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INTEGRATING ARTIFICIAL INTELLIGENCE TOOLS INTO PROJECT-BASED ENGLISH LANGUAGE TEACHING

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Abstract: This article explores how artificial intelligence (AI) tools can be effectively integrated into project-based English language teaching (ELT). It examines how AI supports students at every stage of a project—from initial planning and web research to language practice, content creation, presentation, and final reflection. The study highlights the changing role of the teacher, who must guide students toward using AI responsibly and critically. Ultimately, the article argues that when used correctly, AI does not replace learning. Instead, it boosts student independence, creativity, communication skills, and digital literacy.

Keywords: artificial intelligence, AI tools, project-based learning, English language teaching, digital competence, learner autonomy.

Introduction

The rapid development of artificial intelligence (AI) has opened up exciting new possibilities for global education. Modern AI tools can analyze complex information, check grammar, provide real-time language practice, and help students design digital content like images or presentation. These features are incredibly useful in English Language Teaching (ELT), where students need constant opportunities to read, write, research, and speak in authentic contexts [2, page 34]. Traditionally, classrooms lacked the structural resources to give every student immediate, personalized language assistance. AI tools change this dynamic by acting as an on-demand linguistic partner available outside school hours [4, page 59].

Project-Based Learning (PBL) is a teaching method where students work over time to investigate an interesting topic, collaborate with classmates, and create a final project. This method forces students to use English for real purposes, rather than just memorizing rules. When students are engaged in a project—such as creating a marketing campaign, drafting a community proposal, or producing a podcast in English—they experience a real communicative need [1, page 46]. Introducing AI into project work can give students valuable help along the way, acting as an interactive assistant that provides structural support within the student's zone of proximal development [7, page 86]. It helps bridge the gap between a student's current language level and the higher-level language needed to complete their project successfully. However, teachers must make sure that AI is used with a clear educational goal in mind, rather than just as a shortcut [3, page 21]. The purpose of this article is to examine how AI can support project-based English teaching and what conditions are needed to make it successful.

A typical classroom project goes through several distinct stages: planning, research, creating content, presenting, and reflecting [1, page 48]. AI tools can act as an assistant for students during each of these steps:

[1. Planning Stage] ——> AI helps brainstorm project topics and organize schedules
[2. Research Stage] ——> AI summarizes long articles and defines hard words
[3. Creating Content] ——> AI provides grammar feedback and suggests better vocabulary
[4. Presentation] ——> AI assists with slide designs and public speaking practice

[5. Reflection Stage] ⟶ AI gives instant tips on how to improve next time

At the start, students often struggle to choose a topic or organize their time. When given broad topics like "Environmental Issues" or "Historical Inventions," language learners frequently experience cognitive overload, finding it difficult to narrow down a specific research question [6, page 54]. AI tools can act as a brainstorming partner, suggesting ideas, asking guiding questions, and helping students create a step-by-step project plan.

For instance, a student can prompt an AI chatbot by typing: "We are a group of intermediate English learners working on a project about green energy. Give us five specific project topics suited for our level." The AI can instantly break down a broad subject into actionable assignments, suggest roles for different group members, and outline weekly deadlines [3, page 24]. This initial spark helps students overcome the fear of the blank page and structures their collaborative timeline from day one.

Finding and reading English sources can be overwhelming for language learners. The internet provides endless data, but much of it uses advanced academic structures or specialized jargon that can discourage intermediate students. AI can help by summarizing long texts, explaining difficult vocabulary, and suggesting key search words [4, page 65]. Instead of abandoning an insightful article because the language is too dense, a student can copy a difficult paragraph into an AI tool and request: "Explain this in simple English for an intermediate student."

The AI can extract the main arguments, bullet-point the supporting details, and build a customized glossary for the student. However, because AI can sometimes make mistakes, state false data as facts, or misinterpret nuances (known as "hallucinations"), students must always check their facts against reliable websites or books. This requirement transforms research into an active exercise in information verification [3, page 26].

When writing reports or scripts, students can use AI to check their grammar, experiment with different writing styles, and learn new vocabulary. Traditional grammar checkers simply tell a student if a word is right or wrong. Modern generative AI, however, can explain why a change is suggested [5, page 115]. For example, a student drafting an essay can ask the AI: "I want this paragraph to sound more formal and persuasive. What vocabulary changes should I make?"

The AI might suggest replacing basic verbs like "get" with "acquire," or structural transitions like "but" with "nevertheless". This turns language practice into an interactive process where students learn by actively editing their own work based on automated feedback. They see various linguistic options in real time, expanding their active vocabulary and developing a deeper awareness of tone, register, and audience [2, page 50].

In the final steps, AI can help students design visual slides, practice answering audience questions, and review their own performance. Public speaking in a foreign language is a major source of anxiety for many students. AI tools can mitigate this fear by acting as a private, low-stakes rehearsal partner [4, page 66]. Students can input their final presentation script into a speech-to-text AI or a conversational bot and practice their delivery.

The AI can generate a list of potential counter-arguments or follow-up questions that an audience might ask during the live presentation, allowing the student to prepare responses in advance. Furthermore, text-to-image and design AI tools can assist students in generating original, copyright-free illustrations and professional slide layouts, ensuring that their visual delivery matches the quality of their written and spoken language [3, page 29]. This helps them polish their final product before showing it to the class.

Using AI in the classroom does not make the teacher less important; rather, the digital environment changes the nature of teacher guidance. With automated tools handling routine

language checks, teachers are freed from the role of a mechanical "error-corrector" and can focus on deeper pedagogical tasks. Teachers must select the right AI tools for their students' language level and set clear rules on when and how to use them. This guidance helps scaffold the student's development as they learn to navigate these new tools safely [7, page 90].

Project Stage	Traditional Teacher Role	AI-Scaffolded Teacher Role	Key Student Skill
Brainstorming	Assigns the project topic	Teaches students how to write good AI prompts	Tech Literacy
Researching	Checks student library sources	Teaches students how to spot AI mistakes	Critical Thinking
Writing	Corrects every grammar error	Helps students choose the best style from AI options	Language Awareness
Evaluating	Gives a final grade	Leads classroom reflection on what was learned	Self-Assessment

Teachers must teach students to look at AI content critically. For example, a great classroom activity is asking students to compare an AI summary with a real textbook article to find any errors. In this activity, teachers can intentionally show students an AI-generated paragraph containing a historical error or a subtle grammatical mistake [3, page 34]. Students then work in teams using physical books or trusted encyclopedia sites to hunt down the error [4, page 70]. This builds both English language proficiency and critical digital literacy at the same time, transforming students from passive tech consumers into skeptical, analytical thinkers.

When combined with project-based learning, AI offers three major advantages:

- Greater Independence (Autonomy): Because AI tools can answer questions and give grammar feedback 24/7, students do not have to wait for the teacher's help constantly. In a traditional class, a student who gets stuck on a word at home might stop working until the next school day. With AI, they can immediately resolve their language doubts, meaning they take charge of their own learning trajectory.
- Personalized Learning: Every student learns at a different speed. In mixed-ability project groups, keeping everyone engaged is a challenge. Generative AI addresses this by tailoring its output. A student with lower proficiency can ask the AI to translate complex idioms or provide simplified definitions, while an advanced student in the same group can prompt the tool to provide sophisticated academic discourse markers.
- Increased Creativity: AI can inspire students by showing them different ways to organize information or design their projects, encouraging them to think outside the box. If a student group decides to create a video documentary, AI can provide them with examples of storyboards, diverse scripting formats, or unique perspectives on their topic that they had not previously considered.

Despite the benefits, teachers and students need to watch out for serious challenges:

- Over-Dependence: If students simply copy and paste text generated by AI, they bypass the thinking process entirely. Language acquisition requires cognitive effort; the brain must actively process, manipulate, and struggle with words to internalize them. Relying blindly on automated text generators stops students from actually learning English and harms their independent thinking.

- Inaccuracies: AI is not always right. Because these models predict language based on patterns rather than genuine understanding, they can present false historical data, incorrect translations, or misleading explanations with absolute confidence. Students must be reminded to verify important facts through trusted sources. Academic honesty is vital; students must realize that AI is only a helper, and the final work must reflect their own understanding.
- Privacy Concerns: Students should never type private personal details, school passwords, or sensitive family information into public AI systems, as these platforms often save user history to train their models. Teachers must run explicit digital safety lessons to ensure students protect their personal data while working online.

Designing a balanced assessment system is crucial for evaluating these AI-supported projects. Because the final product (such as a written report or slide deck) can be easily polished using generative tools, teachers must switch from a product-only grading system to a process-oriented assessment model [5, page 124]. This means a significant portion of a student's final project grade should be based on their research logs, prompt histories, mid-project peer reviews, and oral defense presentations.

During the oral defense phase, teachers can ask individual students specific questions about their projects, such as: "Why did your team select this specific vocabulary word here?" or "How did you verify that this statistic from your research was accurate?" [2, page 54]. This strategy ensures absolute academic integrity, motivates students to stay deeply engaged throughout the entire project timeline, and rewards them for developing true linguistic competence and genuine learner autonomy.

Conclusion

The strategic integration of artificial intelligence tools within project-based English language learning environments marks a major evolution in computer-assisted language pedagogy [4, page 59]. When used to enhance human thinking rather than replace it, AI makes learning more interactive, flexible, and student-centered. The technology should be viewed as an assistant rather than an author. The teacher remains the most important part of the classroom, ensuring that technology serves a real educational purpose. By balancing AI support with independent student work, educators can prepare students for both language success and the demands of the modern digital world.

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