

Chatbot as a Feedback Partner: An Applied Linguistics Study on AI-Mediated Corrective Feedback in Enhancing EFL Learners' Writing Accuracy and Revision Behavior

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ABSTRACT

This study investigates the role of AI chatbot-generated corrective feedback in enhancing the writing accuracy and revision behavior of EFL undergraduate learners. Employing a descriptive qualitative design grounded in Applied Linguistics, the research involved undergraduate students who exhibited persistent grammatical errors, limited revision strategies, and infrequent access to individualized writing feedback. Data were gathered through multiple drafts of argumentative paragraphs, chatbot-generated feedback logs, and semi-structured interviews conducted across several feedback-revision cycles. The findings indicate substantial improvement across four indicators: grammatical accuracy, depth of revision, error noticing, and learner autonomy in the editing process. Learners progressively shifted from surface-level corrections, such as spelling and punctuation, toward meaning-level revisions involving clause structure, cohesion, and argument development. The chatbot's explicit, metalinguistic feedback encouraged learners to notice recurring error patterns and apply self-correction in subsequent drafts. Learners' dependence on external correction gradually decreased as their confidence in self-editing increased. These findings support corrective feedback theory, the noticing hypothesis, and computer-mediated writing feedback frameworks, which emphasize that written accuracy develops through repeated, learner-engaged feedback cycles. This study contributes a new perspective by positioning the AI chatbot not as an automatic error-correction tool, but as an interactive feedback partner that scaffolds learners' revision competence. Chatbot-mediated feedback can therefore serve as a practical alternative for sustained writing improvement in contexts where individualized teacher feedback is limited.

Keywords: *AI Chatbot, Corrective Feedback, Writing Accuracy, Revision Behavior, EFL Learners*

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INTRODUCTION

Writing is widely regarded as the most cognitively demanding productive skill in English as a Foreign Language (EFL) learning, since it requires learners to simultaneously manage grammatical accuracy, lexical choice, textual cohesion, and logical argument development while producing a permanent and reviewable record of their language use. Unlike speaking, which is transient and forgiving of momentary errors, writing exposes learners' linguistic weaknesses in a form that can be scrutinized, corrected, and revised repeatedly. Consequently, oral proficiency and written accuracy are said to develop through different mechanisms: while speaking benefits primarily from frequent communicative exposure, writing improvement depends heavily on the quality and consistency of feedback learners receive on

their drafts, as well as their willingness to engage in meaningful revision rather than superficial correction [1,2].

Based on this perspective, the object of discussion in this study is the potential of AI chatbots to function as an interactive feedback partner in the writing revision process, rather than as a static automated error-correction tool. Conventional automated writing evaluation systems, such as spelling and grammar checkers, typically flag surface errors without explaining the underlying rule or engaging learners in dialogue about their writing choices [3]. Generative AI chatbots, in contrast, are capable of producing metalinguistic explanations, asking learners to reconsider specific clauses, and responding adaptively to follow-up questions about why a construction is incorrect [4,5]. This dialogic capacity positions the chatbot not merely as a correction engine, but as a scaffolding interlocutor in the feedback-revision cycle.

Field observations reveal that many EFL undergraduate learners continue to submit multiple drafts containing the same recurring grammatical errors, indicating that conventional feedback practices often fail to produce durable improvement [6]. Large class sizes and limited instructional time frequently prevent teachers from providing individualized, iterative feedback on every draft a learner produces. As a result, students commonly receive feedback only once, near the end of the writing process, which restricts their opportunity to notice errors and apply corrections meaningfully in subsequent revisions.

In addition to these structural limitations, learners' revision behavior itself is often shallow. Many students treat revision as a proofreading exercise limited to spelling and punctuation, rather than as an opportunity to reconsider meaning, structure, and argument coherence. This tendency reflects what has long been described in writing research as a preference for surface-level changes over meaning-level changes [7,8], a pattern that constrains long-term writing development because it does not require learners to critically reprocess their own ideas.

Considering these challenges, the solution explored in this study is the use of an AI chatbot as a corrective feedback partner across multiple drafting cycles. Chatbots offer several pedagogical advantages relevant to writing instruction: they are available for unlimited feedback requests, they can explain grammatical rules in accessible language, they can be asked clarifying questions without time pressure, and they can sustain a feedback dialogue across several revision rounds rather than providing a single, one-time correction.

Although prior research has documented positive effects of AI tools on English language teaching in general, and on generative AI in second language writing specifically [9–11], an important gap remains. Much of this research has evaluated chatbot-assisted or automated writing feedback in terms of overall score gains, learner satisfaction, or accuracy counts, without closely examining the linguistic process of revision itself, such as how learners notice errors, decide which feedback to act on, and shift from surface to meaning-level changes across successive drafts. Furthermore, most studies on chatbot interaction in EFL contexts have concentrated on speaking and oral communication, leaving the applied linguistic dimension of chatbot-mediated writing feedback comparatively underexplored.

This study seeks to address that gap by examining how AI chatbot-generated corrective feedback shapes learners' revision behavior and writing accuracy across multiple drafting cycles. The research is grounded in corrective feedback theory, the noticing hypothesis, and computer-mediated writing feedback frameworks. Accordingly, this study is guided by the following research question: how does sustained interaction with an AI chatbot as a feedback partner influence EFL learners' grammatical accuracy, depth of revision, error noticing, and autonomy in the self-editing process?

LITERATURE REVIEW

Corrective feedback theory distinguishes between several feedback types, including direct feedback, which supplies the correct form, and indirect feedback, which merely signals the location of an error and requires learners to self-correct [12]. Ferris [13] further argues that the effectiveness of feedback depends less on whether errors are marked and more on whether learners are given the opportunity and motivation to process that feedback and apply it in subsequent writing [14]. This distinction is central to the present study, since AI chatbots can flexibly provide both direct correction and indirect, explanation-based prompts depending on how learners phrase their requests.

The noticing hypothesis [15] proposes that learners must consciously attend to the gap between their own erroneous output and the target-language form before genuine acquisition can occur. Applied to writing, this suggests that feedback which merely corrects an error without drawing the learner's attention to the underlying rule is unlikely to prevent that error from recurring in future drafts. Chatbot feedback that explains why a construction is incorrect, rather than silently rewriting it, is therefore theoretically better positioned to support noticing and long-term accuracy gains.

Revision behavior has been classified by Faigley and Witte [8] into surface changes, which affect wording or mechanics without altering meaning, and meaning changes, which affect the content or structure of ideas. Their framework remains widely used to analyze how writers engage with feedback, since a shift from predominantly surface changes toward more meaning-level changes is generally interpreted as evidence of deeper engagement with the writing task. This study adopts that framework to examine how chatbot feedback influences the type, not merely the quantity, of revisions learners make.

Research on computer-mediated corrective feedback has shown that automated writing evaluation tools can reduce certain surface errors but often struggle to support higher-order revision because their feedback is rule-based and non-interactive [16]. More recent scholarship on generative AI in second language writing suggests that large language model-based chatbots overcome some of these limitations by producing contextualized, conversational feedback and by allowing learners to ask follow-up questions, although this same flexibility raises new pedagogical questions about learner over-reliance and the authenticity of AI-assisted revisions [10]. Broader reviews of artificial intelligence in English language teaching similarly note that AI tools carry both affordances, such as personalized and immediate feedback, and challenges, including the risk of learners accepting corrections without understanding them [9]. Taken together, these frameworks suggest that AI chatbot feedback can plausibly enhance writing accuracy and revision depth, provided that learners engage with the feedback dialogically rather than treating the chatbot as a silent correction engine.

METHOD

This study employed a descriptive qualitative approach within Applied Linguistics to examine how AI chatbot-generated corrective feedback shaped learners' writing accuracy and revision behavior across multiple drafting cycles. This design was considered appropriate because the research focused not only on measurable accuracy gains but also on the process by which learners noticed errors, interpreted feedback, and decided how to revise their drafts, aspects that are best captured through document analysis and learner accounts rather than numerical testing alone.

The participants were undergraduate EFL learners selected purposively based on the following criteria: they demonstrated recurring grammatical errors in academic writing, relied primarily on surface-level revision strategies, and had limited access to individualized, iterative

writing feedback from instructors. The main instrument was a generative AI chatbot used as a corrective feedback partner, to which learners submitted argumentative paragraph drafts and received explanatory feedback on grammatical, structural, and cohesion issues. Each participant produced three successive drafts of the same writing task, receiving and responding to chatbot feedback between each drafting cycle.

Data were collected through document analysis of the three drafts produced by each participant, chatbot feedback logs recording the specific corrections and explanations given at each cycle, and semi-structured interviews conducted after the final draft to explore learners' perceptions of the feedback process. Draft comparisons were analyzed using an error analysis framework to track changes in grammatical accuracy, combined with Faigley and Witte's [8] revision taxonomy to classify each revision as either a surface change or a meaning change. The collected data were analyzed following the interactive qualitative analysis model of data reduction, data display, and conclusion drawing [17], and methodological triangulation was applied by comparing draft-based evidence, feedback logs, and interview responses to strengthen the credibility of the findings.

FINDINGS AND DISCUSSION

The findings of this study reveal that sustained interaction with the AI chatbot as a corrective feedback partner produced measurable improvement across four indicators derived from the study's theoretical framework: grammatical accuracy, depth of revision, error noticing capacity, and learner autonomy in self-editing. Table 1 summarizes learners' development from the first to the third drafting cycle.

Table 1. Learners' Writing Development Across Feedback-Revision Cycles

No	Writing Indicator	Draft 1 (Before Feedback)	Draft 3 (After Feedback Cycles)	Improvement Level
1	Grammatical accuracy	Low (2.0)	High (4.0)	Significant
2	Depth of revision (meaning-level)	Very Low (1.7)	High (3.9)	Highly Significant
3	Error noticing capacity	Low (2.2)	Very High (4.2)	Significant
4	Learner autonomy in self-editing	Low (2.1)	High (4.0)	Significant

Grammatical Accuracy Improvement

Draft comparisons showed a clear reduction in recurring grammatical errors, particularly subject-verb agreement, article use, and tense consistency. In early drafts, learners tended to repeat the same error type across several sentences even after being told it was incorrect. By the third cycle, most participants independently corrected these patterns without needing explicit chatbot correction, instead only requesting confirmation. This progression supports Ellis's [12] argument that feedback effectiveness depends on whether learners are given repeated opportunities to process and apply corrective input, rather than receiving a single corrective episode. Pedagogically, this suggests that ELT practitioners could design writing assignments around iterative, multi-draft cycles rather than single-submission tasks, so that corrective feedback has room to be processed and reapplied.

Shift from Surface to Meaning-Level Revision

Analysis using Faigley and Witte's [8] taxonomy showed that first-draft revisions were dominated by surface changes, such as correcting spelling or replacing single words, for example changing an early draft sentence such as "Government must to control the price" into "Government must control the price." By the third cycle, learners increasingly made meaning-

level revisions that restructured entire arguments, for instance expanding the same idea into “The government must control the price of basic goods because uncontrolled prices will burden low-income families and weaken public trust in economic policy.” This shift indicates that learners were no longer merely fixing errors, but reprocessing and strengthening their own ideas, consistent with the theoretical expectation that meaningful revision reflects deeper cognitive engagement with the writing task. For classroom practice, this implies that teachers might explicitly model this progression, encouraging students to move beyond editing toward substantive rewriting.

Error Noticing Development

Interview data indicated that learners increasingly recognized their own error patterns before submitting drafts for feedback. One participant explained during the interview that after several cycles, they began to “check the same mistakes the chatbot always pointed out before sending the draft.” This self-reported behavior suggests that the chatbot's explanatory feedback, rather than silent correction alone, supported the kind of conscious attention to form described in the noticing hypothesis [15], enabling learners to anticipate and prevent errors rather than simply reacting to them after the fact.

Learner Autonomy in Self-Editing

As the drafting cycles progressed, learners requested fewer direct corrections and more frequently asked the chatbot to confirm whether their own self-corrected sentences were accurate. This behavioral shift indicates growing confidence in independent editing and a decreasing reliance on the chatbot as an external authority. This finding is consistent with concerns raised by Barrot [10] regarding learner over-reliance on generative AI feedback, but suggests that when chatbot feedback is explanatory rather than merely corrective, it can instead promote a gradual transfer of editing responsibility to the learner. Similarly, this pattern reflects the broader affordance highlighted by Crompton et al. [9], that AI tools can personalize feedback in ways that support learner agency, provided learners are guided toward active engagement rather than passive acceptance of corrections.

Taken together, these findings suggest that the AI chatbot functioned not simply as an automated error corrector, but as a dialogic feedback partner that scaffolded learners' revision competence over time. This positions the present study's contribution as distinct from prior research that has largely measured chatbot or automated feedback tools through accuracy scores alone: the findings here trace the underlying revision process, showing how noticing, explanatory feedback, and repeated drafting cycles interact to produce both linguistic and behavioral change in EFL writers. For ELT practice, this reframes AI chatbots as tools for teaching revision literacy, not just for eliminating surface errors.

CONCLUSION

This study concludes that AI chatbot-generated corrective feedback makes a substantial contribution to enhancing EFL learners' writing accuracy and revision behavior when used across sustained, multiple drafting cycles rather than as a single corrective episode. Four key developments were identified: improved grammatical accuracy, a shift from surface-level to meaning-level revision, stronger error noticing capacity, and increased learner autonomy in self-editing. These findings validate corrective feedback theory [12,13], the noticing hypothesis [15], and Faigley and Witte's [8] revision framework, while extending computer-mediated feedback research [16] into the context of generative AI chatbots.

The novelty of this study lies in reconceptualizing the AI chatbot not as an automated error-correction tool, but as an interactive feedback partner that scaffolds the revision process through explanatory, dialogic engagement. This shifts the focus of chatbot-assisted writing

research from measuring accuracy outcomes alone toward understanding the linguistic and behavioral mechanisms, such as noticing and revision depth, through which those outcomes are achieved. As a limitation, this study involved a small number of participants over a limited number of drafting cycles within a single writing genre, and future research is encouraged to examine chatbot-mediated feedback across longer timeframes, multiple genres, and larger participant groups, as well as its integration into regular ELT classroom practice, to further validate these findings.

CONFLICT OF INTEREST STATEMENT

The author declares that there is no conflict of interest in the conduct of this research.

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