Integrating AI to Enhance English Language Teaching Outcomes

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Abstract

Artificial intelligence is changing education fast. Schools use it to plan lessons, support learners, and handle daily tasks. Students get practice that fits their level and quick feedback that shows what to fix. Teachers use these insights to adjust lessons in time. This builds steady progress and confidence. When technology is used with care, learning becomes clearer and more focused. Teachers save time on routine work and spend more time guiding students. Strong privacy rules, clear policies, and staff training help schools use tools well. These steps keep attention on learning goals and student well-being. AI can also personalize reading, examples, and exercises. It slows down with hints when a learner struggles and adds challenge when a learner moves ahead. It supports inclusion with text-to-speech, speech-to-text, captions, and translation. Flexible pacing helps different needs. These features make classrooms more welcoming, so more students can participate and succeed.

AI can help teachers make better decisions with clear data. It can find patterns in quizzes, assignments, and class participation. It flags topics many students find hard and shows early signs when someone is falling behind. With this, teachers can step in sooner and with the right support. AI also lifts engagement. Interactive tasks, gentle gamification, and simulations make practice feel active. Instant feedback keeps students motivated. Small goals and steady steps build momentum, so progress feels visible and real. Still, there are limits. Privacy and security need strong safeguards. Bias must be checked and reduced. Not every tool fits every subject or age. Human judgment stays central, because teaching is about people. In English teaching, AI can adapt vocabulary and grammar practice, check pronunciation, and give targeted feedback on clarity, tone, and structure. Teachers can plan and differentiate faster, find level-appropriate texts, track skills across listening, speaking, reading, and writing, and group students by need. Learners can study anytime with chatbots for low-pressure speaking, adaptive apps for fluency or accuracy, and spaced review to remember words longer. The best results come when smart tools support, not replace, human teaching.

Keywords: Personalized learning, Teacher insights, Student engagement, Gamification, Accessibility tools, Privacy and security, Bias and ethics,

1. Introduction

Artificial intelligence (AI) means building computer systems that can act in smart ways, like learning from data and making decisions. In education, AI is growing fast because it can make teaching better, learning more personal, and school work easier to manage. It can help teachers plan lessons, track progress, and give quick feedback. It can help students practice at the right level, get hints when stuck, and move faster when ready. AI is also being used to support big goals in education, like fair access and quality learning for all. Many tools now offer real-time checks, translations, captions, and text-to-speech, which help more learners take part. At the same time, new technology brings risks, such as privacy concerns, bias, and uneven access. These must be

managed with clear rules, training, and careful use. In English Language Teaching (ELT), AI can create exercises for vocabulary and grammar, check pronunciation, and give simple, targeted feedback on writing. This can make lessons more engaging and help students improve faster. Teachers still play a central role. They guide learning, add context, and support motivation. Research suggests AI can improve outcomes, but results are still building, and not every tool fits every class. It is wise for teachers to learn how AI works now so they are ready for the future. Clear goals, simple tasks, and steady feedback make the best use of AI. With balance, AI can help make education more fair, more effective, and more enjoyable for every learner.

Definition of Artificial intelligence (AI) : AI is part of everyday life now. You see it in many fields, from science to education. It helps us work faster, learn better, and make smarter choices. That's why it's worth understanding what it is and why it matters. Below are some simple definitions to make things clear:

McCarthy (1997): Defined Al as the scientific and engineering discipline focused on creating intelligent machines.

Nilsson (2010): Defined Al as the endeavor to create intelligent machines, where intelligence is the quality enabling a system to function effectively and with foresight in its environment.

Ali (2020): Artificial Intelligence, also known as machine intelligence, is a branch of computer science dedicated to developing and managing technologies capable of autonomous learning, decision-making, and action execution on behalf of humans.

2. Review of Literature

AI has become even more important since COVID-19 closed schools and colleges, because teachers needed tools to manage lessons, assessments, and support in new ways. In simple terms, AI is software inspired by how the brain works, so it can learn, judge, and respond in useful ways, not just follow fixed rules, and advanced systems can even teach themselves over time. In classrooms, this means teachers can use AI to spot learning gaps, give quick feedback, and personalize lessons so students learn at their own pace with targeted help, including chatbots that answer questions and guide practice on many devices. Studies and education bodies note that this approach can boost engagement, save time on routine tasks, and improve access for more learners, which helps raise overall learning quality and outcomes.

In language classes like English, AI tools support writing, speaking, and vocabulary with instant feedback and tailored practice, making it easier to remember words and build clear sentences step by step. Teachers can also use AI to analyze class data, plan interventions sooner, and try new teaching methods, while keeping the human focus on mentoring and discussion. Because these systems can receive, store, and analyze large amounts of data, they influence how schools design courses, schedule work, and run assessments to better fit student needs and improve teaching across subjects. All together, AI is becoming a helpful partner in education by personalizing learning, easing admin work, and opening up flexible, high-quality support for students and teachers alike:

Skill Development : AI tools help students build speaking, writing, and reading skills with practice that fits their level. They adjust to each learner, so lessons feel personal and useful. This makes learning smoother and more focused on real needs. Teachers can use these tools to spot gaps, give quick feedback, and keep students engaged with simple, clear tasks.

AI also supports teaching through coaching, multimodal activities, and timely, personalized comments. Students can set goals, track progress, and stay motivated with dashboards and reminders. In English language teaching, AI can create smart content, lower language barriers, and link classroom work with real-life practice. Many tools now offer adaptive exercises, instant feedback, and speech support, which can raise quality and save time. Together, these advances improve planning, assessment, and daily instruction, while letting teachers focus on human guidance and meaningful interaction.

Dragon by Nuance: speech-to-text : Nuance's Dragon is speech recognition software used in schools and colleges. It helps students who find writing or typing hard by turning speech into text at very high speed, up to 160 words per minute. Students can also use voice commands to move through documents and control the computer. Teachers use Dragon to dictate lesson plans and feedback much faster than typing, often about three times quicker, with accuracy reported at around 99%. This saves time and lets them focus more on teaching and support.

Key features include hands-free access with verbal commands, voice-based assessment, and fast, accurate dictation for coursework. These tools make it easier to give detailed comments, complete paperwork, and support diverse learners. For students, it reduces the strain of typing and helps ideas flow more naturally as they speak. For educators, it improves speed, consistency, and accessibility in daily tasks, while maintaining a simple, voice-driven workflow.

Cognii is a Boston-based company that makes AI tools for schools and colleges, and it is also used in workplace training. Its main product is a virtual learning assistant that chats with students, asks open-ended questions, and helps them think more deeply. It gives real-time, personal feedback and acts like a one-on-one tutor that adapts to each learner's needs.

Key features include prompts that get students to answer in their own words, individualized tutoring, and adaptive personalization that adjusts to the student. This approach encourages critical thinking instead of guessing from choices. It also helps teachers by giving quick insights into student understanding and progress. The result is more meaningful practice, faster feedback, and learning paths that fit each student.

Knowji is a vocabulary app that uses audio and visuals to make learning faster and easier. It draws on current research and AI to track how well you know each word and to predict when you might forget it. Then it schedules reviews at the right time using spaced repetition, so the words stick. Over time, this helps you build long-term memory and recall with less effort.

The app supports school goals and testing needs, including alignment with Common Core standards. It offers multiple learning modes, so you can study in the way that works best for you. You can also customize your practice to match your pace and targets. Images and clear example

sentences bring each word to life and show how to use it in context. Together, these features create a simple, focused path to stronger vocabulary.

Plaito is an AI learning tool that acts like a friendly coach. It looks at student work and gives clear, timely feedback that fits each person. Students can upload images or screenshots of assignments and get live help. The guidance includes prompts and suggestions that build writing, debating, and teamwork skills. The goal is simple: help learners understand better, feel confident, and express ideas with clarity.

Plaito also blends AI with language learning. You can chat with it like a friend and learn in four languages, with more on the way. Lessons are guided by learning outcomes, so study time is used well and knowledge sticks. Game-like features—such as streaks, challenges, and coins—make steady practice feel fun. In short, Plaito delivers personal coaching at scale, helping students learn faster, remember more, and stay motivated.

Querium is an AI platform that helps students build core STEM skills and get ready for college and work. It delivers short, personalized lessons and step-by-step tutoring that speeds up learning and improves quality. Teachers can see how students learn by looking at their answers and the time they take, so they can spot gaps and give timely help. The result is focused practice, clearer feedback, and higher engagement in math and science.

At the center is StepWise, a virtual tutor that guides students through problems one step at a time. Students submit each step, get instant checks, and receive friendly hints to correct mistakes. This mirrors how a skilled tutor works, but is available anytime. The system uses patent-pending technology to build problem-solving skills with precise, actionable feedback. Together, these features create a simple path: bite-sized instruction, immediate guidance, and data that helps everyone make better learning decisions.

Carnegie Learning uses AI and machine learning to support math, reading, and world languages for middle school, high school, and college students. Its MATHia software, built from research at Carnegie Mellon University, gives each learner a personalized path with interactive practice and real-time feedback. The aim is simple: build critical thinking and problem-solving while matching a student's pace and style. The company's work has earned multiple industry awards, including recognition for AI and machine learning in education. Fast ForWord, their reading and language program, helps strengthen memory, attention, and processing so students read more confidently.

MATHia adapts as students work, diagnosing errors and offering just-in-time hints. This keeps practice focused and productive. Teachers get clear insights into progress to guide instruction and tutoring. Fast ForWord blends language exercises with cognitive training to improve comprehension and fluency. Together, these tools create a coherent system: targeted practice, timely feedback, and data teachers can use to plan the next step.

Core attributes of the Carnegie Learning platforms: Carnegie Learning uses AI to personalize learning for each student. Lessons adjust to a learner's pace and preferences, so practice feels just

right. Students get real-time feedback that shows what to fix and how to improve. Interactive tools keep work active and engaging, building critical thinking and problem-solving. The Fast ForWord program also trains memory, attention, and processing, which helps students read and learn more effectively. Teachers receive useful data to guide support in the moment.

MATHia, their math software, analyzes each step a student takes and gives hints at the right time. This keeps effort focused and avoids wasted practice. Students see steady progress, while teachers use clear reports to plan next steps. Fast ForWord blends language and cognitive exercises to build skills that transfer to classwork. Together, these tools create a simple cycle: targeted practice, instant feedback, and data-informed teaching that lifts confidence and results.

Praktika lets you practice real English conversations with AI avatars. You speak, the avatar responds, and you get instant feedback during and after each session. This helps you see what to fix and how to improve. There are over 1,000 lessons and many characters, so you can practice different topics at your level. You can track your progress toward fluency and build steady habits. The app runs on Android and iOS, so practice is always within reach.

ELSA helps non-native speakers improve pronunciation, accent, and fluency. You speak into the app and get real-time corrections with clear tips. Lessons cover accent training, vocabulary, and exam prep, so you can focus on what you need. The app builds a plan around your goals and shows your progress over time. You can use it on your own or in class. The aim is simple: make speaking English feel natural, confident, and clear.

Orai is an AI public speaking app that helps you practice and analyze your speeches. You record your talk, and the app gives instant feedback on filler words, pace, and clarity. It also offers short lessons, practice modes, and progress tracking, so you can see steady improvement over time. You can save and review recordings, which makes it useful for personal practice and for teachers who want a simple way to coach students. Orai is available on Android, and it serves as a handy, on-the-go speaking coach.

Beyond Orai, many digital tools support English learning. Options include Google Translate, text-to-speech tools, chatbots, English ABLE, and Duolingo. These platforms make it easier to practice vocabulary, pronunciation, and real conversation skills. Used together with reading and writing tasks, they help build confidence and clear communication. Blending these tools with language literacy can also strengthen global competence, since learners engage with diverse content and real-world contexts.

Pedagogical benefits of artificial intelligence for ELT : Personalization: AI platforms tailor lessons to each learner's level, goals, and interests. This keeps study time focused and relevant.

Accessibility: Tools like Google Translate and text-to-speech make language learning easier to access. They provide quick translations and audio support.

Cultural relevance: AI can add cultural context to lessons. This helps learners understand meaning, tone, and real-world use.

Challenges: AI in English teaching brings risks, too. Over-reliance on tech, cultural bias, and privacy concerns need careful management.

Teacher development: Educators need training to use AI well. With ongoing research and smart classroom practice, AI can support strong, human-centered learning.

Conclusion: Artificial intelligence is now part of everyday life and nearly every field. It also has a strong impact on higher education. It makes teaching and learning smoother and more engaging. Students often feel more motivated when tools give quick feedback and clear next steps. For English learners, digital programs open doors that a traditional classroom may not. They can practice anytime, get help on speaking and writing, and explore new kinds of lessons. This widens access and builds confidence. To get real benefits, technology should be used with care and purpose. When integrated well, it lifts student learning and achievement.

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