoretical papers explicitly touching on communicative competence.
- Use of AI tools or systems (chatbots, adaptive learning systems, automated feedback) in English language teaching contexts.
- Reporting of communicative outcomes: speaking, interaction, fluency, learner confidence, engagement.
- Open access or accessible summary of methods and results.

After screening titles, abstracts, and full texts, **10 articles** were chosen as most relevant. These include mixed-methods studies, systematic reviews, and teacher perspective phenomenological studies [4].

Data Extraction and Analysis

From each selected article, the following data were extracted:

- Context: age/level of learners, country, class size, duration.
- Type of AI tool (chatbot, adaptive system, feedback system, etc.).
- Pedagogical design: task types, interaction patterns, feedback types, teacher involvement.

- Measured outcomes relevant to communicative competence: speaking fluency, interactional competence, confidence, motivation, etc.
- Reported challenges or constraints (e.g. infrastructure, teacher training, assessment alignment).

Data synthesis followed a thematic analysis approach: coding for methodological features, outcomes, challenges, then grouping findings into coherent themes.

Results

Methodological Foundations: Design Features and Pedagogical Practices

From the literature:

- **Authentic, interactional tasks**: Studies (e.g. "A systematic review of AI-powered chatbots…"; "Design language learning with artificial intelligence (AI)") show that AI tools perform best when tasks mimic real communication — role-plays, dialogues with chatbots, simulated conversations [5].
- **Adaptive feedback and scaffolding**: Tools that offer immediate corrective feedback, pronunciation practice, and adaptive difficulty are more effective. The mixed-methods study by Wei et al. (2023) reported that AI systems which adapt to learner errors lead to greater gains in speaking accuracy.
- **Learner autonomy/self-regulated learning**: AI tools that allow learners to proceed at their own pace, track their progress, and reflect on feedback favorably affect motivation and confidence. The study by Qiao et al. (2023) found increased self-regulation in classes using AI-based modules.
- **Teacher facilitation and integration**: AI is not standalone; teacher guidance, task design, and scaffolding are critical. Bahari (2025) emphasized integrating AI-assisted learning with teacher-led communicative tasks.

Evidence of Impact on Communicative Competence

- **Speaking fluency / interaction**: Several studies report statistically significant improvements in learners' speaking fluency when using AI-chatbots or adaptive speaking modules. For example, Du et al. (2024) showed learners engaging with chatbots had higher scores in oral tests and better interactional competence during classroom tasks [6].
- **Learner confidence and engagement**: Across multiple studies (e.g. Xiaofan, 2025; Qiao et al., 2023), learners reported increased confidence speaking in English, less anxiety, more willingness to initiate speaking. Engagement was also higher due to novelty and adaptiveness of AI tools.
- **Motivation and affect**: AI tools provided motivational affordances: immediate feedback, gamified elements, digital interactivity. Wei et al. (2023) documented higher motivation scores in experimental groups using AI than control groups.
- **Limitations in full communicative competence gains**: Some studies note that while fluency and confidence improve, gains in sociolinguistic competence

(appropriacy, pragmatics) and discourse competence are less marked, likely because AI tools often lack cultural/contextual nuance [7.

Discussion

Interpretation of Findings

The evidence indicates that AI has strong potential to enhance components of communicative competence — especially those related to fluency, interaction, learner confidence, and engagement — provided methodological practices are well designed. Key foundations include authentic communicative tasks, adaptive feedback, learner autonomy, and teacher integration.

However, communicative competence is multifaceted. While AI tools support grammatical, fluency, and interactional dimensions, they are less developed in supporting sociolinguistic norms, pragmatic variation, cultural context, and discourse complexity. These require nuanced human mediation, cultural input, and possibly advanced AI that models pragmatics and culture more deeply.

Methodological Implications

- **Task design**: Must include authentic communicative tasks that require negotiation, spontaneous responses, real or simulated interlocutors.
- **Feedback and adaptivity**: Immediate, specific feedback (pronunciation, fluency, error correction) is valuable. Systems should adjust difficulty to learner performance to maintain challenge without frustration [8].
- **Teacher role**: Teachers must be involved as designers, facilitators, assessors rather than passive overseers. Teacher training programs should include instruction in how to select, integrate, and adapt AI tools [9].
- **Assessment reform**: To align with communicative competence goals, assessment methods need to incorporate speaking, interaction, pragmatics and must value fluency and negotiation of meaning, not just accuracy.

Limitations

- The reviewed studies are relatively recent and many are small-scale; long-term effects on communicative competence (over semesters/years) are less well documented.
- Many studies rely on self-report data (motivation, confidence), which may be subject to bias [10].
- Contexts vary widely (countries, learner levels, access to technology), so generalization to specific settings (e.g., low-resource contexts) should be cautious.

Conclusion

The integration of artificial intelligence into English language teaching represents not merely a technological shift but a pedagogical transformation. The analysis of recent studies demonstrates that AI tools — from adaptive learning systems to conversational chatbots — can effectively reinforce learners' communicative

competence by creating interactive, feedback-rich, and learner-centered environments. These technologies extend the boundaries of the traditional classroom, allowing for individualized practice, real-time correction, and contextualized communication beyond the limits of time and place.

However, the effectiveness of AI in fostering communicative competence is contingent upon the methodological framework in which it operates. The success of AI-assisted instruction depends not only on technological sophistication but also on pedagogical coherence — how teachers integrate AI tasks into communicative approaches, how feedback is contextualized, and how learners are guided to use AI as a tool for authentic expression rather than mechanical repetition. Therefore, AI should not replace the human element in language teaching but complement it, amplifying teachers' ability to facilitate meaningful interaction and intercultural understanding.

Moving forward, educational institutions must view AI as a strategic partner in language education — one that can support differentiated instruction, inclusivity, and learner autonomy. At the same time, systematic teacher training, continuous evaluation of AI's linguistic and ethical dimensions, and the redesign of assessment systems remain essential prerequisites for sustainable integration. In essence, the future of communicative competence development lies not in technology alone, but in the harmony between intelligent tools, informed teachers, and motivated learners.

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