AI AS AN EFFECTIVE TOOL IN TEACHING: OPPORTUNITIES AND LIMITATIONS

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Abstract. Artificial intelligence (AI) is becoming an increasingly important tool in modern teaching. This article examines its effectiveness based on a review of several academic studies that highlight that AI can support personalized learning, immediate feedback, language practice, instructional material development, and teacher professional development. At the same time, challenges such as inaccurate information, academic integrity, privacy, and insufficient teacher training remain. The findings suggest that AI is most effective when it is purposefully integrated into teaching and used to support rather than replace teachers.

Keywords: language learning, modern teaching, intelligent tutoring systems, instructional material development, personalized learning, critical evaluation.

Introduction. AI has stopped being a niche edtech experiment, and now it is something teachers and students run into daily, generating materials, explaining concepts, giving feedback, and supporting practice. Yet none of this means AI's presence in a classroom automatically translates into better teaching. This is precisely why it is important to separate what AI can technically do from how it is actually applied in practice, since different tools are built for different purposes, and no single one functions as a universal fix [2; 542–570]. Building on this distinction, it becomes clear that the real question is not whether AI works, but under what conditions it works well, and here the empirical record offers some solid ground to stand on. A meta-analysis of 50 controlled studies, for instance, found that intelligent tutoring systems generally outperform conventional instruction [3; 42–78], lending early support to the idea that well-designed systems can meaningfully improve learning outcomes. More recent reviews carry this line of evidence further, extending it to ChatGPT and generative AI specifically within language teaching and teacher development [1; 54–80, 8]. The real question now isn't whether AI belongs in education, but how and under what conditions it actually helps.

1.1 AI and the development of teaching practices. What sets AI apart from older edtech is that it can respond dynamically instead of just delivering fixed content. This matters because static materials cannot adjust to a learner's pace or needs, while AI systems can. A review of AI in higher education mapped where it is already in use, and pointed out how little educators themselves have been involved in shaping that research [11]. This gap is worth noting, since teachers are the ones who decide how any tool plays out in real classrooms, and

research that leaves them out risks missing how these tools actually work once used. Research also suggests that AI's value depends on how technology, learning goals, and human judgment come together, not on the technology alone [2; 542–570]. So AI works best as a tool teachers use for extra practice, examples, or feedback, while staying in charge of what is taught and how it is assessed.

1.2 Personalized learning. Students in the same class differ in background, pace, and struggles, and giving each one individual attention is hard at scale. AI can adjust tasks, add explanations, or tailor feedback to how a student is doing. Personalization has been named as one of AI's biggest strengths in classroom teaching [9; 1–9], and related findings back this up, showing tutoring systems deliver individualized instruction that's tough to match by hand [3; 42–78]. But personalization only means something if the tasks actually fit a learner's needs; poorly designed AI content adds little value no matter how tailored it looks. AI makes individualization more feasible, though judging whether it's actually working still falls to the teacher.

1.3 Intelligent tutoring and immediate feedback. Students often wait on a teacher to grade work before learning if they got it right; intelligent tutoring systems shrink that gap. Meta-analytic evidence shows real gains from this kind of tutoring versus standard instruction [3; 42–78], mostly because it lets students practice repeatedly at their own pace. This matters especially in language learning, where catching and fixing errors constantly is part of the process. But fast feedback isn't the same as correct feedback. A review of ChatGPT in ESL/EFL settings flags inaccurate output as a real risk [5], so AI feedback still needs a human check.

2.1 AI in English language teaching. Language learning depends on constant practice, vocabulary work, grammar accuracy, and speaking or writing opportunities, all areas where AI can help. One review shows AI is widely studied as a language-learning support [4; 108-119], and another review of ChatGPT in English teaching lays out both the benefits (interactive, personalized learning) and the concerns teachers need to weigh [1; 54-80]. The biggest win is extra practice time. Teachers can't talk one-on-one with every student, but an AI tool can give far more chances to produce language and get a response, plus help with vocabulary, grammar, and alternate phrasings as supplementary practice. AI adds the most value here when it expands practice without cutting teachers out of the process.

2.2 ChatGPT and generative AI in teaching. Generative AI can produce entirely new text and materials on demand, which sets it apart from earlier tools. A review covers the fast-growing body of research on generative AI in education [7]. It can help teachers draft lesson materials and examples, cutting some prep time, but none of that should reach students without a teacher checking it first. Makhmashaeva's work on the changing role of EFL teachers makes the point clearly [6; 227–231]: AI doesn't replace teachers, it shifts their work toward evaluating, adapting, and improving what's generated rather than building everything from scratch. Its usefulness ultimately depends on whether a teacher can judge if the content is accurate and relevant.

AI helps teachers too, with planning, prepping materials, and assessment. Research shows growing interest here, alongside a clear need for teacher training to keep up [10]. AI can offload repetitive tasks like drafting questions or organizing content, freeing time for classroom interaction. But saved time only matters if the results are actually good, so teachers still need to review what AI produces. This echoes earlier calls for educators to have a bigger say in how AI gets used in their own field [11].

Having access to AI isn't enough; knowing how to use it is what counts. A study of pre-service teachers' acceptance of AI, looking at training and AI-TPACK through the Technology Acceptance Model, found that preparation strongly shapes how teachers take to these tools [8]. Teachers need to evaluate AI output rather than pass it along automatically, and know when AI helps versus when traditional methods work better. Other research echoes this, naming professional development as key [10]. Good training covers ethics and pedagogy too, not just the technical basics, since teacher competence is a major factor in whether AI ends up genuinely useful or just another tool used without much purpose. AI can make learning more interactive by giving students more chances to ask questions and practice independently, something traditional instruction doesn't always allow. This matters a lot in language learning, where repeated use of the target language is essential [4; 108-119]. Related review findings point to personalized learning and expanded practice as real benefits of ChatGPT in ESL/EFL contexts [5]. But engagement isn't just time spent chatting with a tool; it means students are actually thinking, solving problems, and building understanding, which still depends on teachers designing the activity well.

2.3 Challenges of using AI in teaching. Accuracy is the biggest concern: generative AI can sound confident while being wrong, which is risky since students may assume AI output is automatically reliable [5]. Additionally, academic integrity is another problem, since AI-written text can be passed off as a student's own work, a concern raised directly in the literature [1; 54–80]. Privacy matters too, since AI systems process user data, an issue also flagged alongside fairness concerns [9; 1-9]. None of this rules AI out of education, but it does call for clear rules, oversight, and responsible use. Consequently, the evidence points toward AI supporting teachers rather than replacing them. AI can process information and generate content fast, but teaching involves reading student needs, managing classroom dynamics, and making ethical calls in ways AI can't replicate. Research stresses that AI needs to be understood in light of education's broader goals, not just as new tech [2; 542–570], and Makhmashaeva's research on EFL teachers points to a shift in role rather than a disappearance of it. Teachers increasingly act as evaluators, helping students judge whether AI's answers are accurate and useful, making this AI-assisted teaching rather than AI-replaced teaching [6; 227–231].

Conclusion. AI can really help with teaching. It makes personalized learning, tutoring, feedback, language practice, and teacher training more effective. The best proof of actual learning gains comes from studies on tutoring systems, and newer research shows ChatGPT and similar AI tools spreading fast in language classrooms. But there are still real problems.

regarding accuracy, cheating, and privacy during language learning process. What matters most is not how advanced the technology is, but whether students actually learn from it. That still comes down to teachers, who pick the right tools, check the results, and give students something no program can, but real human connection. Going forward, researchers should not just ask if this technology works; they should ask which programs work, for which students, and for which skills, especially in English teaching, where most studies so far have focused on writing and ignored other skills. This kind of technology only works well when it's paired with a teacher's judgment, a clear goal, and responsible use.

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