



Whose feedback matters? Exploring human and AI-supported writing feedback practices in a South African writing centre

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Abstract

In the context of the growing reliance on artificial intelligence (AI) tools for academic writing, this article explores how undergraduate students at a South African writing centre perceive and use feedback from both human tutors and AI-based tools. Drawing on Feedback Literacy and Critical Digital Pedagogy, the study investigates the strengths and limitations of AI-generated and human feedback, as well as how resource constraints shape student practices. Using qualitative interviews with 10 undergraduate students across diverse disciplines, the findings reveal that while AI tools offer efficiency for surface-level corrections, students express a strong preference for the relational, dialogic, and context-sensitive nature of human feedback. Students strategically blend AI and tutor feedback, demonstrating emerging feedback literacy, yet their practices remain constrained by infrastructural barriers and algorithmic biases. The study highlights the risk that AI-generated feedback may reinforce educational inequalities if digital divides and linguistic diversity are not adequately addressed. It calls for feedback ecologies that balance technological innovation with human care, supporting equitable, and inclusive writing development in under-resourced, multilingual higher education settings.

Keywords: feedback literacy; writing centres; artificial intelligence; critical digital pedagogy; Global South.

Introduction

Feedback on writing is important for developing academic skills, especially when students start university with different levels of preparedness (Archer, 2010; Clarence, 2017).

Recently, artificial intelligence (AI) tools, such as Grammarly, Quillbot, and ChatGPT, have

changed how students get and use feedback. These tools provide instant corrections and suggestions, which can be helpful in large universities where personal support is limited. Researchers have begun to study how these tools affect learning, debating whether they help or hinder students (Grassini, 2023; Michel-Villarreal et al., 2023; Godwin-Jones, 2024). However, most of this research comes from places with strong digital infrastructure and where students generally have good digital skills.

In South Africa and other parts of the Global South, the situation is different. Writing centres often face challenges such as few staff, many students per tutor, and poor technology (Bozalek and Boughey, 2012; Luckett and Shay, 2020). Many students write in English as a second or third language and come from diverse backgrounds, which affects how they understand and use feedback (Thesen and van Pletzen, 2006). While AI tools offer quick and easy access to feedback, they may also increase inequality by favouring students with better digital skills and reliable internet access.

Although studies from other countries have looked at how students use AI-generated feedback (Kim et al., 2022; Yin et al., 2024), there is limited research in the Global South context, where access to technology and support varies widely. This study fills this gap by exploring how undergraduate students at a resource-limited South African university use and perceive both AI and human feedback. Through focusing on students' real experiences and the challenges they face, this study offers a fresh and critical view of feedback practices often missing in current studies.

Specifically, this research addresses the following questions:

- How do students perceive and use AI-generated feedback compared to human tutor feedback?
- What are the strengths and weaknesses of each type of feedback in this context?
- How do university resources and technology affect students' use of feedback tools?

This study adds new knowledge to the growing field of fair digital teaching, questioning the idea that technology is neutral and equally helpful for all. It highlights the need for feedback that supports student choice, care, and fair access in under-resourced and

multilingual higher education settings. The following section presents the theoretical points of departure for the study.

Theoretical framework

This study uses two connected theoretical lenses: Feedback Literacy and Critical Digital Pedagogy. Through combining these lenses, the study shows how student choices, social context, and technology all work together in shaping how feedback is given and used.

Feedback literacy, as explained by Carless and Boud (2018), means the knowledge, skills, and attitudes that help students understand, interpret, and use feedback to improve their learning. This idea moves away from seeing students as passive receivers of feedback and instead sees them as active participants who decide how useful feedback is for them. The three main parts of feedback literacy: valuing feedback, making careful judgements, and handling emotional reactions, are especially important in places with fewer resources. For example, in South African universities, many students use English as an additional language and often get little clear feedback. Here, feedback literacy plays a key role in helping students succeed (Winstone et al., 2021). But this idea usually assumes that students have regular access to good feedback, which may not be true in places with limited digital resources and support (Maringe and Sing, 2014).

A limitation of the feedback literacy framework is that it does not fully consider how bigger challenges like digital exclusion or language barriers affect students' ability to use feedback. While it focuses well on students' personal abilities, it might overlook the system-wide problems that limit access to good feedback (Prinsloo, 2020).

Critical Digital Pedagogy (Stommel, 2014; Bali, 2019) adds another angle by looking at the political, ethical, and cultural issues around using technology in education. It challenges the idea that digital tools are neutral, pointing out that these tools carry power imbalances, cultural biases, and unequal access. This approach stresses the importance of relationships and care in teaching. For example, AI-driven feedback is efficient but often lacks the personal, supportive, and identity-aware interaction that human teachers provide. This is particularly important for multilingual students whose language use may not fit with what the technology expects (Godwin-Jones, 2024).

However, Critical Digital Pedagogy also has limits when applied to AI-generated feedback. Although it offers a strong critique of the idea that technology controls everything, it does not always give clear ways to combine technology with human-centred learning in places where digital tools are becoming necessary (Masood and Haque, 2021). Therefore, there is a risk that focusing too much on criticism might overlook the practical help AI tools can offer to students dealing with limited resources.

Integrating and critiquing the chosen frameworks

Through combining these two frameworks, this study centres both student agency and the structural inequalities that mediate feedback experiences. Feedback literacy helps conceptualise how students interpret and act upon feedback, while Critical Digital Pedagogy draws attention to the socio-political forces shaping the feedback landscape. Together, these perspectives illuminate how feedback is not merely a cognitive process but also an ethical and relational one, embedded within material realities of access, language, and power (Carless and Winstone, 2023).

Yet, this dual-framework approach requires careful calibration. There is a danger of overemphasising individual responsibility (through feedback literacy) while underplaying the material constraints identified by critical digital theorists. Similarly, while Critical Digital Pedagogy rightly critiques the inequities of digital feedback, it should also acknowledge students' pragmatic need to engage with these tools when human support is limited.

Recent research on AI in education, including studies by Masood and Haque (2021) and Tran and Nguyen (2024), further accentuates this tension. These studies highlight both the emancipatory potential and the exclusionary risks of AI tools, reinforcing the need for nuanced, context-sensitive feedback ecologies. Thus, this study not only applies but also critiques these frameworks, arguing for feedback practices that are both technologically informed and ethically grounded, supporting students as active agents while recognising and addressing the material inequalities that shape their learning environments.

Literature review

Existing research regarding feedback on writing in higher education was reviewed in preparation for this study. This literature consistently emphasises the importance of formative feedback for academic success, especially for students from diverse linguistic and educational backgrounds (Boud and Molloy, 2013). Feedback is widely understood as a social and dialogic process that helps students understand academic expectations and improve their work (Carless and Winston, 2023). These insights shaped the development of the interview questions and how the thematic analysis was conducted, ensuring student experiences were interpreted with attention to both their agency and the structural challenges they face.

Human tutor feedback remains the cornerstone of writing support in universities. Writing centres offer non-evaluative, dialogic spaces where students receive personalised guidance that nurtures academic voice, critical thinking, and access to disciplinary knowledge (Archer, 2010). In South Africa, writing centres have played a vital role in widening participation and supporting students from multilingual and diverse educational backgrounds, often engaging with decolonial pedagogies and the politics of language (Thesen and van Pletzen, 2006; Leibowitz, 2017). Scholars like van Heerden et al. (2017) highlight that dialogic feedback, where students actively engage with meaning-making rather than just correcting errors, can be transformative, particularly for those writing in a second or third language. However, challenges such as high student-to-tutor ratios, limited institutional resources, and the need for ongoing tutor development around multilingualism and academic literacy persist (Bozalek and Boughey, 2012; Luckett and Shay, 2020). While human feedback is valued for its relational depth and contextual sensitivity, these systemic constraints often limit its reach and impact.

At the same time, the rapid rise of AI-powered writing tools has introduced new dynamics to feedback practices. These tools provide instant corrections and suggestions, which can be attractive in large institutions where human support is stretched thin (Wilson et al., 2021). Yet, AI-generated feedback often lacks the contextual understanding needed to support complex writing processes, tends to over-correct or 'flatten' unique student voices, and promotes generic academic language (Ziqi et al., 2024). Recent studies on generative AI, especially ChatGPT, show that while students appreciate the speed and convenience of these tools, they frequently question the depth and appropriateness of AI-generated

feedback (Yin et al., 2024). For multilingual students, standardised algorithms may flag rich linguistic practices as errors, risking loss of confidence and erasure of identity (Godwin-Jones, 2024). A critical concern is students' over-reliance on AI-generated feedback, which can lead to uncritical acceptance of suggestions and potentially deskill them as independent writers and thinkers (Lee and Yeo, 2022).

The concept of feedback literacy has been influential in reframing feedback as an active, student-centred process that requires interpretation, judgement, and emotional regulation (Carless and Winstone, 2023). This challenges deficit views of students as passive recipients and highlights the cognitive and affective work needed to make feedback meaningful. Research shows that students with stronger feedback literacy are more likely to use feedback, whether human or AI-generated, critically and constructively (Carless and Winstone, 2023). However, the development of feedback literacy is highly context-dependent. In resource-constrained environments like South Africa, inconsistent access to tutors and technology leads to uneven skill development (Maringe and Sing, 2014). There is limited research on how students in multilingual, digitally fragmented settings develop feedback literacy or negotiate tensions between standardised AI-generated feedback and their own linguistic identities.

A significant gap in the literature concerns digital inequity in the Global South. Most empirical studies on AI-generated feedback tools come from well-resourced, digitally stable contexts, raising questions about how these tools function in settings with limited infrastructure and uneven digital access (Prinsloo, 2020). Students in South Africa often face intermittent internet, device sharing, and limited institutional support, which shape how they access and engage with both human and AI-generated feedback (Czerniewicz et al., 2020). Scholars such as Prinsloo (2020) warn that digital tools designed for universal use may inadvertently reinforce exclusion if local realities are ignored.

The recent surge in research on generative AI tools like ChatGPT highlights both opportunities and risks: while these tools can democratise access to writing support, they also raise concerns about academic integrity, erosion of critical thinking, and further marginalisation of students lacking digital resources (Lee and Yeo, 2022; Yin et al., 2024). Despite growing interest, there is little empirical evidence on how AI-generated feedback intersects with human feedback in under-resourced, multilingual environments like South Africa. Much of the existing literature treats feedback tools as neutral or universally

beneficial, overlooking how digital inequities and local academic cultures influence student experiences and agency.

This study seeks to fill these gaps by focusing on the lived realities of students in a South African university writing centre marked by infrastructural challenges and linguistic diversity. Through examining how students perceive and use both AI-generated and human feedback, the research aims to contribute a situated, critical perspective to the literature on feedback ecologies. This approach challenges assumptions of technological neutrality and universal benefit, advocating for feedback practices that prioritise student agency, care, and equitable access in under-resourced, multilingual higher education settings.

Methodology

A qualitative research approach that centres students lived experiences within their specific institutional and infrastructural context was adopted. Given the gaps identified in the literature, particularly the lack of research on feedback practices in resource-constrained, multilingual environments and the limited understanding of how digital inequities shape students' use of AI tools, the study was designed to provide a situated and critical perspective on feedback ecologies.

Site and participants

The research was conducted in a writing centre at a South African university that supports a diverse student body. The centre offers both face-to-face and online consultations and engages primarily with undergraduate students. A group of 10 students from various faculties (including Humanities, Science, and Education) were purposively selected based on their experience with both AI-generated feedback tools and tutor consultations. All participants had used at least one AI-based tool (e.g., Grammarly, Quillbot, or ChatGPT) and had engaged in at least one tutor-led consultation.

Table 1. Participant profile.

Participant	Faculty	Year of study	AI tool used	Frequency of writing centre use	Home language
P1	Humanities	2nd Year	Grammarly, ChatGPT	Occasionally	isiNdebele
P2	Education	3rd Year	Grammarly	Frequently	Sepedi
P3	Science	1st Year	Grammarly, Quillbot	Occasionally	isiXhosa
P4	Humanities	2nd Year	ChatGPT	Frequently	isiXhosa
P5	Education	Honours	Grammarly	Occasionally	isiXhosa
P6	Commerce	3rd Year	Grammarly, ChatGPT	Frequently	Setswana
P7	Humanities	3rd Year	Grammarly	Occasionally	isiXhosa
P8	Law	2nd Year	ChatGPT	Occasionally	isiZulu
P9	Education	4th Year	Grammarly	Frequently	Afrikaans
P10	Humanities	1st Year	Quillbot	Occasionally	Afrikaans

For this study, 'frequently' is defined as using the writing centre three or more times per semester, while 'occasionally' referred to once or twice per semester. 'Regular use' denotes students who had engaged with the centre across at least two academic semesters. While the sample is small, it was intentionally selected to enable in-depth exploration of diverse experiences, consistent with the interpretive paradigm underpinning this study.

This study was conducted in full compliance with the ethical guidelines for research involving human participants. All participants were fully informed about the nature, purpose, and scope of the study, and written informed consent was secured from each participant. To ensure the highest standards of ethical research practice, participants' anonymity was strictly maintained.

Data collection and analysis

Data was collected through semi-structured interviews with undergraduate students who regularly use the writing centre. To avoid bias, similar questions were asked about feedback from AI and human tutors, such as whether either type of feedback affected students' confidence. The interviews were guided by 12 semi-structured questions (see Appendix A) and lasted between 35 and 50 minutes. They took place face-to-face in private consultation rooms within the writing centre. All sessions were audio-recorded with participants' permission and transcribed word-for-word. It is also important to note that no pilot interviews were conducted.

All interviews were transcribed verbatim by the researcher, and transcripts were double-checked against recordings for accuracy. Coding reliability was enhanced through a feedback loop with a peer researcher who reviewed a subset of coded excerpts to ensure consistency and coherence in theme development.

The data was then analysed using reflexive thematic analysis, following Braun and Clarke's (2006) six stages. Initial codes were created inductively from the transcripts and refined through multiple readings. These codes were grouped into broader themes, which were reviewed and shaped in line with the two theoretical frameworks: Feedback Literacy and Critical Digital Pedagogy. This process helped to ensure that both students' perspectives and theoretical ideas informed the final themes. Attention was given to how students balance standardised AI-generated feedback with their own language identities and how issues such as digital inequality affect their use of feedback tools. The analysis highlighted students' agency while also recognising the wider social and institutional factors influencing their experiences. Lastly, themes were constructed iteratively through comparing codes across participants, clustering related ideas, and refining categories until conceptual saturation was reached.

Sample limitations and transferability

While the purposive sample of 10 students enabled in-depth exploration of diverse experiences, the small sample size limits the generalisability of the findings. The insights generated are context-specific and reflect the perspectives of students who had access to both AI tools and human tutor feedback in a particular South African writing centre. As such, the findings may not be directly transferable to other institutions or regions with different infrastructural, linguistic, or cultural contexts. Future studies with larger or more diverse samples could help test the transferability of these findings. Nevertheless, the present study offers valuable, situated insights that can inform practice and policy in similar under-resourced, multilingual higher education settings, and may serve as a basis for further research in comparable contexts.

Findings and discussion

The analysis of interviews and feedback samples revealed three interconnected themes that illuminate how students in a South African writing centre engage with both human and AI-generated feedback: (1) trust, relationality, and depth of feedback; (2) pragmatic blending and strategic use of feedback sources; and (3) digital inequity and affective responses. These themes reflect the complex ways students navigate feedback ecologies shaped by infrastructural realities, linguistic diversity, and their evolving feedback literacy. Each theme is critically interrogated below.

Trust, relationality, and depth of feedback

A dominant theme was the high level of trust students placed in human tutor feedback over AI-generated feedback. Students consistently described tutor feedback as more meaningful, relevant, and confidence-building. They valued the relational and dialogic nature of human feedback, which enabled them to co-construct meaning, rather than passively receiving corrections. As Clarence (2017) and Archer (2010) argue, dialogic feedback has the potential to be transformative, particularly for students from linguistically diverse backgrounds. Participant 7 noted: ‘When I go to my tutor, I feel like I can be myself... Grammarly just tells me it’s wrong, but my tutor helps me fix it and tells me why it matters’.

This sense of relational trust was echoed by other students. P4 remarked that tutors gave them confidence, explaining, ‘Even when I make mistakes, they show me how to improve’, while ChatGPT, in contrast, ‘Just changes the sentence but doesn’t help me learn’. Similarly, P1 described how a tutor clarified word choices, recalling, ‘Grammarly told me to change a word, but my tutor explained that the original word was actually better for my argument’.

This illustrates how human feedback supports students’ feedback literacy by enabling them to appreciate, interpret, and apply feedback meaningfully (Carless and Winstone, 2023). Furthermore, tutors provided affective support that AI tools could not, motivating students to persist with their writing, a crucial factor in environments where students often grapple with linguistic marginalisation (Godwin-Jones, 2024).

Importantly, students highlighted that human tutors addressed higher-order concerns, such as argumentation and disciplinary writing conventions, areas where AI-generated feedback remained superficial. The human capacity to recognise and affirm multilingual identities contributed to students' sense of academic belonging, underscoring the importance of culturally responsive feedback (Thesen and van Pletzen, 2006).

Beyond strengthening confidence, trust in tutor feedback also enabled students to build longer-term relationships that contributed to their wider student experience. Several participants described returning to the same tutor because of the supportive dialogue established, which created a sense of continuity and belonging. Although limited, AI-generated feedback helped students prepare for these consultations by addressing surface-level issues in advance. This preparation allowed tutors to focus on higher-order concerns, resulting in richer conversations about argument, disciplinary writing, and identity. In this way, AI acted less as a replacement for tutors and more as a precursor to more meaningful dialogue.

Pragmatic blending and strategic use of feedback sources

Although students expressed a clear preference for human feedback, they adopted pragmatic strategies to combine AI tools and tutor feedback to meet academic demands. AI tools were primarily used for surface-level corrections and time-sensitive tasks, especially when human support was unavailable. This reflects an emergent feedback literacy where students critically evaluate the strengths and limitations of different feedback sources (Carless and Winstone, 2023). Participant 8 described:

Before I meet my tutor, I run my essay through Grammarly. It helps me fix the spelling and small mistakes, so when I see my tutor we can talk about the big things, like my argument or how to structure the essay.

Participant 5 shared:

Sometimes AI changes words that don't need changing. I now use it carefully and double-check with my tutor. It saves time but it can't replace real feedback.

This blended approach not only demonstrates agency but also aligns with Critical Digital Pedagogy's call for students to engage reflexively with technology (Bećirović, 2023).

Recent research by Bauer et al. (2023) on AI-supported writing in higher education similarly highlights how students blend AI tools with human guidance but remain cautious of AI's limitations.

However, instances of conflicting feedback revealed that students sometimes lacked the metacognitive skills to fully resolve discrepancies independently, pointing to the need for more explicit instruction on feedback evaluation (Han and Xu, 2020). For instance, Participant 6 described confusion when Grammarly and a tutor offered opposite suggestions about sentence structure, explaining that they, 'Weren't sure which advice to trust'. This means that by selectively using AI for technical accuracy and human tutors for developmental feedback, students exercised discernment, yet they remained vulnerable to the hidden biases embedded in AI systems, which tend to favour dominant linguistic norms (Leoni, 2022).

Findings under this theme accentuate the importance of fostering feedback literacy that includes critical digital literacy, enabling students to question whose knowledge is privileged by AI tools (Kartal, 2023).

Digital inequality and affective responses

The third theme highlights how infrastructural constraints and digital inequities shape not only students' access to AI tools but also their emotional engagement with feedback. Many participants faced challenges such as unreliable internet, device scarcity, and high data costs, barriers that directly affected their ability to access AI support. Participant 10 shared:

Sometimes I feel stressed because AI doesn't understand my language. It keeps flagging words from my home language, making me feel like I'm wrong. My tutor always says it's okay to bring my language into my writing.

Other students reported similar frustrations. P4 explained that limited data access often prevented them from using AI tools: 'If I don't have data or the Wi-Fi is down, I can't use Grammarly or ChatGPT. It feels like AI is for rich students'. This highlights how limited access shapes affective responses to AI tools. P2 described feeling emotionally unsupported when relying only on AI, contrasting this with the care they received from

tutors: 'With AI I feel disconnected. With my tutor, I feel like someone actually cares about my progress'.

These accounts reveal that AI-generated feedback sometimes enforced rigid norms, producing feelings of exclusion when multilingual practices were unacknowledged (Bauer et al., 2023). Yet such experiences were not universal, and some students managed to integrate AI-generated feedback without perceiving it as marginalising. It is also evident that human feedback consistently offered something AI could not, which is affective affirmation. Students emphasised that tutors not only guided them academically but also made them feel 'seen' and 'valued'. This relational dimension of feedback fosters resilience and belonging, emphasising its pedagogical importance (Banihashem et al., 2024; Godwin-Jones, 2024).

Digital inequality therefore extends beyond access to questions of opportunity, as limited connectivity and high costs curtailed students' ability to participate in digital feedback practices, thereby reinforcing inequities in higher education. These challenges are further compounded by under-resourced writing centres, underscoring the need for greater institutional investment in digital and academic support infrastructure. At the same time, the findings reveal a tension: while feedback literacy frameworks emphasise student agency, they often underplay the infrastructural barriers that constrain such agency; conversely, Critical Digital Pedagogy foregrounds these barriers but risks overlooking the necessity for scalable and efficient feedback in resource-constrained contexts.

The study findings show that AI-generated feedback offers efficiency; however, it lacks the relational depth and contextual sensitivity of human interaction. Students' blending of feedback sources demonstrates agency yet also reflects an uneven terrain shaped by infrastructural limitations and digital divides. Recent studies (Bauer et al., 2023; Banihashem et al., 2024; Corbin et al., 2025) affirm that AI should complement, not replace, human feedback, particularly in contexts marked by linguistic diversity and resource scarcity.

The table below summarises how the key themes from the findings align with each theoretical framework:

Table 2. Mapping key findings to feedback literacy and critical digital pedagogy.

Student experience	Feedback Literacy lens	Critical Digital Pedagogy lens
Strategic blending of feedback (students prefer AI for surface corrections, while they prefer tutors for deeper engagement).	Demonstrates informed judgement by distinguishing between technical corrections and developmental feedback. This reflects emerging skills in combining multiple sources effectively.	Highlights students' pragmatic navigation of limited resources. This shows how digital tools are appropriated within local constraints rather than used uncritically.
Value of relational, dialogic feedback (students prefer human feedback for trust, confidence, and affirmation of identity).	Illustrates appreciation of feedback that is personalised, contextualised, and confidence-building. This shows how feedback literacy develops through dialogic interaction.	Emphasises relational dimensions of learning. Human feedback foregrounds care, belonging, and recognition of multilingual identities, aspects absent from AI interactions.
Use of AI for surface corrections (students prefer AI for grammar, spelling, and structure).	Reflects students' capacity to manage feedback pragmatically, enhancing technical accuracy while recognising the limits of algorithmic suggestions.	Demonstrates how students adopt AI as a coping strategy in under-resourced contexts. This reveals reliance on technology to fill gaps created by strained institutional capacity.
Digital and linguistic barriers (students experience unreliable internet, device scarcity, language bias).	Restricts opportunities for sustained feedback literacy development, as students cannot always access or fully benefit from AI-generated feedback.	Reinforces structural inequities, where dominant linguistic norms embedded in AI systems marginalise non-dominant voices and widen digital divides.
Algorithmic bias and student identity (students appreciate motivation from tutors and expressed a disconnection from AI-generated feedback).	Shows students' ability to regulate emotions in response to feedback; highlights the importance of affective engagement as part of feedback literacy.	Accentuates the politics of technology. This reveals that AI can create exclusion and erasure of identity, while tutor feedback provides affirmation and care that nurture student resilience.

This integrated analysis shows that students' feedback practices are not simply a matter of individual skill or preference, but are deeply embedded in the material, linguistic, and technological realities of their educational context. Feedback Literacy enables students to make the most of available feedback, while Critical Digital Pedagogy reminds us that equitable access, care, and the politics of technology must remain central to any feedback ecology in higher education.

Limitations and future directions

As with any qualitative study, this research has several limitations that should be acknowledged. Since the research is based on a small, purposively selected group of students who were already engaged with the writing centre, there is a risk of self-selection bias. These participants may have stronger feedback literacy, or better access to resources than the broader student population. The author's dual role as a practitioner and researcher within the centre may have influenced both data collection and interpretation, despite efforts at reflexivity. Participants might also have felt encouraged to express favourable views of human tutor feedback, anticipating that such responses would align with the author's professional role. Although reflexive strategies were employed during analysis, the possibility of social desirability bias cannot be entirely ruled out.

Furthermore, the study focused on students who had at least some access to both AI tools and human feedback, which may underrepresent the experiences of those facing more severe digital exclusion or language barriers. The findings, therefore, reflect a particular institutional and temporal context and may not be directly transferable to other universities or to future scenarios as AI tools and institutional practices evolve.

For future research, longitudinal studies that track how students' engagement with feedback, both human and AI-supported, develops over time, as well as broader studies that include students who do not use writing centres or have limited digital access are recommended. Intervention-based research, such as workshops to build feedback literacy and critical digital skills, could also be valuable, as would comparative studies across institutions or regions to identify both context-specific and transferable strategies. Finally, exploring tutors' and institutional perspectives, as well as the ethical and policy implications of AI-generated feedback, would help build a more comprehensive understanding of how to support equitable, effective feedback ecologies in higher education.

Conclusion and recommendations

This study has shown how undergraduate students in a South African writing centre navigate the complex landscape of feedback, balancing human tutor input and AI-

generated suggestions within a context marked by linguistic diversity, infrastructural challenges, and digital inequity. The findings reveal that while AI tools offer speed and accessibility for surface-level corrections, students deeply value the relational, dialogic, and context-sensitive nature of human feedback, which supports their academic growth and affirms their identities.

Importantly, students are not passive recipients but active, critical agents who blend feedback sources strategically, demonstrating developing feedback literacy. However, material and digital inequalities continue to shape who can access and benefit from AI tools, risking the reinforcement of existing educational disparities.

Based on these insights, the research suggests the following recommendations:

- *Adopt a blended feedback approach:* writing centres should integrate AI tools to handle surface-level corrections, while human tutors focus on higher-order writing development. For example, tutors may ask students to pre-process drafts using AI before a consultation, freeing time for discussion of argument and disciplinary writing.
- *Prioritise relational and contextual feedback:* tutors should continue to provide dialogic, supportive feedback that recognises students' linguistic and cultural backgrounds. Training for tutors should emphasise sensitivity to multilingual writing and the affective dimensions of feedback.
- *Address digital inequities:* institutions should invest in improving digital infrastructure, expanding reliable internet access, and providing devices to reduce barriers to AI tool use. Additionally, digital literacy training should be offered to help students critically engage with AI-generated feedback.
- *Develop feedback literacy programmes:* writing centres can design workshops, integrated into first-year orientation or academic literacy modules, that explicitly train students to evaluate and combine feedback from AI and human sources.
- *Foster inclusive feedback policies:* institutional leaders and policymakers should issue guidelines ensuring AI tools are used to complement, not replace, human feedback, with safeguards against reinforcing linguistic bias.

In conclusion, fostering equitable and effective feedback ecologies in under-resourced, multilingual higher education settings requires a careful balancing of technological innovation with human care and critical pedagogy. While writing centres can integrate AI tools as complementary resources and design structured programmes to build feedback literacy, they cannot directly resolve systemic infrastructural challenges such as unreliable internet or device shortages. These require institutional investment. Writing centres can play a vital advocacy role by highlighting inequities to institutional leaders.

Acknowledgements

The author used the following AI tool in the preparation of this manuscript: ChatGPT 4o. The manuscript was originally written by the authors in full. ChatGPT was subsequently used to refine phrasing, improve clarity, and enhance the overall readability of the text. No content, argumentation, or structure was generated by the AI, and all ideas remain the intellectual work of the author. The author has complied with the JLDHE's principles of AI use.

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Appendix A: interview schedule

The following semi-structured interview questions were used to guide conversations with undergraduate students. Questions were open-ended to allow participants to elaborate on their experiences. Parallel questions were posed about both AI-generated feedback and human tutor feedback to minimise bias.

Section 1: background and usage

1. Could you briefly describe your studies (year, faculty, major) and how often you use the writing centre and AI tools like Grammarly, Quillbot, or ChatGPT for writing feedback?

Section 2: experiences with AI-generated feedback

2. What do you mainly use AI tools for in your writing process?
3. How useful do you find AI-generated feedback? Can you share specific examples?
4. Have you ever found AI-generated feedback inaccurate, unhelpful, or confusing? Please describe the experience.
5. Has AI-generated feedback ever affected your confidence or your ability to express your own writing style?

Section 3: experiences with human tutor feedback

6. What type of feedback do you typically receive from writing centre tutors?
7. How useful do you find human tutor feedback? Can you give examples?
8. Have you ever found tutor feedback unclear, unhelpful, or discouraging? Please explain.
9. How has tutor feedback influenced your confidence as a writer?

Section 4: comparing feedback sources

10. Do you prefer AI-generated feedback or human feedback? Why?
11. Have you combined AI and tutor feedback before, and how did that work?

Section 5: contextual factors

12. What challenges do you experience accessing AI writing tools, and what would help make writing feedback more useful or supportive for you?