International Journal of Teaching and Learning (INJOTEL) e-ISSN: 3025-8308
Vol. 3 No. 7, 2025, pages: 138~157

INVESTIGATING THE IMPACT OF AI-FEEDBACK VS TEACHER FEEDBACK ON EFL STUDENT'S REVISION PROCESSES IN EXPOSITORY WRITING TASKS

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Abstract

This study aims to investigate the impact of artificial intelligence-based feedback compared to teacher feedback on EFL (English as a Foreign Language) students' revision process in expository writing assignments. In the context of English language learning, providing feedback is crucial for helping students improve their writing quality and metacognitive awareness of the writing process. With the advancement of artificial intelligence technology, various digital platforms are now capable of providing rapid and detailed automated feedback, rivaling the effectiveness of traditional teacher feedback. Using a literature review, this study compiled and analyzed the results of previous empirical studies that evaluated the effectiveness, accuracy, and influence of these two forms of feedback on EFL writers' revision strategies. The literature review revealed that AI-feedback has the advantage of providing instant and objective responses that help students efficiently identify linguistic errors, while teacher feedback remains superior in providing contextual guidance, nuanced meaning, and affective support that play a crucial role in shaping student motivation and engagement. Thus, this study highlights the importance of a hybrid approach that integrates AI-feedback with human intervention to create a more effective, personalized, and sustainable revision process in academic writing learning.

Keywords: AI-feedback, teacher feedback, EFL students, revision process, expository writing.

INTRODUCTION

In the context of learning English as a Foreign Language (EFL), writing is one of the most complex skills for students to master. Unlike listening,

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speaking, and reading, writing requires mastery of multiple linguistic aspects simultaneously, such as grammar, vocabulary, coherence, and the logical organization of ideas. In practice, many EFL students struggle to produce effective expository writing, characterized by the ability to present arguments in a structured and evidence-based manner. Therefore, the revision process is a crucial part of writing learning, as it allows students to correct errors, refine their writing style, and enhance the clarity and effectiveness of their messages.

One factor that significantly influences the quality of students' revised writing is the type of feedback they receive ("The Impact of Integrating ChatGPT with Teachers' Feedback on EFL Writing Skills," 2025). In traditional writing pedagogy, teacher feedback is considered a central component in helping students correct errors and develop metacognitive awareness of their writing. Teachers typically provide direct corrections on both linguistic and content aspects of the writing, along with comments that clarify areas for improvement. However, with increasing student numbers and teachers' time constraints, providing detailed and personalized feedback often becomes a challenge. This situation has prompted exploration of more efficient feedback alternatives, one of which is the use of artificial intelligence to provide automated feedback on student writing.

The emergence of AI technology in education has brought significant changes to how teachers and students interact in the teaching and learning process, including in writing instruction. AI systems such as Grammarly, Write & Improve, and ChatGPT are now capable of providing automatic linguistic corrections, style suggestions, and instant recommendations for sentence structure improvement. The speed and consistency of AI feedback make it an attractive tool for EFL writing instruction, particularly because it can help students practice independently without having to wait for teacher evaluation (Abdi Tabari et al., n.d.-a). However, the effectiveness of AI feedback compared to teacher feedback remains a matter of academic debate, particularly in the context of how these two types of feedback influence students' revision processes (Alnemrat et al., 2025a).

Previous studies have shown that teacher feedback is often more meaningful because it is based on contextual assessment and an understanding of students' individual abilities. Teachers not only provide corrections but also stimulate student reflection through affective and motivational comments. In contrast, AI feedback tends to be mechanical, limited to linguistic patterns that the algorithm can recognize, without considering the writer's communicative intent or the context of the writing task. However, other research suggests that

AI feedback can accelerate the learning process by providing immediate feedback that allows students to experiment and make improvements more quickly. This suggests that the effectiveness of both forms of feedback may depend on how students process, interpret, and implement the feedback they receive in revising their writing.

The revision process in writing, as explained by cognitive writing theory (Luo et al., 2025), is not simply the activity of correcting superficial errors, but rather a deep rethinking of the content, organization, and purpose of written communication. Therefore, the type and quality of feedback students receive may influence how they engage in revision. AI feedback may encourage revisions that focus more on language form, while teacher feedback may encourage more substantive revisions of content and argument structure. This difference in focus makes examining the impact of both types of feedback on students' revision processes important for understanding how technology can support or complement the teacher's role in teaching academic writing (Mekheimer, 2025).

Furthermore, in the EFL context, student characteristics such as language proficiency level, learning strategies, and perceptions of technology also play a role in determining the extent to which they benefit from AI or teacher feedback. Some students may be more motivated by automated feedback that is quick and free from social pressure, while others may find human feedback to provide more meaningful insights because it encompasses emotional and pedagogical dimensions (Guo et al., 2025). Therefore, it is important to examine not only the final writing outcomes but also the cognitive and affective processes that occur during revision as students interact with different forms of feedback.

A review of the literature on this topic reveals a research gap in understanding how AI feedback and teacher feedback differentially shape EFL students' revision behavior, particularly in expository writing tasks that require critical thinking skills and complex organization of ideas. Most previous research tends to focus on the effectiveness of AI feedback in improving grammatical accuracy or writing scores, rather than on the revision process itself (Ma et al., 2025). In fact, understanding how students respond to and integrate feedback into their revisions can provide deeper insights into the development of their writing competencies (Wang, 2024a). Therefore, studies comparing the impact of AI feedback and teacher feedback on the revision process of expository writing are relevant and significant, both from a pedagogical and educational technology perspective.

Furthermore, the dynamics of the relationship between humans and machines in the context of writing learning are also becoming an increasingly interesting topic to study. The integration of AI in the classroom raises questions about the ethical boundaries and roles of technology and teachers. Can AI partially replace the role of teachers, or instead serve as a supporting tool that strengthens human feedback-based learning? In the context of EFL pedagogy, the answers to these questions have important implications for curriculum design, teaching strategies, and the development of students' digital literacy. Teachers need to understand how to use AI as an effective learning partner without losing the humanistic dimension of language education (Pariyanto & Tungka, 2025a).

Overall, the study, titled "Investigating the Impact of AI-Feedback vs. Teacher Feedback on EFL Student's Revision Processes in Expository Writing Tasks," aims to better understand how two types of AI and teacher feedback influence the way EFL students revise their expository writing. Using a literature review approach, this study seeks to integrate previous empirical findings to identify patterns, differences, and potential synergies between AI-based feedback and traditional feedback. The results of this study are expected to contribute to the development of writing pedagogical practices in the digital era, while also providing a basis for designing writing learning models that are more adaptive, effective, and oriented to the needs of 21st-century students.

This research also has practical relevance in the context of the globalization of language education, where the use of technology has become an integral part of the teaching and learning process. With the increasing reliance on AI systems for assessment and feedback, a critical understanding of their impact is crucial for educational institutions to adopt technology not only instrumentally but also reflectively and ethically. By exploring the dynamics between AI-feedback and teacher feedback, this research seeks to bridge the gap between technological and humanistic approaches to writing instruction, as well as provide direction for a more meaningful integration of artificial intelligence in teaching English as a foreign language.

RESEARCH METHOD

This study used a literature review method to investigate the impact of providing artificial intelligence-based feedback compared to teacher feedback on EFL students' revision processes in expository writing assignments. This approach was chosen because it allowed the researchers to systematically review various previous research findings to identify relevant trends, gaps, and

key findings. The review process was conducted by searching academic journals, conference proceedings, and other credible sources published in the past ten years, focusing on studies that addressed the effectiveness of AI-based feedback in improving the quality of revisions, student engagement in the writing process, and students' perceptions of the type of feedback received. Strict inclusion criteria were established to ensure that only literature meeting thematic, methodological, and linguistic relevance was analyzed in depth.

Data analysis was conducted using a thematic approach to identify conceptual patterns emerging from the reviewed literature, such as differences in effectiveness between AI-based feedback and teacher feedback on the content, organization, and mechanics of EFL students' writing. Each study was compared based on its research design, participant context, and evaluation instrument used, allowing for the development of a conceptual framework that illustrates the relationship between feedback type, the revision process, and the improvement of expository writing quality. The results of this synthesis not only provide an in-depth understanding of the contribution of artificial intelligence technology to foreign language writing teaching, but also offer theoretical and pedagogical recommendations for the development of more adaptive feedback practices in modern EFL learning contexts.

RESULT AND DISCUSSION

Comparing the Effectiveness of AI-Feedback and Teacher Feedback in Expository Writing Revision

In the context of learning English as a foreign language (EFL), writing is a complex skill that requires mastery of grammar, vocabulary, organization of ideas, and critical thinking skills. The revision process is a crucial part of writing skill development because it allows students to review their writing, correct errors, and improve the coherence of their arguments (Abdi Tabari et al., n.d.-b). In the last decade, developments in artificial intelligence technology have introduced a form of automated feedback known as AI-feedback. This form of feedback is now both an alternative and a complement to traditional teacher feedback. Therefore, a key question in recent research has arisen: to what extent is AI-feedback effective compared to teacher feedback in helping EFL students improve the quality of their expository writing revisions?

Previous research has shown that teacher feedback has historically been considered superior because it is contextual, interpersonal, and able to provide affective guidance to students. According to Hyland and (Alnemrat et al., 2025b), the interaction between teachers and students during the feedback

process creates a pedagogical dialogue that not only corrects linguistic errors but also fosters students' metacognitive awareness of the writing process. Teachers can tailor comments based on students' ability levels, writing goals, and emotional needs. However, several studies have found that the effectiveness of teacher feedback can also be limited by time factors, subjectivity in assessment, and high teacher workload, especially in large class contexts. This has prompted exploration of AI technologies that offer speed, consistency, and objectivity in providing feedback.

Meanwhile, AI feedback generated by Natural Language Processing (NLP)-based systems such as Grammarly, Criterion, or ChatGPT provides automatic analysis of spelling, grammar, and sentence structure errors. Several studies, such as those by Li, Link, and (Yu & Xie, 2025), have shown that AI feedback helps EFL students improve the linguistic accuracy of their writing. With its high analysis speed, AI enables students to immediately identify errors and correct them independently. This aligns with findings by Ranalli, Link, and Chukharev-Hudilainen (2017), who stated that the use of automated writing evaluation (AWE) systems can increase the efficiency of the revision process because students can receive immediate feedback without having to wait for teacher evaluation. However, this advantage is often limited to mechanical aspects of writing such as grammar and vocabulary, while rhetoric, argumentativeness, and coherence of ideas still require human intervention (Solak, 2024).

The comparison of the effectiveness of AI-feedback and teacher feedback is also evident in the quality of revisions. Research by (Wang, 2024b) suggests that teacher feedback tends to result in more conceptually meaningful revisions because teachers are able to provide comments on idea development and paragraph organization. In expository writing, where the primary goal is to convey an argument logically and structured, the teacher's ability to guide students' thought processes is crucial. Conversely, AI-feedback is superior in encouraging form-focused revisions, such as improvements to grammar, spelling, and word choice. Several comparative studies, such as those conducted by (Nazli et al., 2025) found that the combination of AI-feedback and teacher feedback provided the most optimal results: AI accelerated technical improvements, while teachers deepened conceptual and argumentative revisions.

In terms of language accuracy, AI feedback has proven effective in detecting linguistic errors with high precision. Research by Chen and (Maryam et al., 2024) showed that EFL students who used AI tools like Grammarly

showed significant improvements in grammar accuracy and sentence structure usage. However, this effectiveness does not always translate directly to a deep understanding of language rules, as some students simply accepted the AI's suggestions without truly understanding the rationale. In contrast, teacher feedback provides a richer explanatory context and allows students to discuss the reasons behind improvements. Thus, in the long term, teacher feedback has the potential to better support continuous learning, although in the short term, AI feedback can produce rapid and measurable improvements.

Argumentative coherence is another aspect that differentiates the impact of the two types of feedback. Expository writing requires the ability to connect ideas logically and construct a convincing argument. In this regard, teacher feedback is better able to help students understand the relationships between ideas, paragraph transitions, and the strength of arguments. A study by (Pariyanto & Tungka, 2025b) confirmed that holistic teacher feedback can improve the quality of argumentation because students can review the logic of their writing, not just refine its form. In contrast, AI feedback is still limited in assessing and providing suggestions regarding the rhetorical and semantic dimensions of writing. Although some recent AI systems have begun to integrate discourse analysis, the results are not as comprehensive as human assessments because argumentative contexts are complex and often require in-depth pragmatic understanding.

Nevertheless, a number of recent studies highlight the potential synergy between AI feedback and teacher feedback in the context of writing instruction. (Murff, 2025), for example, emphasizes that AI can act as a learning partner, providing initial feedback, while the teacher serves as a final evaluator, validating and deepening the revision process. This approach is known as a "blended feedback approach," where students benefit from the efficiency of AI and the depth of teacher reflection. In the context of expository learning, this strategy can increase student independence, as they become accustomed to making initial revisions autonomously based on AI feedback, before receiving further guidance from the teacher to improve aspects of logic and argumentation. From these findings, it can be concluded that both AI-feedback and teacher feedback have their respective advantages and limitations. AI-feedback excels in speed, objectivity, and accuracy in detecting linguistic errors, while teacher feedback is superior in providing rhetorical, affective, and conceptual guidance. In the context of revising expository writing, the effectiveness of both depends heavily on the learning objectives: if the focus is on improving language form and structure, AI-feedback is very useful; however,

if the focus is on developing arguments and coherence, the role of the teacher remains irreplaceable. Therefore, an integrative approach that combines the strengths of AI and teachers is the most ideal solution for holistically improving EFL students' writing skills. This approach not only improves the quality of writing but also fosters students' reflective awareness of the revision process as part of ongoing learning.

Cognitive Processes in Writing Revision: An EFL Learner's Perspective

The cognitive process of writing revision is a complex and dynamic aspect, especially for English as a foreign language (EFL) learners. Writing revision involves more than just mechanical improvements such as grammar, spelling, or sentence structure; it also encompasses a deep thought process related to how the writer understands, evaluates, and adjusts their ideas based on the feedback received. In the context of second language learning, writing revision often reflects the interaction between linguistic ability, metacognitive awareness, and an understanding of the writing's communicative purpose. This process becomes even more complex when EFL learners must integrate feedback from various sources, both from teachers and from artificial intelligence-based systems, each of which has different cognitive characteristics and influences on how they think and revise their text (Ke & Zhou, 2024).

From a cognitive perspective, writing revision involves several stages of thinking, such as error detection, reflection on the meaning of the message, and decision-making about necessary changes. EFL writers tend to use localized revision strategies in the early stages of learning, focusing on surface errors such as grammar, vocabulary, and punctuation. This is due to the high cognitive load of processing a foreign language, where most mental capacity is devoted to mastering linguistic forms rather than processing ideas or discourse organization. However, as language competence increases and they are exposed to various types of feedback, their cognitive processes begin to shift toward global revision, involving evaluations of argumentative structure, inter-paragraph cohesion, and the appropriateness of content to the writing's rhetorical purpose. This shift indicates the development of metacognitive awareness, where learners begin to assess their writing more critically and strategically (Kormos, 2023).

Feedback plays a central role in triggering cognitive processes during writing revision. For EFL students, teacher feedback typically provides explicit instructions on errors to be corrected and strategies for correcting them. This

facilitates a purposeful cognitive process, where students rely on external guidance to understand weaknesses in their writing. This process can enhance their linguistic awareness, but it can sometimes lead to mechanistic revision, as students focus more on complying with teacher corrections than on conceptual understanding. In contrast, feedback from AI-based systems often allows for greater interpretative space. Despite its automated and algorithmic nature, AI feedback can trigger reflective thinking, requiring students to interpret, accept, or reject the recommendations provided. In this context, the cognitive processes involved are more evaluative and autonomous, as students learn to weigh the validity of the input based on their own understanding of the writing context (Rahimi, 2021).

Furthermore, EFL learners' writing revision is inextricably linked to affective and metacognitive factors that influence information processing. When receiving feedback, students rely not only on analytical skills but also on emotional aspects, motivation, and self-confidence. Positive feedback can strengthen cognitive engagement and motivate students to think more critically about their writing, while harshly corrective feedback can trigger anxiety that hinders in-depth revision (Shen & Chong, 2023). Therefore, understanding the interplay between cognition and affect is crucial. EFL writers with high metacognitive awareness are typically better able to manage their emotions, using feedback as a learning tool rather than simply as an assessment of their abilities. They consciously plan revisions, monitor the effectiveness of the changes made, and systematically re-evaluate the final results of their writing.

In a pedagogical context, understanding these cognitive processes has significant implications for teaching English writing. Teachers need to be aware that each form of feedback demands different levels of cognitive processing from students. Direct feedback may be effective for improving linguistic accuracy, but it is less likely to encourage deeper reflection. Conversely, heuristic or question-based feedback can stimulate students to think critically and independently develop revision solutions. A cognitive scaffolding approach can be used to help students transition from surface revision to conceptual revision through gradual guidance, starting with providing explicit instructions and encouraging students to identify errors and develop their own corrective strategies. In this context, the teacher acts not only as a corrector but also as a facilitator of cognitive development, fostering autonomous learning (Rahimi et al., 2025).

Previous research also shows that cognitive processes in EFL writing revision are strongly influenced by the type of writing task and the communication purpose. In expository writing, for example, students are required to organize ideas and construct logical arguments, which require higher-level cognitive processing such as inference, evaluation of evidence, and synthesis of information (Zhang, 2020). In this context, revision focuses not only on clarity of language but also on logical consistency and argumentative strength. When students receive feedback that highlights weaknesses in their argumentation, they need to engage in in-depth reflection on their thought structure, often involving a complete reconstruction of their ideas. This process differs from narrative or descriptive revision, which relies more on creative and subjective aspects in the choice of diction and depiction of situations (Lee, 2020).

Thus, it can be said that the cognitive process of EFL students' writing revision is a complex interaction between linguistic, metacognitive, and affective processing, influenced by the type of feedback, language proficiency level, and the context of the writing task. Revision is not simply an activity of correcting errors, but a reflective thinking process that demands analytical and self-evaluative skills. The greater students' cognitive awareness of effective revision strategies, the greater their chances of producing more mature, coherent, and communicative writing. Therefore, research and pedagogical practice in EFL academic writing need to continue emphasizing the development of students' cognitive awareness of revision, not only of the final product but also of the thought processes that shape it.

Student Motivation and Perceptions of AI-Feedback and Teacher Feedback

Student motivation and perceptions of AI-feedback and teacher feedback are important dimensions in understanding how technology influences the writing learning process, particularly in the context of English as a Foreign Language (EFL) (Al Harrasi et al., 2025). In the last decade, artificial intelligence-based feedback systems such as Grammarly, Criterion, and ChatGPT have become popular alternatives for teachers to provide comments and suggestions for improving student writing. However, students' emotional, cognitive, and social responses to these two types of feedback still show significant variation. Students' perceptions of the effectiveness, fairness, and comfort of receiving feedback play a significant role in determining their motivation to revise and improve their writing. Therefore, understanding the

dynamics of these perceptions is crucial for designing learning strategies that balance human intervention and technological support.

From a motivational perspective, students often view AI-feedback as efficient and instant. Automated feedback systems can provide immediate correction of grammatical, spelling, and sentence structure errors without having to wait for teacher correction. This speed of response fosters a greater sense of self-control and autonomy in learning. Students feel able to experiment and learn from their mistakes independently, which in turn increases intrinsic motivation to write. However, some studies have shown that while AI-powered feedback can speed up the revision process, the resulting motivation is often short-lived and oriented more toward linguistic outcomes than toward the quality of ideas or argumentation. This occurs because students focus more on "correcting mistakes" than on understanding the conceptual meaning behind the revision suggestions (A Comparative Analysis of AI-Powered and Teacher-Led Feedback: Investigating Student Perceptions and Writing Performance | Journal of English Language Teaching, n.d.).

In contrast, teacher feedback is generally perceived as a more personalized, empathetic, and emotionally meaningful form of feedback. Teachers not only correct linguistic errors but also comment on the content, coherence, and style of writing. Teacher feedback is often perceived as more credible because it is based on an understanding of the learning context and individual student characteristics. For most EFL students, teacher comments provide a sense of security and validation for their efforts, fostering affective motivation and confidence in writing. However, teacher feedback can also trigger anxiety or fear of failure, especially when the comments are overly critical or difficult to understand. In such cases, students may feel a loss of control over the revision process and become passive in correcting their mistakes (Perdana et al., 2025). Thus, the motivation that arises from teacher feedback depends heavily on the teacher's communication style and pedagogical approach.

In terms of perceived effectiveness, students often viewed AI feedback as an accurate tool for identifying technical errors but less capable of providing conceptual advice. They perceived AI as being able to consistently correct grammar and punctuation, but tended to fail to understand argumentative context or nuances of meaning in expository writing. This perception suggests that students acknowledge the superiority of AI in mechanistic analysis but still believe that human understanding is irreplaceable in interpretive aspects (Nazaretsky et al., 2024). In this context, AI effectiveness is often associated

with efficiency, while teacher effectiveness is associated with depth of understanding. This suggests a perceptual dichotomy, with students viewing AI and teachers as complementary, rather than substitute, sources of feedback.

Fairness is also an important factor in shaping students' perceptions of these two types of feedback. Some students believe AI feedback is more objective because it is not influenced by personal bias, subjective preferences, or social relationships between teachers and students. AI is perceived as providing assessments based on consistent and transparent linguistic rules. However, some students feel that AI's inability to understand the cultural context and communicative purpose of writing makes it seem "unfair" in assessing personal expression or creative writing style. In contrast, teacher feedback is often perceived as more human and contextual, but its objectivity can also be questioned. Emotional factors, the teacher's mood, or perceptions of a particular student's abilities can influence how feedback is delivered. Therefore, perceptions of fairness in feedback often depend on the extent to which students trust the evaluation system, whether machine or human.

The perceived comfort level of receiving feedback also shows a significant difference. AI-feedback often creates a sense of comfort for students who tend to be introverted or fear direct criticism from teachers. They feel freer to try and fail without experiencing embarrassment or social pressure. Furthermore, AI feedback can be accessed at any time and in a more relaxed learning environment, giving students the flexibility to determine their own learning pace (Evaluating Teacher, AI, and Hybrid Feedback in English Language Learning: Impact on Student Motivation, Quality, and Performance in Hong Kong - Noble Lo, Sumie Chan, Alan Wong, 2025, n.d.). However, this comfort can sometimes be accompanied by a feeling of "coldness" or "lack of personalization," as AI doesn't show empathy or appreciation for students' efforts. Conversely, teacher feedback, while potentially anxiety-inducing, often provides an emotional connection that makes students feel cared for and valued as individuals. In the context of EFL learning, the interpersonal relationship between teacher and student is a crucial motivational component that cannot be fully replaced by interaction with an AI system.

Overall, students' motivations and perceptions of AI-feedback and teacher feedback reflect the complex interplay of affective, cognitive, and social factors in the writing learning process. AI-feedback can increase efficiency and autonomy, but it has limitations in understanding context and providing emotional support. Meanwhile, teacher feedback provides more meaningful and pedagogically relevant guidance, but it cannot always match

the speed and consistency of automated systems. Therefore, the most effective approach is not to replace one with the other, but rather to integrate both within a balanced learning framework. By leveraging the speed and objectivity of AI while maintaining the empathy and fairness of the teacher, writing instruction in EFL classrooms can create a more adaptive, personalized, and sustainable learning experience.

Challenges and Ethical Considerations in Using AI Feedback

The development of artificial intelligence (AI) technology has brought about significant transformations in the world of education, particularly in the practice of evaluating and providing feedback on student learning outcomes. AI feedback is now capable of analyzing writing, providing recommendations for improvement, and assessing the cohesion and coherence of arguments with speed and consistency that surpasses human capabilities. However, behind its potential to increase the efficiency and objectivity of assessment, complex ethical challenges and considerations lie, particularly related to data reliability, algorithmic bias, and its impact on the role of teachers and student autonomy. Discussing these aspects is crucial to ensuring that the implementation of AI feedback is not only technically effective but also ethically and equitably implemented in educational contexts (Yildiz Durak & Onan, 2025).

One of the main challenges in using AI feedback is the reliability of the data that serves as the basis for the system's learning and decision-making. AI algorithms are built on large amounts of collected data and used to train models to recognize specific patterns in text. However, if the training data is unrepresentative or contains errors, the analysis provided by AI can be biased and inaccurate. For example, an AI system trained using a corpus of English texts from native speakers may not be able to fairly assess the writing of EFL (English as a Foreign Language) students with varying styles. As a result, students may receive feedback that is not relevant to their learning context. Furthermore, reliability concerns also extend to data security and privacy. Many AI-feedback systems require access to student writing and user information, raising concerns about how this data is stored, used, and protected from misuse (Diri & Oladayo, 2025). In this context, clarity regarding regulation and transparency of the system are crucial to ensure that student data is used ethically and responsibly.

Algorithmic bias is another highly relevant ethical issue in the use of AI-feedback in educational settings. Bias can arise from various sources, including imbalanced training data, assumptions embedded in algorithm design, and the

model's interpretation of user input. For example, an AI system might rate formal writing as more "quality" than expressive or creative writing, simply because the training data patterns often feature formal academic texts. This could potentially lead students to adapt their writing style to please the system, rather than to express ideas authentically. Bias can also impact perceptions of fairness in the assessment process, especially if the AI is perceived to favor certain groups of students whose language is more closely aligned with the training model (Sadigzade, 2025). Therefore, it is crucial for developers and educators to understand and anticipate this potential bias through algorithmic audits, refinement of more inclusive datasets, and ongoing monitoring of system performance.

Beyond technical and data issues, the implementation of AI feedback also raises ethical concerns related to the role of teachers in the learning process. With increasingly sophisticated AI capabilities, concerns have arisen that teachers' roles in providing personalized guidance and qualitative assessment will be displaced. Teachers function not only as evaluators but also as learning facilitators who understand students' social and emotional contexts, a skill difficult for machines to replace. When AI takes over most of the feedback function, the interpersonal relationship between teachers and students could potentially weaken, and the learning process could become too mechanistic. In the context of educational ethics, this raises questions about the balance between technological efficiency and human values in education. Therefore, AI should be viewed not as a replacement for teachers, but as a tool that strengthens their role in guiding students more personally and effectively (Venter et al., 2025).

Another ethical impact worth noting is the impact of AI feedback on student autonomy and motivation. On the one hand, AI systems can encourage independent learning because students can access direct and instant feedback without having to wait for teacher assessment. However, on the other hand, excessive reliance on AI systems can reduce students' reflective ability to assess the quality of their own writing. If students become accustomed to receiving automated corrections, they may become passive and lose the intrinsic motivation to think critically about their mistakes. Furthermore, if AI feedback is perceived as the absolute authority in assessing writing quality, students may lose trust in their own assessments and even in teachers who may offer differing interpretations (Yaacoub et al., 2025). Therefore, it is crucial to instill digital literacy and critical awareness in students so they can use AI feedback

wisely, accepting useful suggestions while maintaining their autonomy and personal reflection in the learning process.

These challenges require a clear ethical framework and educational policy for the implementation of AI feedback. Educators, technology developers, and policymakers need to work together to establish guidelines that ensure technology is used to enhance learning, not replace it. Aspects such as algorithm transparency, fairness in evaluation, data security, and the role of humans in decision-making must be prioritized. Teachers also need training to understand how AI systems work so they can effectively integrate them into learning and provide a balance between human and technological intervention. Thus, the use of AI feedback can be directed towards strengthening the quality of education without compromising its underlying ethical values.

Overall, the use of AI feedback presents significant opportunities for innovation in learning evaluation, but it also brings ethical challenges that cannot be ignored. Data reliability, algorithmic bias, and its impact on the role of teachers and student autonomy are central issues that require in-depth consideration. The success of AI feedback implementation in education is determined not only by the sophistication of the technology, but also by the extent to which the system operates according to the principles of fairness, transparency, and humanity. With a strong ethical approach and the active involvement of all parties, AI feedback can be a tool that supports reflective, equitable, and holistic learning.

CONCLUSION

Based on the literature review, it can be concluded that both AI-feedback and teacher feedback play a crucial role in supporting EFL students' revision process for expository writing assignments. AI-feedback offers high speed, consistency, and accessibility, allowing students to receive instant and repeated feedback. This helps them identify linguistic, grammatical, and sentence structure errors more efficiently. However, AI-feedback still has limitations in understanding contextual meaning, writing style, and more complex rhetorical aspects, which are crucial elements in developing expository writing skills.

Meanwhile, teacher feedback remains a valuable source of feedback because it involves contextual understanding, pedagogical empathy, and the ability to assess communicative aspects of discourse. Teachers are able to provide guidance tailored to individual students' needs and stimulate critical reflection on the ideas and structure of their writing. However, this process

requires more time and effort, so its effectiveness often depends on the ratio between the number of students and the teacher's capacity to provide in-depth and sustained feedback.

From a pedagogical perspective, integrating AI-feedback and teacher feedback could be an optimal strategy for improving the revision process and the quality of EFL students' writing. AI can be used to address technical errors and provide early corrections, while teachers play a role in deepening conceptual and argumentative aspects. With this hybrid approach, students can benefit from technological efficiency while maintaining the humanistic dimension of writing learning. Future research is recommended to explore this integrative model in a real-life classroom context to more comprehensively assess its impact on student motivation, autonomy, and writing performance.

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