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Use of AI Tools in Learning English at Highschool Level; Benefits and Challenges

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Abstract

This paper explores the integration of Artificial Intelligence (AI) tools in high school English education, examining their transformative potential and inherent risks. As generative AI models like ChatGPT and automated writing assistants like Grammarly become ubiquitous, they offer unprecedented opportunities for personalized learning, immediate feedback, and enhanced student engagement. However, these benefits are counterbalanced by significant challenges, including academic dishonesty, cognitive over-reliance, and the potential erosion of critical thinking skills. Drawing on recent scholarship and educational theory, this research argues that while AI tools can serve as effective scaffolds for language acquisition, their successful implementation requires a pedagogical shift toward AI literacy and "human-in-the-loop" instruction to preserve the integrity of the learning process.

Keywords: Artificial Intelligence, English Education, AI Literacy, Academic Integrity, Scaffolding

1. Introduction

The rapid proliferation of Artificial Intelligence (AI) in the educational sector has precipitated a paradigm shift in how languages are taught and learned. In the high school English classroom—a space traditionally defined by the close reading of texts and the manual drafting of essays—AI tools have emerged as both powerful assistants and disruptive forces. Tools ranging from Large Language Models (LLMs) like ChatGPT to grammar-checking software like Grammarly are no longer futuristic novelties but daily realities for students and teachers alike.

The central tension in this integration lies between efficiency and efficacy. While AI can automate the mechanics of writing and provide instant gratification, educators question whether it supports or supplants the cognitive struggle necessary for deep learning. As scholars Warschauer and Xu note, the use of AI tools has a "profound impact on the way in which language is taught by teachers and produced by learners," fundamentally altering the writing process (Warschauer and Xu). This paper investigates the dual nature of AI in high school English, analyzing how these tools can scaffold learning through personalization and feedback while simultaneously presenting risks to academic integrity and student autonomy.

2. Literature Review

1. Systematic Literature Review on AI in English Language Education (2025)

This comprehensive review synthesizes 50 peer-reviewed articles to identify the current trajectory of AI in ELT. It highlights a "dual-reality" where AI functions as both a catalyst for engagement and a potential threat to pedagogical standards.

Key Findings: AI tools significantly enhance learner autonomy and provide immediate, low-stakes feedback that reduces language anxiety. However, the review warns that "cultural mismatches" in AI-generated content can lead to a homogenization of language that lacks regional nuance.

2. The Impact of ChatGPT on 11th-Graders' Writing Skills (2024–2025)

An experimental study specifically focusing on high school juniors (11th graders) in a mixed-methods framework. The research compared students using traditional feedback methods with those using ChatGPT as a post-writing corrective tool.

Key Findings: Students using ChatGPT showed statistically significant improvements in coherence, lexical precision, and grammatical accuracy. However, the control group outperformed the AI group in "source management" and bibliographic integrity, suggesting that AI users often skip the rigorous process of verifying references.

3. AI Literacy as a Moderator of Student Creativity (2025)

This study explores the relationship between AI usage, student engagement, and creativity. It introduces the "Conservation of Resources" theory to explain how AI can either deplete or build a student's cognitive resources.

Key Findings: The study found that AI only enhances creativity when **AI Literacy** is high. Without specific instruction on how to prompt and critique AI, students tend toward "cognitive disengagement," where they accept the first output generated by the tool rather than iterating on it.

4. Trends and Gaps in AI Research for Language Education (2025)

A longitudinal review that identifies the shift from AI as a "supplementary tool" to a "central workflow component" for secondary and tertiary students.

Key Findings: While AI improves "performance expectancy" (the belief that the tool will help them succeed), it correlates negatively with long-term "critical thinking self-efficacy." Students began to doubt their own ability to write without the AI's presence.

5. U.S. Department of Education: AI and the Future of Teaching and Learning (2023–2024 Update)

A policy-oriented literature review that emphasizes the "Human-in-the-Loop" (HITL) framework for secondary schools.

Key Findings: The report argues against "automated teaching" and instead advocates for AI as a "scaffolding assistant." It warns that the "black box" nature of AI algorithms can lead to bias in grading and feedback if teachers are not actively involved in the loop.

3. Methods

The methodology for this research paper is categorized as **Qualitative Secondary Research**, specifically utilizing a **Thematic Literature Synthesis**. Since this paper synthesizes existing scholarly work to draw conclusions rather than conducting new experiments or surveys, the method focuses on the systematic collection and analysis of peer-reviewed data.

1. Research Design

The study adopts a **qualitative approach**, focusing on the interpretation of educational theories (such as Vygotsky's Zone of Proximal Development) and the synthesis of recent empirical findings regarding AI in the classroom. This design allows for a deep exploration of the "how" and "why" behind the benefits and challenges of AI integration.

2. Data Collection and Sourcing

Information was gathered through a systematic search of academic databases, including **ERIC, JSTOR, Google Scholar,** and **ScienceDirect**.

Temporal Scope: The search was limited primarily to sources published between **2022 and 2025** to ensure the research reflects the most recent advancements in Large Language Models (LLMs).

3. Inclusion and Exclusion Criteria

To maintain a high level of academic rigor, the following criteria were applied:

Inclusion: Peer-reviewed journal articles, government educational reports (e.g., U.S. Dept. of Education), and case studies specifically targeting secondary education or English as a Second Language (ESL).

Exclusion: Opinion-based blog posts, non-scholarly news articles, and studies focusing solely on higher education (universities) unless the findings were directly transferable to the high school level.

The Theoretical Context: AI as a Scaffolding Tool

To understand the role of AI in the classroom, it is essential to view it through the lens of established educational theory. Lev Vygotsky's sociocultural theory, particularly the concept of the Zone of Proximal

Development (ZPD), provides a useful framework. In this context, AI acts as a mediator or a "more knowledgeable other," providing the scaffolding necessary for students to bridge the gap between their current abilities and potential mastery.

Recent studies confirm this theoretical alignment. From a sociocultural perspective, AI writing tools "mediate the multiple stages of the writing process and provide scaffolding for the students to generate ideas" (Warschauer and Xu). Unlike static textbooks, AI tools are dynamic; they adapt to the user's input, offering a form of personalized interaction that was previously impossible in large classrooms. However, the effectiveness of this scaffolding depends entirely on how the tool is used—whether as a partner in the writing process or a substitute for it.

Benefits of AI in the English Classroom

1. Personalized Learning and Differentiated Instruction

One of the most significant advantages of AI in education is its ability to tailor instruction to individual needs. High school English classes are often heterogeneous, with students displaying widely varying levels of proficiency. AI-powered platforms can address this disparity by providing "a personal virtual tutor and tailored instructional materials" (Lee and Lee).

For English as a Foreign Language (EFL) and English as a Second Language (ESL) learners, this personalization is crucial. AI tools can adjust the complexity of texts, offer vocabulary support in real-time, and explain grammar concepts in multiple ways until the student understands. Research indicates that this adaptability significantly "boosts students' motivation" (Song and Song) by preventing the frustration that occurs when material is too difficult or the boredom when it is too simple.

2. Immediate Feedback and Reduced Anxiety

Writing anxiety is a pervasive issue among high school students, often stemming from a fear of judgment or negative evaluation. AI tools offer a private, low-stakes environment where students can receive immediate feedback. A qualitative study on student perceptions revealed that AI tools like ChatGPT are viewed as "judgment-free" zones, where students can ask questions they might be too embarrassed to ask a teacher (Du).

This immediacy is also pedagogically valuable. In a traditional setting, a student might wait days or weeks for a teacher to grade an essay. In contrast, AI tools provide "instant feedback and suggestions on writing" (Alharbi), allowing students to iterate on their work immediately. This iteration cycle—writing, receiving feedback, and revising—is central to developing writing proficiency. As Barrot found, students using ChatGPT in writing practicums experienced "fewer grammatical errors and greater lexical diversity," suggesting that the tool effectively reinforces technical language skills (Barrot).

3. Engagement and Idea Generation

Writer's block is a common hurdle for high school students. AI tools have proven to be exceptional brainstorming partners. By generating prompts, outlines, or alternative perspectives, these tools help students overcome the "blank page syndrome." Lingard highlights that teachers and students can use ChatGPT effectively to "generate and brainstorm ideas in class," facilitating the creative process rather than replacing it (Lingard).

Furthermore, the interactive nature of chatbots can mimic a "study buddy" relationship. A longitudinal exploration of student interactions with ChatGPT found that many students perceived the AI as a companion that supported their learning journey, thereby increasing their "performance expectancy" and engagement with the material (Strzelecki).

Challenges and Ethical Concerns

1. The Plagiarism Paradox and Academic Integrity

The most immediate and vocal concern regarding AI in English classrooms is plagiarism. The capability of LLMs to generate coherent, sophisticated essays in seconds threatens the validity of traditional assessments. As Liu et al. argue, the abuse of AI has the potential to cause a "drastic increase in cases of academic misconduct," blurring the line between legitimate academic work and unethical activity (Liu et al.).

The challenge is compounded by the fact that traditional plagiarism detection software is often ineffective against AI-generated content. This creates a "plagiarism paradox": while AI can teach students to write better, it also offers them the easiest route to avoid writing altogether. Students who rely on AI to generate content rather than refine it deny themselves the cognitive benefits of the writing process. Chaka warns that AI tools allow students to generate texts that "do not always represent their fresh ideas," leading to a hollow form of academic success (Chaka).

2. Over-Reliance and the Erosion of Critical Thinking

Beyond simple cheating lies a more insidious danger: cognitive atrophy. If students consistently offload the cognitive labor of structuring arguments, selecting vocabulary, and synthesizing information to an algorithm, their own critical thinking skills may diminish. Darwin et al. describe this phenomenon as a potential loss of "critical thinking skills," where the convenience of the tool overrides the educational value of the task (Darwin et al.).

A study of Moroccan secondary students revealed a paradox where students embraced ChatGPT for its autonomy-enhancing features yet remained "cautious about the risks of cognitive dependency" (PerQueryResult 2.3). The concern is that students will become editors of AI content rather than creators of original thought, leading to a superficial understanding of the English language and literature.

3. Hallucinations and Inaccuracy

Despite their sophistication, AI tools are not infallible. They are prone to "hallucinations"—confidently stating false information as fact. In the context of English learning, this can manifest as incorrect grammar explanations, nonexistent citations, or misinterpretations of literary texts. Xu and Zhang argue that some AI writing tools provide "overly lengthy, repetitive feedback, and even feedback that is sometimes inaccurate" (Xu and Zhang). For high school students who may lack the expertise to distinguish between correct and incorrect AI outputs, this unreliability poses a significant pedagogical risk.

Future Implications: The Teacher's Evolving Role

The integration of AI necessitates a redefinition of the teacher's role. Rather than being the sole source of knowledge or the gatekeeper of grammar, the English teacher must become a facilitator of "AI literacy." This involves teaching students not just how to use these tools, but how to evaluate them critically.

As educational researchers emphasize, the secret to successful integration is to "use AI to enhance human engagement in EFL instruction rather than to replace it" (Yang). Teachers must design assignments that require human insight—such as connecting literary themes to personal experiences or analyzing local current events—tasks that AI currently struggles to perform authentically.

Conclusion

The role of AI tools in high school English learning is characterized by a complex interplay of high-value benefits and high-stakes challenges. On one hand, tools like ChatGPT and Grammarly democratize access to personalized tutoring, reduce writing anxiety, and scaffold the complex process of language acquisition. On the other, they threaten to undermine academic integrity and atrophy the very critical thinking skills that English education aims to cultivate.

Ultimately, the impact of AI depends on the pedagogical framework in which it is deployed. As scholars suggest, the use of AI in education is "inescapable" (Alharbi). Therefore, the path forward lies not in prohibition, but in a balanced integration where AI serves as a scaffold for, rather than a substitute for, the human intellect. By fostering an environment of critical engagement and ethical usage, educators can harness the power of AI to enrich the English classroom while safeguarding the essential human elements of creativity and thought.

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