

Developing Pre-Service English Teachers' Communicative Competence Through Ai-Integrated Learning

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Abstract: This article examines the potential of AI-integrated learning for developing communicative competence among pre-service English teachers. In contemporary teacher education, communicative competence remains a core professional outcome because future teachers are expected not only to use English accurately, but also to communicate meaningfully, contextually, and pedagogically in diverse academic and classroom settings. At the same time, rapid advances in artificial intelligence have created new opportunities for language learning through adaptive feedback, interactive dialogue, automated scaffolding, simulation, and personalized practice. This paper adopts a conceptual and integrative review approach to synthesize foundational theories of communicative competence with recent scholarship on artificial intelligence in language education and teacher training. The analysis draws on classical works by Hymes, Canale and Swain, Bachman, Celce-Murcia et al., and Richards, together with recent studies by UNESCO, Salas-Pilco et al., Ng et al., Mishra et al., Du and Daniel, Tai and Chen, Wang et al., and others. The study argues that AI-integrated learning can significantly support the development of grammatical, discourse, sociolinguistic, and strategic dimensions of communicative competence when it is used in a human-centered, ethically guided, and pedagogically purposeful manner. The article concludes that pre-service English teacher education should move beyond occasional technology use and instead embed AI literacy, reflective pedagogy, dialogic interaction, and critical evaluation into the curriculum in order to prepare future teachers for AI-enhanced language education.

Keywords: Pre-service English teachers, communicative competence, artificial intelligence, AI-integrated learning, teacher education, English language teaching, digital pedagogy.

Introduction: The preparation of pre-service English teachers has become increasingly complex in the digital era. Future teachers are expected to demonstrate strong language proficiency, pedagogical knowledge, digital literacy, and the ability to communicate effectively in academic, professional, and classroom contexts. Among these expectations, communicative competence occupies a central place because it determines whether teacher candidates can use English appropriately, fluently, strategically, and meaningfully in real-life situations. At the same time, artificial intelligence (AI) has emerged as a powerful force in education, particularly in language learning, where tools such as chatbots, speech-recognition systems, automated feedback platforms, and generative AI

applications provide new forms of interaction and individualized support. Recent reviews and teacher-education studies indicate that AI in language education is expanding rapidly, while teacher preparation frameworks increasingly emphasize pedagogical, ethical, and professional AI competencies.

The significance of communicative competence in language education was first emphasized by Hymes [6], who challenged the idea that language ability consists only of grammatical knowledge. Later, Canale and Swain [3] and Canale developed this notion into a broader model including grammatical, sociolinguistic, discourse, and strategic competences. These perspectives remain highly relevant in teacher education because future English teachers must not

only speak correctly, but also manage classroom discourse, negotiate meaning, adapt language to context, and respond strategically to communication problems. In modern settings, AI tools can potentially support these areas by offering opportunities for repeated practice, real-time feedback, simulated conversation, collaborative dialogue, and reflective revision.

This article explores how AI-integrated learning can contribute to the development of communicative competence among pre-service English teachers. The study is not based on a new empirical dataset; rather, it is a conceptual review article that synthesizes foundational theories and current research in order to propose pedagogical implications for teacher education.

LITERATURE REVIEW

Communicative Competence: Foundational Scholarly Perspectives. Dell Hymes [6] introduced the concept of communicative competence in response to purely structural views of language. In his view, knowing a language means more than mastering grammar; it also involves understanding when to speak, how to speak, to whom, and for what purpose. This socio-functional interpretation remains essential in foreign language teacher education because future teachers need context-sensitive language use rather than isolated linguistic knowledge.

Canale and Swain [3] further systematized communicative competence by identifying grammatical competence, sociolinguistic competence, and strategic competence. Canale [2] later added discourse competence, thereby highlighting the importance of coherence and cohesion in communication. Their model suggests that successful communication depends on multiple interacting capacities. For pre-service teachers, this means that teacher education should include not only grammar instruction but also training in discourse organization, pragmatics, interaction management, and repair strategies. The classical communicative-competence model still underpins much of communicative language teaching and assessment today.

Bachman [1] broadened the discussion by proposing a model of communicative language ability that combines organizational competence and pragmatic competence.

His framework is especially important because it links language ability to performance in context, which is highly relevant for future teachers who must use English for instructional explanation, classroom questioning, feedback, academic presentation, and interpersonal interaction. Similarly, Celce-Murcia, Dörnyei, and Thurrell [4] proposed a pedagogically motivated model in which discourse competence plays a central role and is supported by linguistic, sociocultural, actional, and strategic competences. This model is particularly useful for teacher education because it translates theory into teachable components.

Richards [13] further argued that communicative language teaching is not simply about free conversation; rather, it is a principled approach that balances fluency, accuracy, meaningful interaction, and learner engagement. From this perspective, communicative competence develops best when learners participate in authentic, purposeful communication. This principle directly supports the integration of AI tools that can simulate interaction, personalize tasks, and provide immediate communicative feedback.

Recent scholarship shows that AI has become one of the most dynamic areas in language education. Salas-Pilco, Xiao, and Hu [15], in their systematic review of AI and learning analytics in teacher education, found that AI can support personalization, feedback, assessment, and decision-making in teacher preparation, but they also stressed the need for pedagogical and ethical guidance. Ng et al. [12] emphasized that teachers now require AI-related digital competencies alongside twenty-first-century skills, especially in post-pandemic education. Mishra, Warr, and Islam [11] extended the TPACK perspective by arguing that the age of ChatGPT and generative AI requires teachers to rethink knowledge integration, instructional design, and critical use of intelligent tools. UNESCO's guidance on generative AI and its AI Competency Framework for Teachers also emphasize a human-centered, ethical, and pedagogically grounded approach to AI adoption in education.

In the field of language learning, Du and Daniel [5] concluded in their systematic review that AI-powered chatbots can enhance speaking outcomes, confidence, engagement, and motivation in EFL speaking practice. Tai and Chen [16] demonstrated that generative AI

chatbots significantly improved EFL learners' speaking skills and reduced speaking anxiety in comparison with conventional classroom interaction. Wang, Zou, Du, and Wang [19] found that conversational GenAI chatbots improved willingness to communicate and self-perceived communicative competence while lowering foreign language speaking anxiety, even when gains in speaking-test performance were more nuanced. Klimova, Pikhart, and Al-Obaydi [7] reported that university students generally perceived ChatGPT as useful for foreign language learning, while also expressing concerns about reliability, overdependence, and academic misuse. More recent reviews show that empirical research on GenAI in language learning is growing rapidly, but its pedagogical foundations and long-term implications still need careful examination.

Teacher-education research supports similar conclusions. Runge, Hebibi, and Lazarides [14] found that participation in AI-related courses was positively associated with pre-service teachers' AI-TPACK and perceived usefulness of AI. Uwosomah and Dooly [18] showed that pre-service teachers' perspectives on AI are often ambivalent but increasingly constructive, especially when they engage critically and reflectively with its pedagogical uses. These findings indicate that AI integration in teacher education should not be limited to technical familiarity; it should also cultivate critical reflection, pedagogical judgment, and professional responsibility.

This article uses a conceptual integrative review methodology. The study synthesizes two bodies of literature: first, foundational theories of communicative competence in applied linguistics and language pedagogy; second, recent peer-reviewed studies and international guidance documents on artificial intelligence in language education and teacher education. The analysis follows a qualitative interpretive approach, aiming to identify major conceptual links between communicative competence and AI-integrated learning. Rather than reporting original experimental data, the paper develops a theoretical argument based on comparative reading, thematic synthesis, and pedagogical interpretation of existing scholarship.

RESULTS AND DISCUSSION

A major finding from the literature is that AI-integrated

learning can support all major dimensions of communicative competence when appropriately designed. First, grammatical competence can be strengthened through AI-generated corrective feedback, sentence reformulation, error explanation, and personalized language practice. Chatbots and writing assistants can help pre-service teachers notice recurrent errors, revise outputs, and compare alternative forms.

Second, discourse competence can be enhanced through dialogic interaction, text generation, summarization, restructuring, and conversation simulation. Pre-service teachers can use AI tools to practice openings, transitions, explanations, examples, and closings in academic and classroom discourse. Since teachers frequently need to explain concepts, scaffold tasks, and maintain coherent classroom talk, such training is professionally relevant.

Third, sociolinguistic competence can develop through exposure to multiple registers, scenarios, and context-sensitive communicative tasks. AI tools can simulate interviews, classroom interaction, peer feedback sessions, and parent-teacher communication. Such simulations help future teachers learn how tone, formality, politeness, and role relationships shape language use.

Fourth, strategic competence can benefit from AI-supported interaction because learners can rehearse clarification, paraphrasing, repair, negotiation of meaning, and response planning. When learners face lexical gaps or breakdowns in communication, AI systems can model alternative strategies and provide scaffolding rather than merely supplying final answers. Systematic reviews and recent studies on AI chatbots suggest that these tools can strengthen speaking practice, confidence, and communicative engagement, especially when combined with pedagogical structure and human guidance.

For pre-service English teachers, communicative competence is both a learning outcome and a professional tool. Teacher candidates must communicate in English for presentations, lesson delivery, classroom management, feedback, academic writing, and peer collaboration. AI-integrated learning is especially valuable in teacher education because it allows repeated practice in low-stakes but realistic

settings. Students can rehearse mini-lessons, simulate classroom questions, develop explanations, and reflect on alternative responses.

Another important issue is teacher agency. AI should not replace the teacher candidate's voice, judgment, or creativity. Instead, it should function as a scaffold for reflection, rehearsal, and feedback. UNESCO's guidance and recent teacher-competency frameworks consistently stress that AI in education must remain human-centered, ethically guided, and pedagogically purposeful. This means that the goal of AI use in pre-service teacher education is not automation for its own sake, but stronger teacher thinking, more flexible communication, and better pedagogical decision-making.

CONCLUSION

The development of communicative competence among pre-service English teachers remains a fundamental objective of teacher education. Foundational scholars such as Hymes, Canale and Swain, Bachman, and Celce-Murcia et al. demonstrate that communicative competence is multi-dimensional, involving grammatical, discourse, sociolinguistic, and strategic capacities. Recent advances in artificial intelligence create new possibilities for developing these competences through interactive practice, adaptive feedback, personalized scaffolding, and simulated communicative environments.

However, the value of AI-integrated learning does not lie in technological novelty alone. Its real pedagogical power emerges when AI is used critically, ethically, and purposefully within a human-centered educational framework. For pre-service English teachers, this means learning not only how to use AI tools, but also how to evaluate them, contextualize them, and integrate them into meaningful communicative pedagogy. Therefore, teacher education programs should systematically combine communicative language teaching, AI literacy, reflective practice, and ethical awareness. In this way, AI-integrated learning can become a productive pathway for preparing future English teachers who are communicatively competent, digitally aware, and pedagogically responsible.

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