
Rethinking Grammar Instruction in the Digital Era: Approaches to Teaching Grammar through Technology

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ABSTRACT

The rapid expansion of artificial intelligence (AI) and digital communication technologies is reshaping the epistemological foundations of grammar instruction. In contemporary language education, grammar can no longer be treated merely as the mastery of linguistic rules or sentence-level accuracy. Instead, learners are increasingly required to interpret, negotiate, and construct meaning across multimodal, algorithmically mediated, and digitally networked environments. This article critically examines the transformation of grammar pedagogy from traditional rule-based instruction toward more communicative, technology-mediated, and human-centered approaches in the digital era.

Drawing on recent scholarship in digital pedagogy, AI-assisted language learning, and technology-enhanced grammar instruction, the article synthesizes current approaches including gamification, mobile-assisted language learning, AI-powered feedback systems, collaborative digital platforms, and multimodal learning environments. While these innovations expand opportunities for personalization, learner autonomy, interaction, and engagement, they also generate significant pedagogical and ethical tensions related to AI dependency, diminished linguistic awareness, digital inequality, academic integrity, and the growing influence of algorithmic language mediation. The article argues that the educational value of technology-mediated grammar instruction lies not in technological sophistication itself, but in the pedagogical principles and human purposes guiding its integration.

In response to these challenges, the article proposes a Human-Centered Technology-Mediated Grammar Instruction framework grounded in five interconnected principles: contextualized grammar use, learner agency and ownership, reflective AI engagement, collaborative meaning-making, and critical digital language awareness. The framework repositions technology as a mediational resource that supports reflective thinking, communicative participation, and human meaning-making rather than replacing them. Ultimately, the article argues that the future of grammar pedagogy depends on its capacity to cultivate learners who can engage with language critically, ethically, creatively, and reflexively within increasingly AI-mediated communicative environments.

Keywords: grammar instruction, artificial intelligence, digital pedagogy, learner agency, critical digital language awareness