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ChatGPT 5.5 as an Automated Corrective Feedback Tool: Effects on the Writing Performance of EFL Learners

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Abstract

The present paper focused on examining the application of GPT-5.5 as an automated corrective feedback tool for improving the writing skills of 60 Omani pre-intermediate EFL students enrolled in a foundation program. A quasi-experimental pretest–posttest design was used, and the participants were divided into two groups, namely an experimental group and a control group, each receiving instruction on advantages-and-disadvantages essays. While both groups followed the same syllabus and classroom procedures, only the experimental group utilized GPT-5.5 AI tool for iterative feedback and revision, supplemented by teacher explanation and clarification. The analytic scoring of the pretest and posttest compositions demonstrated that both groups made progress, yet the experimental group scored substantially better on the posttest, with a large effect size. The results imply that the use of AI-mediated feedback, when systematically integrated with teacher support, can be an effective and scalable way to advance EFL learners' writing skills in similar contexts.

Keywords: GPT-5.5; Automated Corrective Feedback; EFL Writing; Artificial Intelligence.

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INTRODUCTION

Writing is a crucial component in the delivery of educational programs and for the development of literacy in second and foreign language learning. Additionally, it supports academic and professional development, including project writing and the dissemination of research through academic journals and conferences [1]. Suleiman [2] argued that writing skills should be considered one of the core components of a language; hence, the curriculum must reflect the multifaceted aspects of writing through teaching techniques, evaluation approaches, and language acquisition. Gay [3] discovered a link between learning, the writing proficiency and the process of fostering students' critical thinking skills.

Apart from being fundamental, writing is regarded as the most challenging aspect and one of the most important skills in learning a foreign language; hence, it has been a major focus of scholars [4], [5]. It is typical for written tasks to require that the outcome of learners' linguistic competence be more than their actual proficiency [6], [7]. Consequently, teachers are expected to give a great deal of time and energy to students by delivering detailed and constructive feedback to students on their written work [8]. In this context, feedback has been recognized as the main factor in second language writing development [9].

The use of feedback in order to enhance students' writing performance is not only an effective but also a intriguing area of research in applied linguistics [10], [11], [12], [13]. Ferris [10] pointed out that feedback, which bridges the gap between learners' present achievements and target language aspirations, is the most vital tool for identifying an individual's weaknesses. However, the supply of valuable feedback can often be impeded by contextual factors, such as large classes, heavy workloads, and limited instructional time. Surmounted by these difficulties, automated writing evaluation (AWE) tools have been proposed as tertiary sources of teacher feedback [14]. L2 writing research progressively seeks the combination of such means, through the empowerment of teachers to prioritize higher-order concerns such as content and organization; at the same time, automated systems deal with the grammar and mechanics of writing as lower-order issues [15], [16], [17].

The technological implements that offer autonomous corrective feedback could be a great addition for students in English writing, as they would be able to eliminate errors such as those of syntax, vocabulary and organization, or mechanical mistakes. AWE systems are not only proving to be helpful for learners but also a great asset for teachers because they reduce the time needed for in-depth error correction [18]. This software usually includes predictive text options and context suggestions, which students use to enhance their grammatical and structural choices. For L2 beginner writers, for example, this kind of assistance can result in improved output and increased accuracy of the language used. Recent breakthroughs in machine learning and natural language processing have enabled the creation of highly developed intelligent writing assistants that can offer real-time feedback on complicated writing features [19]. Modern AWE systems are capable of providing holistic assessment and feedback on form and content, which is a clear indicator of progress in computational linguistics and statistical modeling.

In light of the latest developments, the necessity to investigate the influence of automated corrective feedback on L2 writing performance commensurately increases [20]. The inclusion of Web 2.0 technologies and AWE tools in studies has become prevalent; however, there are still significant issues concerning the lack of research on predictive text technologies and intelligent

writing support systems in L2 contexts. There are very few reports on the usefulness of these resources however [21]. Therefore, the exploration of the role of automated written corrective feedback as a supplement within and outside classrooms should be emphasized [19]. Thus, the main goal of this study is to analyze the influence of GPT-5.5, a robotized tool integrated with AI, on the writing output of English as a Foreign Language (EFL) students in Oman. To achieve this, the research question posed is:

RQ: To what extent does the use of GPT-5.5 as an automated corrective feedback tool influence the writing performance of EFL learners in Oman?

LITERATURE REVIEW

Automated Writing Evaluation (AWE)

Feedback written by teachers who use ChatGPT output for writing feedback, is AI feedback supported by ChatGPT. AWE systems, which combine NLP technology, latent semantic analysis, and artificial intelligence, can provide students with instant automated responses, which in turn helps them to be better engaged in learning writing [18], [22]. For instance, Wilson et al. [23] applied the AWE tool "Criterion" to deliver feedback for 4162 students in grades 4 through 8 who wrote essays that subsequently were improved by them. Apart from the fact that AWE systems lessen the amount of time and effort that teachers should invest in writing personalized feedback, by automating the analysis of written texts and offering feedback, it makes the process more efficient [24]. Wilson and Cziki [14] discovered that the "PEG Writing" AWE system, unlike feedback only from teachers, not only decreased the time teachers spent on feedback by 2–3 times, but also ensured that the amount of AWE-based teacher feedback remained the same as that provided by just the teacher. AWE not only eased the grading burden of the instructors but also gave them time to provide feedback on global issues of writing [14], [25], [26]. However, identifying errors directly and suggesting changes for AWE systems might not allow for the transfer of writing skills from one task to another. Stevenson and Phakiti [27] indicated that AWE might be helpful in reducing mistakes in specific writing assignments, while students could not demonstrate learning transfer via new tasks. Ranalli's [28] research was a qualitative inquiry of six L2 students' participation through "Grammarly" based on screen captures, interviews, and stimulated recalls that identified students mainly utilized feedback for editing rather than focusing on long-term learning. These outcomes might be because "Grammarly" provided students with particular corrections, so they could not make changes that involved much cognition. Because of algorithmic restrictions, AWE feedback often was formulaic and unaware of specific pedagogical requirements [17].

Empirical Studies on AI-Mediated Writing Feedback

Al Ghaithi and Behforouz [29] explored the influence of EditGPT on the writing performance and perceptions of 60 Omani pre-intermediate EFL learners, who were divided into three categories: control, teacher feedback, and EditGPT feedback. The data were collected using pretest and posttest writing tasks, as well as a perception questionnaire. The results indicated that the teacher-feedback group was the best-performing group among the three, while the EditGPT group was better than the control group. One of the best features of this work was the three-group design, although the small sample size and short intervention period were the main limitations.

Building on this line of inquiry, Al Maqbali et al. [30] examined how Copilot AI feedback affects the writing performance of 70 Omani intermediate EFL learners in both a control group and

an experimental group. The researchers used pretest and posttest comparison-contrast writing tasks, which were scored using an analytic rubric. The results showed that the experimental group obtained significantly higher posttest scores than the control group, with a large effect size. The strength of the study was its quasi-experimental design, while the limitations included the short treatment period, the single-institution context, and the unavailability of qualitative data.

Extending this discussion, Pratama et al. [31] reported on a quasi-experimental study on the influence of AI-powered tools on 60 Indonesian EFL students' argumentative essay writing. The group that received the treatment used QuillBot, while the control group was taught using traditional methods. The study found that the treatment group advanced significantly compared to the control group in terms of writing quality, coherence, and grammatical accuracy. The strength of this study was its precise statistical analysis, and its limitations were the small sample size, single-institution setting, and lack of qualitative data on learners' perceptions.

Similarly, Apriani et al. [32] assessed the effects on the writing skills, self-efficacy, and self-regulation of 40 Indonesian EFL students through a mixed-methods format. The participants were divided into a control and a chatbot-assisted group. The treatment group benefited by improving their writing performance and self-regulation, whereas, in interviews, they disclosed that they had more confidence and were more engaged with the material but at the same time worried about over-reliance and plagiarism. The study was strong due to its mixed-methods format, however its limitations were the small sample size and being conducted in just one university.

METHODS

Participants

The subjects involved in this research were 60 Omani students who were studying the English language at the Foundation Department of one of the higher academic institutions in Oman. The results of the institution's placement test demonstrated that the students were all pre-intermediate-level English language learners, and their first language was Arabic. Their ages varied from 19 to 21. As per the Oman National Curriculum, Foundation Studies are a mandatory preparatory level for students to continue with their academic specializations. This stage usually takes one to two years, depending on the institution, and includes instruction in English, Information Technology, and Mathematics. The present study adopted a quasi-experimental design, and the two groups were made up of thirty students each, consisting of both male and female students. The control group was given a regular classroom lecture on writing development, and the teacher provided them with general corrective feedback. On the other hand, the experimental group was taught the same content but with detailed feedback provided using GPT-5.5.

Instruments

Pre and Post Writing Tests

To gather data from the two clusters and analyze the influence of the intervention, a pretest-posttest writing task emphasizing advantages and disadvantages was created and administered. The students' writing was assessed by two researchers based on four criteria: task achievement, organization, grammar, and lexicon, granting a total of 20 marks, where each criterion carried five marks. The allowed limit of the difference between the two raters' scores was not more than 3 marks. However, there were no cases of such discrepancies, the scores in this study stayed in the range of acceptance and the requirement of a third rater was not necessary.

Procedure

The intervention lasted for four weeks and took place in the fall semester of the 2025–2026 academic year. The participants comprised 60 Omani pre-intermediate EFL learners who were randomly distributed into an experimental group ($n = 30$) and a control group ($n = 30$). All participants signed informed consent before the study and were clearly informed that their participation was voluntary. Both groups took part in a writing pretest one week prior to the intervention to establish their baseline writing performance and confirm their initial comparability. Additionally, the teachers benefited from a two-day professional-development program to ensure the consistency of the instructional content, sequence, and delivery across the two groups.

The implementation was specifically aimed at the composition of an advantages-and-disadvantages essay. Both teams experienced identical classroom teaching considering the essay framework, grammar rules, rhetorical pattern, and use of language. Every group participated in two writing sessions a week, with each session taking 60 minutes. Every week was devoted to one part of the essay: the introduction in Week 1, the first body paragraph in Week 2, the second body paragraph in Week 3, and the conclusion in Week 4. The sole differentiating aspect of the two groups was the source and mode of the corrective feedback.

In the initial lesson of the week, both cohorts were exposed to the teacher teaching for 30 minutes about the structure, purpose, and language features of the specific essay component. In the first week, for instance, the teacher demonstrated the right way to introduce an advantages-and-disadvantages essay. Following the teaching, learners were assigned a topic to write on and used 30 minutes for drafting the specific component.

In the second of the weekly sessions, the experimental-group students were able to use GPT-5.5 to get in-depth feedback on the paragraph that they had written in the first session. The first 30 minutes of the class were spent on them uploading or entering their writing into GPT-5.5, requesting detailed feedback on content, organization, grammar, vocabulary, and coherence, and then revising their drafts based on the obtained feedback. After that, the next half an hour was spent by the teacher who provided whole-class feedback by clarifying unclear or inaccurate AI-generated suggestions, discussing common writing problems, and then offering additional guidance on linguistic and rhetorical issues. Therefore, the experimental group was able to get AI-mediated corrective feedback that was afterwards clarified and confirmed by the teacher.

The control group was taught in a similar manner, covering topics on writing, essay components, and time allocation. In the first of the weekly sessions, students were given 30 minutes of teacher-directed instruction followed by 30 minutes to write the assigned essay component. In the second session, the teacher offered students individual feedback on the paragraphs they had written for 30 minutes. The other half of the lesson was devoted to the teacher giving the whole class feedback by anonymously presenting the common mistakes, explaining how to correct them, and discussing the effective strategies for writing. The group did not utilize GPT-5.5 or any other AI tool; hence, all correctional measures were suggested exclusively by the teacher.

After four weeks of intervention, all the participants did a writing test. The results of the pretest and posttest were compared to see if the changes in the students' writing achievement and the effectiveness of the GPT-5.5-mediated corrective feedback relative to the teacher-only feedback were examined.

RESULTS AND DISCUSSION

Results

Data Analysis

Before comparing the group performances, it was mandatory to select the appropriate parametric or nonparametric test of comparison. Therefore, Table 1 below shows the results of Shapiro-Wilk Normality test.

Table 1. The Results of Normality Test in all Sets of Tests for both Groups

Groups		Shapiro-Wilk		
		Statistic	Df	Sig.
posttest	control	.923	30	.032
	experiment	.907	30	.013
pretest	control	.943	30	.113
	experiment	.923	30	.031

Table 1 shows that in the pretest, the scores of the control group met the normality assumption ($p = .113$), but the pretest scores of the experimental group did not ($p = .031$). The control group's posttest score distribution was considerably different from the normal distribution ($p = .032$), and the experimental group's posttest score distribution was considerably different from the normal distribution ($p = .013$). Since three of the four score distributions were not normally distributed, a non-parametric statistical test of the Mann–Whitney U test was conducted, and the results are presented in Table 2.

Table 2. The Comparison of Pretest and Posttest of both Groups

	Pretest	Posttest
Mann-Whitney U	380.000	29.000
Wilcoxon W	845.000	494.000
Z	-1.059	-6.270
Asymp. Sig. (2-tailed)	.290	.000

Table 2 shows that in the pretest, the results showed no meaningful difference between the control and experimental groups ($U = 380.00$, $Z = -1.059$, $p = .290$). However, at the posttest stage there was a statistically meaningful difference between the groups, $U = 29.00$, $Z = -6.270$, $p < .001$, with the experimental group performing considerably better than the control group. To know more about the significance of this difference, the effect size was measured, and the results are presented in Table 3.

Table 3. The Results of Effect Size between both Groups in All Sets of Tests

		Point Estimate	95% Confidence Interval	
			Lower	Upper
posttest	Eta-squared	.661	.507	.748
	Epsilon-squared	.655	.498	.744
	Omega-squared Fixed-effect	.651	.494	.741

		Point Estimate	95% Confidence Interval	
			Lower	Upper
	Omega-squared Random-effect	.651	.494	.741
pretest	Eta-squared	.014	.000	.120
	Epsilon-squared	-.003	-.017	.105
	Omega-squared Fixed-effect	-.003	-.017	.103
	Omega-squared Random-effect	-.003	-.017	.103

Table 3 shows that for the pretest measure, the effect sizes were very small: eta-squared = .014, epsilon-squared = -.003, and omega-squared = -.003. The effect sizes show that there is basically no averaged group difference in the pretest, but the simple effect of group in the posttest was important: $\eta^2 = .661$, $\epsilon^2 = .655$, and $\omega^2 = .651$. In short, a large proportion of the variance in students' writing performance after treatment can be explained by group membership.

Discussion

This study aimed to investigate the effect of GPT-5.5-mediated corrective feedback on the writing performance of Omani pre-intermediate EFL students. Sixty students were assigned to an experimental group and a control group, with 30 students in each group. Both groups received equivalent instruction on the organisation, rhetorical features, and linguistic conventions of advantages-and-disadvantages essays. However, the groups differed in the source and delivery of corrective feedback. In the trial, the control group only got feedback from the teacher, but the experimental group was given GPT-5.5-mediated feedback, which was then followed by the teacher's clarification and whole-class guidance. Before the intervention, the students participated in a writing pretest, and then, after four weeks of treatment, they did a writing posttest. Although both groups performed better in the posttest when compared to their results in the pretest, the experimental group had significantly greater scores as compared to the control group in the posttest. This revelation indicates that the provision of GPT-5.5-mediated corrective feedback with teacher support can positively affect the progress in writing performance of EFL students.

Numerous distinct characteristics of the GPT-5.5-mediated feedback procedure can be noticed, which is why the experimental group achieved such remarkable performance. In the beginning, students were given feedback by GPT-5.5, which shared its responses after the first session of producing their initial drafts in the second session. The feedback was on grammatical accuracy, lexical choice, sentence construction, coherence, and rhetorical organization. As the feedback was given shortly after the students had finished the drafts, they could recognize the issues they faced and fix their work in the same cycle before the teacher provided some clarifications and general feedback. In addition, the procedure was designed in such a way that it required the students to read the feedback, make appropriate changes, and improve their paragraphs through revision and rewriting. The activity might have resulted in self-correction practices, autonomous learning, and also metalinguistic reflections. The control group also obtained individual feedback from the teacher who taught the class how to do it, but the teacher did not have enough time to give specifics about different students. Conversely, GPT-5.5 was able to leave separate and comprehensive comments on every student's drafts. Nevertheless, the increased performance of the experimental group is not a single outcome of GPT-5.5. Teacher clarification was a vital component of the

intervention, as it provided a guide for the students who found it difficult to interpret obscure or inappropriate AI-generated suggestions, and helped maintain the pedagogical quality of the feedback. Consequently, the results demonstrate the potential of a combined GPT-5.5-mediated and teacher-supported feedback approach, rather than the independent effect of AI-generated feedback alone.

These results are in line with previous studies that established the role of artificial intelligence in increasing EFL students' writing skills. Al Ghaithi and Behforouz [29] focused on the role of EditGPT results and teacher-mediated feedback on the writing performance of 60 Omani EFL learners. Although the group that received teacher feedback made the best scores, the EditGPT group surpassed the control group, which indicates that AI-mediated feedback has the power to make a difference in writing performance. In a parallel study, Al Maqbali et al. [30] explored the impact of Copilot-mediated feedback on the writing abilities of 70 Omani EFL learners and found that the feedback group obtained significantly higher posttest scores than the one that did not get AI feedback. In a different setting, Pratama et al. [31] discovered that the inclusion of QuillBot not only assisted 60 Indonesian EFL students in argumentative writing but also enhanced the overall quality of their writing, coherence, and grammatical accuracy. Similarly, Apriani et al. [32] claimed that an AI-chatbot-assisted group of 40 EFL learners showed not only improved writing performance but also self-regulation compared to a control group. These pieces of evidence agglomerate; therefore, we can conclude that AI-mediated feedback can directly contribute to the writing development of EFL learners if it is combined with the teacher's advice and pedagogical support.

CONCLUSION

The results of this study are of great significance for EFL teachers, students, curriculum designers, teacher trainers, and educational institutions. EFL teachers could take advantage of the fact that the use of GPT-5.5 in tandem with the traditional feedback method is a source of immediate and complete comments to students on grammar, vocabulary, sentence construction, organization, coherence, and academic style. Students can also take advantage of the increase in opportunities for individual revision, self-correction, and reflection throughout the entire process of learning a language. Despite this, it is essential to underscore that GPT-5.5 should not be used as a substitute for teacher feedback. In fact, it works only when properly planned and directed by the teacher, especially in cases when students struggle with evaluating, interpreting, or correcting the suggestions the AI makes. Therefore, curriculum designers and teacher educators should bring to the table the idea of embedding AI literacy, prompt design, feedback evaluation, academic integrity, privacy, and ethical technology use into current EFL writing programs. Educational facilities also need to ensure that they have set proper policies and grant access to the platforms that use AI, thus strengthening their teachers and students in AI rather than making it a substitute for human instruction. When interpreting the findings, the following limitations need to be considered. To begin with, the intervention was a short-term study of just four weeks; consequently, it was only able to gauge how well the students had learned the material immediately after the study, but not whether the learned skill was retained after a period of time or transferred to any new writing tasks. Secondly, only 60 pre-intermediate Omani EFL learners made up the sample, which precludes the generalizability of the findings to students of different proficiency levels, institutions, educational contexts, or countries. Thirdly, the study was centered on only advantages-and-disadvantages

essays; thus, the results might not be equally applicable to narrative, descriptive, argumentative, or other genres. Fourth, the absence of qualitative data such as interviews, learner diaries, classroom observations, revision histories, or screen recordings in the quantitative design limited the study. As a result, the authors couldn't illustrate the way students interpreted, accepted, rejected, or used the AI-generated feedback. To sum up, since the experimental treatment encompassed GPT-5.5 feedback along with teacher clarification, it was not feasible to separate and ascertain the degree of effect brought about distinctly by AI-mediated feedback.

LIMITATIONS

The limitations identified in the current study should be addressed in future studies by providing longer duration interventions and using delayed posttests to check the durability and transfer of writing development. It is also necessary for further studies to incorporate larger and more varied samples, including students from various proficiency levels, schools, educational institutions, and cultural contexts. In addition to this, researchers need to look into the effectiveness of GPT-5.5 feedback through different types of writing, such as argumentative, narrative, descriptive, and problem-solution writing. It would also be worthwhile to carry out comparative studies to establish if there are differences between the conditions of AI only, teacher only, and the combination of AI and teacher feedback. This can be done by using mixed research methods, which will include interviews, classroom observations, learner diaries, revision histories, and recordings of student-AI interactions to provide deeper insights into areas of student engagement, trust, self-regulation, feedback uptake, and critical evaluation of AI suggestions. Generally speaking, the use of the GPT-5.5 model in the corrective feedback process is a great way to help improve EFL writing as long as it is used along with transparent instructional objectives, active learner involvement, ethical use, and continuous teacher supervision

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AUTHOR CONTRIBUTION

A.A.M. conceptualized the study, designed the methodology, and conducted the statistical analysis. He also contributed to data collection and the implementation of the study. O.T. drafted the introduction and literature review and wrote the conclusion. All authors contributed to the review and revision of the manuscript, approved the final version, and agreed to be accountable for all aspects of the work.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

DECLARATION OF USE OF AI IN SCIENTIFIC WRITING

The researchers used Grammarly solely to assist with proofreading the manuscript, including checking grammar, spelling, punctuation, and language clarity. All suggestions generated by the tool were carefully reviewed and evaluated by the researchers before being incorporated into the manuscript. The researchers remain fully responsible for the accuracy, originality, interpretation, and integrity of the final content.

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