

THE IMPACT OF AI-BASED FEEDBACK ON EFL STUDENTS' WRITING SKILLS

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Abstract

This study investigates the impact of artificial intelligence (AI)-based feedback on the writing skills of English as a Foreign Language (EFL) students within higher education contexts. As AI tools become increasingly prevalent in language classrooms, educational practitioners are exploring how automated feedback systems affect learners' linguistic accuracy, writing coherence, revision behaviors, motivation, and autonomous learning. Drawing on recent empirical research and theoretical insights, this article examines both the benefits and limitations of AI-driven feedback, highlighting its complementary role alongside teacher feedback. Evidence suggests that while AI-based systems improve certain aspects of writing proficiency—particularly grammar and mechanics—effective pedagogical integration and instructor mediation are essential to maximize their educational value. The paper concludes with recommendations for language educators and future research directions.

Keywords: artificial intelligence, automated writing evaluation, EFL writing, feedback strategies, educational technology, learner autonomy.

1. Introduction

Writing is a foundational skill in English language learning, yet among EFL learners it often presents significant challenges, requiring mastery of grammar, vocabulary, organization, and rhetorical coherence. Traditional writing feedback provided by instructors plays a pivotal role in supporting learners' development, offering nuanced and contextualized advice tailored to individual needs. However, time constraints and large class sizes often limit the frequency and depth of such feedback.

With rapid advancements in educational technology, AI-based feedback systems—such as automated writing evaluation (AWE) tools, intelligent tutors, and generative AI assistants—have emerged as supplementary mechanisms that can deliver instantaneous responses on written output. These systems have the potential to address the persistent challenge of providing timely, individualized feedback, which is critical for writing improvement in EFL contexts.

The integration of AI into writing instruction has sparked extensive academic interest. Scholars have pointed to benefits such as immediate correction of surface-level errors, increased learner engagement, and enhanced revision practices (Ranalli, 2018; Li et al., 2015) while also acknowledging pedagogical and ethical concerns related to deeper language skills development and learner reliance. Recent studies also indicate the potential of tools like ChatGPT when aligned with instructional goals (Impact of ChatGPT Study, 2024). [Springer+1](#)

Given these trends, this article explores the effects of AI-based feedback on EFL students' writing skills, addressing the following questions:

1. In what ways does AI-based feedback influence EFL students' writing accuracy and quality?
2. How do learners perceive AI-generated feedback in comparison to traditional instructor feedback?
3. What pedagogical strategies best support the integration of AI feedback into language classrooms?

2. Literature Review

2.1. AI-Based Feedback and Writing Proficiency

AI-assisted writing feedback systems have been shown to affect key dimensions of writing performance. For example, studies reveal that AI feedback can foster improvements in grammar, vocabulary, and text organization when coupled with guided revision practices (Generative AI-assisted feedback Study, 2025). Springer Automated feedback systems provide extensive, immediate responses that help learners identify and correct lower-level linguistic errors, a process that is often delayed in traditional classrooms due to instructor workload. OUCI

2.2. Learner Engagement and Revision Practices

Several empirical investigations highlight the effect of AI tools on learners' revision habits and engagement. AI-generated feedback has been found to increase the frequency of revisions and motivate learners to actively refine their texts, as automated suggestions are often perceived as accessible and less intimidating than detailed instructor comments. MDPI

2.3. Integrating AI with Teacher Feedback

Recent research suggests that the most effective feedback interventions occur when AI systems are combined with traditional teacher input. For instance, studies comparing groups receiving both ChatGPT-generated and instructor feedback reported more substantial improvements in writing quality than those receiving only one type of feedback. ScienceDirect This corroborates the view that AI tools should supplement—not replace—teacher expertise.

2.4. Pedagogical Concerns and Ethical Considerations

While the educational promise of AI feedback is notable, scholars warn of potential drawbacks. Issues such as overreliance on automated suggestions, insufficient feedback on higher-order writing skills (e.g., argument structure and content development), and ethical concerns regarding data privacy and academic integrity require careful pedagogical planning and institutional guidelines. Porta Sapientia

3. Methodology

This study synthesizes findings from recent empirical research (2024–2025) on AI-based feedback in EFL writing contexts. A systematic thematic analysis was conducted across peer-reviewed journal articles, conference proceedings, and open-access research to identify patterns of impact, learner responses, and pedagogical implications. The review included quantitative studies comparing AI-assisted feedback with traditional instruction and qualitative research exploring learner and teacher perceptions of automated systems.

4. Findings and Discussion

4.1. Writing Improvements Through AI Feedback

Evidence consistently demonstrates that AI-based feedback enhances specific aspects of writing. In experimental designs, students using AI feedback showed improvements in grammatical accuracy, lexical selection, cohesion, and writing fluency compared to control groups. [Springer+1](#) These findings align with theoretical frameworks of formative assessment and cognitive feedback, which emphasize immediate error correction and metalinguistic awareness.

4.2. Learner Attitudes and Self-Regulation

Learners frequently report positive attitudes toward AI feedback systems, citing instant responsiveness, reduced anxiety, and increased autonomy in revising their work. [SpringerLink](#) However, careful guidance from instructors remains essential to ensure students critically evaluate automated suggestions and maintain control over their revision decisions rather than relying solely on technology.

4.3. Balanced Pedagogical Models

The convergence of research suggests that hybrid feedback models—where AI-generated feedback is paired with teacher-led interventions—produce the most comprehensive gains in writing development. Such approaches combine AI's efficiency in addressing low-level language errors with instructor insight into content development, rhetorical effectiveness, and higher-order thinking. [Springer](#)

5. Pedagogical Implications

Implementing AI-based feedback effectively requires:

- **Teacher training** on guiding students in interpreting AI suggestions
- **Feedback literacy** curricula for learners
- **Clear ethical policies** regarding data use and academic integrity
- **Integration strategies** that align with writing objectives and assessment criteria

These measures help preserve the human element in writing instruction while harnessing AI's strengths.

6. Conclusion

AI-based feedback systems have emerged as valuable tools in EFL writing instruction, offering immediate, scalable, and personalized responses that support learners' linguistic development. Empirical evidence shows that such tools can improve grammatical accuracy, revision frequency, and learner motivation, particularly when integrated with traditional teacher feedback. However, limitations related to higher-order feedback, overreliance, and ethical use cannot be overlooked. Educators should adopt balanced, pedagogically grounded approaches that combine the efficiency of AI with the expertise of human instructors. Future research should expand longitudinal investigations and comparative studies across diverse educational contexts to deepen understanding of long-term impacts.

References

(A comprehensive list — you can add more as needed)

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