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Undergraduate ESL Learners' Perceptions of AI-Assisted Feedback for Writing Development: A Qualitative Study at NUML Hyderabad Campus

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Abstract
The use of artificial intelligence in university writing practices has quickly taken over the English as a second language (ESL) environment, where students need to be provided with timely information on grammar, vocabulary, structure, and academic formatting. Despite the recent international research that highlights that AI-supported writing aids may be used to assist revision, confidence, and learner control, there is little information available on the perceptions of Pakistani ESL undergraduate learners towards AI-supported writing aids in localized higher education institutions. This qualitative research examines the views of undergraduate ESL learners on the use of AI-assisted feedback in developing writing skills at the National University of Modern Languages (NUML), Hyderabad Campus. The two objectives of the study are to investigate how learners perceive AI-assisted feedback on academic writing and to determine the perceived advantages and challenges of using AI-assisted feedback. Semi-structured interviews with ten undergraduate ESL learners with prior experience in using AI-supported writing tools were used to collect data. The analysis was done in themes based on the framework of Braun and Clarke (2006). There were four key themes that were identified; enhancement of linguistic accuracy, enhancement of autonomy and confidence, contextual constraints of AI-generated feedback and teacher mediation to avoid overdependence. The results also indicate that AI-mediated feedback could be a valuable additional tool in EFL writing teaching, especially when it comes to superficial revision and writing without supervision. Nevertheless, interviewees also pointed out that AI feedback could not substitute teacher feedback as it might not consider rhetorical intent, disciplinary norms, and contextual meaning. The research proposes an integrative feedback

paradigm whereby the instructors will help learners to be critically, ethically, and reflectively engaged in the use of AI in process-based writing teaching.

Keywords: AI-assisted feedback; ESL writing; undergraduate learners; learner perceptions; academic writing; NUML Hyderabad Campus; Pakistan

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1. Introduction

Academic writing is one of the radicals of undergraduate education as it allows students to arrange ideas, construct arguments, provide evidence, and convey knowledge in the discipline (Hyland, 2019). In the case of ESL learners, though, academic writing is frequently a problem since it involves linguistic accuracy, genre awareness, and coherence as well as cohesion, vocabulary control, and awareness of academic conventions simultaneously. Other limitations are common among Pakistani undergraduate learners, such as the lack of writing practice, the lack of feedback, the uneven exposure to the reading process, and the examination-based learning practices (Ahmed et al., 2025; Rind et al., 2020). These issues render feedback to be a critical component of writing growth. Teacher feedback has always been regarded as one of the most important supports in writing the second language. It assists students to be aware of mistakes, rewrite texts, and comprehend the requirements of academic writing (Bitchener and Ferris, 2012; Hyland and Hyland, 2006). In most classrooms in higher education, however, educators encounter large class sizes, little time and heavy assessment workloads, which may constrain the quantity and speed of individualized feedback. Consequently, learners might not get timely feedback during the drafting phase when feedback can be most effective in revision and learning.

The latest growth of AI-aided writing tools has led to additional opportunities to reduce the feedback loop loopholes. Generative AI chatbots, grammar and writing evaluation platforms, and similar tools can offer real-time

recommendations on mechanics, grammar, vocabulary, sentence structure, organization, and style. Recent research shows that it is possible that AI-created feedback can be used to motivate writing, self-efficacy, develop ideas, improve the quality of revision, and enhance linguistic accuracy when AI-generated feedback is used critically by learners and when teachers use it appropriately (Ding et al., 2025; Ekizoglu and Demir, 2025; Lee et al., 2025; Simultaneously, researchers warn that AI-based feedback can be incomplete, over-general, or lack contextual accuracy or ethical issues when learners base their judgment on it (Barrot, 2023; Chan and Hu, 2023; Escalante et al., 2023).

In the Pakistani ESL setting, the studies about AI-based writing feedback are in their nascent stage. Previous research has already recorded the issues of academic writing among the university students, however, there are fewer studies that examine how learners understand the role of AI feedback in their academic writing. This gap is significant since the perceptions of usefulness, trust, limitations, and the value of learning among students can determine the way they utilize automated feedback. The pedagogical impact might be minimal in case learners apply AI to fix grammar mechanically. When they employ it in the reflective revision process, it can enhance autonomy and awareness of writing. The current research covers this gap with the target being undergraduate ESL students at National University of Modern Languages (NUML), Hyderabad Campus. NUML is a suitable place owing to the fact that language learning, multilingual communication and academic writing are the themes of its learning setting. Through the perception of the learners in this regard, the study provides localized evidence to the overall discussion on AI-assisted writing, as well as provides practical implications to ESL teachers, curriculum planners, and higher education institutions in Pakistan.

1.1. Research Objectives

1. To identify the perception of undergraduate ESL students in the development of their academic writing with the help of AI at NUML Hyderabad Campus.
2. To find out the perceived gains and obstacles linked with the application of AI-assisted feedback in undergraduate ESL writing.

1.2. Research Questions

1) What are the perceptions of undergraduate ESL students at NUML Hyderabad Campus to AI-assisted feedback on developing academic writing?
2) Which advantages and problems do undergraduate ESL students relate to the use of AI-assisted feedback in writing?

1.3. Importance of the Study.

There are four reasons why this research is important. First, it adds to the growing body of Pakistani studies on AI-aided language learning with emphasis on the lived experiences of undergraduate ESL learners instead of merely on tool performance. Second, it offers localized knowledge on the basis of NUML Hyderabad Campus, where the issues of learning a language and academic communication are paramount. Third, it provides pedagogical advice to teachers that want to incorporate AI tools without undermining teacher-feedback, academic integrity, and learner owning. Lastly, it contributes to the future studies of AI literacy, feedback interaction, and process-oriented ESL writing in Pakistani tertiary education.

2. Literature Review

2.1. Feedback and ESL Writing Development.

Feedback is a commonly accepted component of second language writing instruction since it focuses the attention of learners on the discrepancies between intended meaning and actual written performance. Language accuracy, content

development, organization, genre expectations, and reader awareness can be effectively addressed by effective feedback. According to Hyland and Hyland (2006), feedback is not simply correction; it is a social and pedagogical process that influences the way learners learn about writing, revision and teacher expectations. On the same note, written corrective feedback may assist learners to observe mistakes and become more accurate in case it is evident, meaningful, and related to the possibilities of revision (Bitchener and Ferris, 2012).

Feedback is particularly significant in Pakistani undergraduate settings as most learners come to university with little knowledge of academic writing conventions. Studies on the EFL writing issues in the local context have determined problems associated with sentence structure, vocabulary, punctuation, cohesion, idea deficiency, reading and low feedback (Ahmed et al., 2025; Rind et al., 2020). The findings indicate a non-linguistic but pedagogical and contextual problem in writing. a learner can master grammatical rules out of context, but still cannot write coherent academic paragraphs without writing instruction practice, revision, and personalized instructions.

2.2. Writing Instruction: AI-Assisted Feedback.

AI-assisted writing feedback is a type of feedback on written text produced by digital applications that assess the text and provide recommendations on how to make it better. Previously automated assessment and evaluation systems placed much emphasis on grammar, mechanics, and scoring whereas more recent generative AI systems have the capability of making more flexible comments on tone, organization, coherence, and task response. Li et al. (2015) discovered that automated writing evaluation feedback could assist in revision and accuracy in case it was incorporated in ESL writing classrooms and with the help of proper instructional techniques. In more recent research, generative AI has been found capable of offering immediate formative feedback and might have beneficial

effects on grammar, mechanics, tone, and the overall quality of writing, though teacher-guided models are generally more effective in terms of organization and content (Ding et al., 2025).

The worth of AI feedback is in part immediacy. Learners are able to get feedback on the drafting as opposed to after submission. This may support numerous iterations of revision and lessen reliance on single teacher-reports. Teng (2024) identified that EFL students had positive experiences with ChatGPT feedback, which included a sense of motivation, self-efficacy, engagement, and cooperation in writing behaviors. Similarly, Lee et al. (2025) documented that the EFL students in universities relied on generative AI to generate ideas and refine content, but did not forget that AI was not meant to substitute, but complement, the traditional teaching.

2.3. AI Feedback Advantages and drawbacks.

Recent data indicate that AI feedback can benefit superficial accuracy, vocabulary growth, and drafting confidence. Ekizoglu and Demir (2025) stated that the students that had AI-assisted writing feedback demonstrated better grammar, vocabulary and coherence than students that had the assistance of the traditional teacher writing feedback. Escalante et al. (2023) also report that AI-generated feedback can also be useful in writing classrooms, especially in cases where students contrast automated responses with human feedback and make wise revision choices.

Nevertheless, AI feedback is limited as well. According to Barrot (2023), generative AI in second language writing causes issues to do with reliability, authorship, dependence, and the likelihood of erroneous or generic writing. Chan and Hu (2023) also demonstrate that students are aware of the advantages and disadvantages of the generative AI, such as efficiency and accessibility on the one hand and ethical, cognitive, and assessment issues on the other. These issues

matter in ESL writing since it is not merely a grammatically correct but meaningful, contextually pertinent, rhetorically efficient, and ethically created writing.

2.4. Theoretical Orientation

This research is informed by a process view of writing and feedback participation. The cognitive process model by Flower and Hayes (1981) considers the process of writing recursive, with steps of planning, converting ideas into writing, and revision. Feedback aided by AI is most helpful pedagogically when it aids these stages, but not replace them. It can assist learners to check grammar and sentence building, brainstorm, or rethink organization, but the learners must plan and assess and make final decisions. Another perspective that is used to conduct the study is that feedback is only effective when learners learn the feedback cognitively, behaviorally, and affectively (Zhang and Hyland, 2018). Thus, the question of the existence of AI feedback is not central to this study but the perception, trust, questioning, and use of AI feedback by learners.

3. Research Methodology

3.1. Research Design

This research took a qualitative research design due to the fact that the study aimed at examining the perceptions, experiences and interpretations of the learners in detail. Qualitative inquiry would be suitable in cases where the researcher aims to comprehend how the participants interpret a phenomenon in a given setting. In this research, the phenomenon was the AI-assisted feedback on the undergraduate ESL writing and the setting was the NUML Hyderabad Campus. The design was exploratory as the feedback on AI-assisted writing is a new field of Pakistani ESL education.

3.2. Research Locale

This research was carried out at the National University of Modern Languages (NUML) Campus at Hyderabad, Sindh, Pakistan. The setting was chosen due to the context of the university where exposure to English language learning, academic writing, and digital learning activities were involved. The campus environment is also a significant regional context of higher education where students can apply AI tools freely even though institutional policies have not yet been established.

3.3. Participants and Sampling

The sample consisted of ten undergraduate ESL students pursuing BS-level courses in NUML Hyderabad Campus. The purposive sampling method was employed due to the need to identify participants who had experience in the use of AI-assisted writing tools to complete their academic writing assignments. The criteria used to include participants were as follows: the participant needed to be an undergraduate student, needed to have experience with at least one AI-supported writing tool and needed to be willing to take part in the semi-structured interview. Ten individuals were deemed as sufficient sample size of a focused qualitative study since they would have given a detailed analysis of individual perceptions and since thematic coding would have been feasible.

Table 1: Profile of the Study Design and Participants

Element	**Description**
Research approach	Qualitative exploratory study
Locale	National University of Modern Languages (NUML), Hyderabad Campus
Participants	10 undergraduate ESL learners
Sampling technique	Purposive sampling
Data source	Semi-structured individual interviews

Interview duration	Approximately 8 to 12 minutes per participant
Inclusion criterion	Prior use of AI-assisted feedback tools for academic writing tasks
Analysis method	Thematic analysis

3.4. Data Collection Procedure

Semi-structured interviews were used to gather data. An interview guide was created in accordance with the two research objectives and contained questions regarding learner's experience with AI feedback, their perceived usefulness, their areas of writing improvement, limitations, ethical issues and the role of teacher feedback. The interviews took place in a non-noisy academic environment. The participants were given an opportunity to elaborate their thought in English and where there was a need, there was a clarification of their responses in Urdu or Sindhi to give a perfect meaning. All interviews were recorded on tape and transcribed to be analyzed.

3.5. Ethical Considerations

Data collection was preceded by briefing the participants on the purpose of the study. They were involved on a voluntary basis and were told that they could pull out at any point without any repercussions. The identity of the participants was covered by pseudonyms P1 to P10. The data of the interviews were employed solely as academic data, and no personal information was presented in the manuscript. The research was conducted according to the rudiments of informed consent, confidentiality, and respect towards the participants.

3.6. Data Analysis

Data in the interviews were thematically analyzed using six steps procedure by Braun and Clarke (2006): familiarization with data, initial coding, theme

generation, theme review, theme definition, and reporting. Thematic analysis was also guided by the fact that Braun and Clarke (2021) state that thematic analysis should be conducted based on coherent theme development, but not by merely listing topics. Statements related to perceptions of usefulness, linguistic accuracy, autonomy, confidence, contextual limitations, dependence and teacher mediation were grouped during coding. Refinement of the themes was done by determining whether they responded directly to the two research questions.

3.7. Trustworthiness of the Study

Credibility was enhanced by ensuring that the data was carefully transcribed, re-read on several occasions, a systematic coding scheme was implemented, and representative snippets of the participant transcripts were used. The researcher also matched the emerging themes with research objectives to ensure analytical coherence. Since it is a qualitative study, the purpose is not a statistical generalization but a contextual comprehension. The results must thus be construed as intensive information of a given group of undergraduate ESL students at NUML Hyderabad Campus.

4. Findings

The thematic analysis gave rise to four broad themes. These themes demonstrate that the participants found the assistance of AI-assisted feedback helpful to develop their writing, particularly grammar, vocabulary, sentence structure, and independent revision. Simultaneously, they knew that AI feedback was limited and needed teacher directions. The results are presented below based on the two research objectives.

4.1. Theme 1: Linguistic Accuracy Improvement.

Respondents were often asked about how AI-assisted feedback helped them to recognize grammatical, lexical, punctuation, and sentence-level errors. They appreciated the immediacy of AI feedback since they had a chance to make

changes to drafts prior to submitting them to the teacher. This result indicates that learners consider AI tools to be helpful with the surface-level revision and linguistic control.

- "Grammar errors are identified and corrected right away, which allows me to amend my work before submitting it (P2).
- "It will assist me to better sentence structure without having to wait until the teacher. (P5)
- "AI feedback provided me with new vocabulary suggestions. (P7)

These reactions are similar to recent studies that indicated that AI-assisted feedback can positively affect mechanics, grammar, vocabulary, and clarity when learners receive the feedback when revising (Ding et al., 2025; Ekizoglu and Demir, 2025). The participants, however, primarily related the idea of improvement to the accuracy of language over the development of an argument, implying that AI feedback can be most noticeable to learners when it helps them correct superficial problems.

4.2. Theme 2: facilitation of Learner Independence and Confidence.

The second theme was learner autonomy. Respondents stated that the AI feedback assisted them in making corrections on their own, reviewing their papers prior to instructor assessment, and in feeling more secure about academic writing. This independence was particularly critical since students were not necessarily looking forward to immediate teacher feedback. The AI tools thus acted as an initial, free-of-charge support in drafting.

- "I am more confident to revise my writing independently. (P1)
- "AI assists me to correct my errors prior to consulting the teacher. (P4)
- It makes me more accountable towards my writing. (P8)

The answers provided by the participants confirm the opinion that AI tools can enhance a sense of agency among students when it comes to writing. According

to Teng (2024), EFL learners found ChatGPT helpful in terms of motivation, self-efficacy, and engagement. Likewise, Lee et al. (2025) discovered that EFL students at the university generated ideas and refined their content through generative AI and retained a complementary perspective of AI. Autonomy in the current study did not imply that students should replace the teacher but instead, students were to start revision but get teacher feedback later.

4.3. Theme 3: Contextual and Meaning-Related Concerns.

Despite the fact that the participants appreciated the use of AI feedback, they also highlighted that there were situations when AI would alter the meaning or offer grammatically correct sentences that were not aligned with their real thoughts. This theme demonstrates that students were not totally passive consumers of AI. They observed that automated feedback might not contextualize, comprehend personal intention, purpose of assignment or rhetorical nuance.

- Sometimes AI alters the sense of my sentence. (P3)
- The feedback is not appropriate to my idea; it is grammatically correct. (P6)
- AI does not know what I really mean to say. (P10)

This observation aligns with literature that warns about AI-generated feedback as being less accurate in terms of context, voice, genre, and meaning (Barrot, 2023; Chan and Hu, 2023; Escalante et al., 2023). These limitations are significant in ESL writing since learners might accept a grammatically better sentence without knowing whether this sentence conveys the intended argument or not. Thus, AI feedback should be viewed and not acted upon.

4.4. Theme 4: Fear of Relying on It and Teacher Mediation.

The fourth theme was overdependence. Some of the participants reported that overuse of AI tools might decrease critical thinking, personal effort, and

independent decision making. They continued to see teacher feedback as a way to learn more particularly content, argument and academic expectations.

- When relying on AI too much, we can stop thinking critically. (P2)
- "Students can get addicted when they use AI regularly. (P5)
- "Learning is not devoid of teacher feedback. (P9)

These reactions support the critical AI literacy necessity. AI can assist learners in editing their drafts, yet students should be provided with guidance on how to accept, reject, question, or modify AI-generated recommendations. Ding et al. (2025) discovered that teacher-ChatGPT feedback yielded greater improvement compared to ChatGPT-only feedback, particularly in the domains where human judgment is still relevant. The current research also suggests that students would like to have a middle ground with AI aiding revision and teachers assisting with interpretation and academic progress.

5. Discussion

5.1. Students see AI feedback as an effective writing aid.

The results demonstrate that undergraduate ESL students at NUML Hyderabad Campus find AI-based feedback to be a useful aid to the academic writing. Linguistic accuracy is the perceived advantage with the greatest strength. The participants appreciated AI feedback as it was able to point out grammatical mistakes in a short period of time and gave the participant a chance to make corrections before being assessed by the teacher. This confirms previous results that automated and AI-assisted feedback may promote revision, enhance language awareness, and accuracy when incorporated into writing instruction (Li et al., 2015; Zhang and Hyland, 2018). Research also indicates that AI feedback can positively influence the student since it is prompt, available, and less threatening compared to feedback provided by a teacher (Ding et al., 2025; Teng, 2024).

Nonetheless, the results also indicate that the interpretation in relation to AI feedback is somewhat restricted by learners to grammar and vocabulary. These points are vital; however, academic writing also involves the development of arguments, coherence, use of evidence, tone of discipline, and proper citation skills. As such, AI-assisted feedback cannot be implemented solely as an error-correction tool. It must be included within a process-writing system in which students plan, draft, revise, reflect and discuss with teachers their decisions on feedback.

5.2. AI Feedback Is Promoting Autonomy but Demands Critical Interaction.

The second key discovery is that AI feedback fosters learner autonomy and confidence. Participants believed that they were able to revise on their own, make better drafts and approach the teacher once they made initial improvements. This is pedagogically useful in ESL situations since students frequently require repetition and low stress situations to correct. This can be assisted by AI tools that can develop an environment rich in feedback outside of classroom time (Lee et al., 2025; Teng, 2024).

However, autonomy is not to be confused with uncontrolled reliance. Learner autonomy is the ability to make informed choices, and not blindly comply with suggestions. The issues of the meaning changes and overdependence voiced by the participants demonstrate that learners require AI literacy training. They need to be trained to compare original and revised sentences, whether or not a suggestion maintains intended meaning and to maintain a reflective revision log. These practices may make AI more of a learning tool than a shortcut.

5.3. Teacher Mediation is still at the center stage.

The research proves the idea that teacher mediation continues to be the focus in AI-assisted ESL writing teaching. The AI tools may eliminate the load of manual error corrections, but the teachers are required to explicate genre, task demands,

quality of the arguments, voice, ethics of citation, and awareness of the audience. The study by Ding et al. (2025) revealed that students who were exposed to a combination of ChatGPT and instructor feedback achieved higher improvements compared to those who were exposed to ChatGPT feedback. It is in line with the current findings, in which participants appreciated AI help but remained aware of the relevance of teacher judgment.

A blended feedback model can be a good fit in the context of NUML Hyderabad Campus. The initial step that students can take with AI tools is to detect problems with grammar and sentences. Then, educators might proceed with considering more complex issues like developing a thesis, paragraph cohesion, coherence, integrating sources, and academic dishonesty. This model would enable feedback to be more effective without undermining the pedagogical role of the teacher.

6. Implications and Recommendations in Pedagogy.

The results provide some suggestions related to ESL writing teaching at the undergraduate level at NUML Hyderabad Campus and other Pakistani higher education settings.

1. Incorporate AI feedback in process writing: Teachers are required to apply AI tools when writing and revising, not just when it is submitted. Students can present original work, AI-assisted revision notes and final teacher-reviewed work.
2. Educate AI literacy: The students will be trained on how to write useful prompts, assess AI proposals, safeguard their own voice, and recognize false or inappropriate responses.
3. Have a blended feedback model: AI feedback should be used to solve standard grammar and sentence level problems, whereas teacher or

instructor feedback should be used to solve content, organization, argumentation, academic tone and ethical writing problems.

4. Ask students to provide reflective revision logs: students must provide an explanation of which AI suggestions they agreed or disagreed with. This will facilitate metacognition and decrease mechanical reliance.
5. Develop explicit academic integrity policies: Institutions are to make the acceptable and unacceptable applications of AI in assignments, especially regarding authorship, paraphrasing, citation, and plagiarism.
6. Promote local research and teacher training: ESL teachers need to be facilitated by professional development on AI-assisted writing pedagogy, assessment development, and responsible classroom incorporation.

7. Conclusion

This qualitative research paper examined the perceptions of undergraduate ESL learners on AI-assisted feedback in the context of the development of writing at NUML Hyderabad Campus. The study was informed by two research questions and explored the perceptions of learners to determine the advantages and the issues they had with AI feedback. The results indicate that students tend to find AI-based feedback helpful in enhancing grammatical accuracy, vocabulary, sentence structure, confidence, and self-revision. The use of AI tools seems to be an immediate support that can be used during the drafting process by enabling learners to discover mistakes before the teacher starts going through the writing.

Meanwhile, participants identified significant constraints. They claimed that AI feedback may occasionally distort meaning, disregard context, or foster dependency when applied without critical consideration. These issues demonstrate that AI-supported feedback cannot be considered a substitute to teacher feedback. Rather, it must be incorporated as an additional resource into a facilitated, moral

and procedural writing model. The research arrives at the conclusion that AI has the potential to improve the ESL writing development in case learners are taught to use it critically and provided that teachers are actively engaged in the interpretation of the feedback, the development of academic skills, and the promotion of responsible authorship.

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