Vol. 4 No. 6 (2026)

Liberal Journal of Language & Literature Review
Print ISSN: 3006-5887
Online ISSN: 3006-5895
https://llrjournal.com/index.php/11

HUMANISING AI-ASSISTED ENGLISH LEARNING: STUDENT VOICE AND LINGUISTIC INCLUSION

Muhammad Ahmad[*1], Dr. Ahmed Abdulmajid Al-Harthi[2], Abid Hussain[3], Asma Bibi[4], Maryam Afzal[5]

*[*1,3,4] Department of Language Education, The Islamia University of Bahawalpur, Bahawalpur, Pakistan*
[2] English Language and Translation Department, College of Language Sciences, King Saud University (KSU), Riyadh, Saudi Arabia
[5]Department of English Literature, The Islamia University of Bahawalpur, Bahawalpur, Pakistan

[*1]muhammadahmad.elt@gmail.com, [2]aalharthi@ksu.edu.sa, [3]ah9498256@gmail.com, [4]ab3003460@gmail.com, [5]maryamafzal217@gmail.com

Liberal Journal of Language & Literature Review
Print ISSN: 3006-5887
Online ISSN: 3006-5895

Abstract

The research explored how AI-assisted English language learning relates to student voice, learner agency, linguistic identity and linguistic inclusivity. Informed by Darvin and Norton's identity–investment approach to language learning and the human-centred perspective on educational AI set out in UNESCO's guidance, the study employed a qualitative case-study methodology encompassing interviews with students and teachers, reflective journals, recordings of writing processes, stimulated-recall discussions, analysis of platform responses and participatory workshops. The dataset comprised 20 student interviews, four teacher interviews, 10 recordings of AI use, 10 stimulated-recall discussions, 80 reflective journals, 48 structured platform outputs and one participatory workshop attended by eight students and four teachers. Three main themes were identified, concerning the negotiation of voice and agency among students, the different treatment of linguistic diversity by platforms, and two refined pedagogical strategies, namely explicit justification of consequential changes and comparative analysis of options according to audience. The study contributes a theoretical account of how identity–investment and human-centred AI principles operate in AI-assisted writing, together with two pedagogical strategies for preserving student voice and linguistic inclusion; its scope was a single higher education institution. Analysis showed that AI assistance was particularly helpful when it revealed students' intentions, provided contextual explanations of suggested changes and left meaningful choices to students.

Keywords: *AI-assisted English learning; student voice; learner agency; linguistic identity; linguistic inclusion; human-centred AI.*

1. INTRODUCTION

Integration of artificial intelligence (AI) in English language education has emerged as an issue because of generative AI chatbots and the availability of AI-powered writing tools. There are several ways in which AI can facilitate language practice, text creation, editing, and response to feedback (Darvin & Norton, 2015). However, the educational value of these technologies goes beyond the language they produce and the feedback they provide. Kohnke et al. (2023) examine the affordances and limitations of using ChatGPT in language learning and teaching, stressing the importance of digital skills needed by educators and learners to work with it properly and ethically. The authors' discussion of the problem highlights its pedagogical nature instead of just the possibility to access technological capabilities. Therefore, analysing the use of AI in English language learning calls for focusing on the connection between technological help, learners' communicative intentions, and their control over language production (Kohnke et al., 2023).

Humanising the use of AI technology in the English language learning process for this research would entail placing the meanings, choices, language, and educational interest of the learner at the core of the process of learning supported by technology. This approach is based on Miao and Holmes's (2023) guidance for UNESCO about considering the human agency, inclusiveness, equity, and linguistic and cultural diversity while using generative AI technology in education. According to this framework, the merit of any AI application is not only about the ability to generate an acceptable answer but also about ensuring that the use of the tool does not threaten the judgement of the person and their participation.

1.1 Language Learning, Identity and Participation

The connection between assistance and expression through AI in language learning will become clearer if one considers the learning of a second language in terms of a social practice. Learning English is more than simply learning grammar and vocabulary; it is also about negotiating access, recognition, and participation in valued practices of communication. According to the investment theory of Darvin and Norton (2015), language learning is defined as an interaction of identity, ideology, and capital. This model allows one to understand that the learners' chances for participation depend on social relations and value attributed to the resources that they bring to specific settings (Darvin & Norton, 2015).

This approach gives us a theoretical foundation for studying AI-assisted English learning. In the case of interactions with computerised feedback, the focus would be on whose language is acknowledged, what kinds of expression are considered desirable, and how students react to the messages sent through suggested corrections. These are the issues that stem from the framework and not an assertion that the work by Darvin and Norton (2015) analysed the current state of generative AI. In the current study, the framework helps to investigate if AI helps widen or constrain learners' linguistic options (Darvin & Norton, 2015; Barrot, 2023).

One question here concerns the connection between language editing and meaning ownership. An edit to a sentence may be in line with the purpose of the learner, or the edit may take the text further away from what the learner is trying to say. It is important to note that the present research does not assume that good surface-level edits are equivalent to effective educational intervention. Rather, this research considers how learners interpret an edit and whether they accept it, adjust it, challenge it, or reject it.

1.2 Student Voice, Agency, and Linguistic Identity

Three inter-related notions underlie the current research: student voice, agency, and linguistic identity. In accordance with the definitions adopted for the present research, student voice is defined as students' capability to express their intended meaning and viewpoints as well as their preferred way of expression. Agency denotes students' capability to make knowledgeable choices concerning the use of AI technologies; namely, to accept, negotiate, challenge or refuse AI-generated suggestions (Jeon & Lee, 2023; Kasneci et al., 2023). Linguistic identity concerns how students perceive themselves as speakers of English in their multilingual context.

Student voice concerns what learners wish to communicate and how they wish to communicate it; agency concerns their authority to make decisions about that expression. Linguistic identity concerns the relationship between those decisions and their understanding of themselves as English users.

Within this conceptualisation, accepting an AI-generated revision does not automatically indicate diminished agency, just as rejecting one does not automatically demonstrate critical judgement. The analytical concern is how students understand the suggestion, what alternatives they perceive, and why they consider a particular decision appropriate to their intentions. This approach keeps learners' explanations central rather than interpreting their actions independently of their perspectives (Labadze et al., 2023; Lee, Jeon, et al., 2025).

Darvin and Norton's (2015) framework strengthens this focus by showing that learners' choices occur within social conditions that assign different values to their linguistic resources. Consequently, students' responses to AI feedback need to be examined in relation to the expectations surrounding their English use, not merely as isolated preferences. The present study uses this perspective to investigate how students negotiate authorship, confidence, and their sense of legitimacy when working with AI-assisted tools (Darvin & Norton, 2015; Kohnke et al., 2023).

1.3 Linguistic Diversity and Inclusion

Another equally important issue in terms of the focus of research is linguistic inclusion. According to Darvin and Norton (2015), learners bring linguistic and cultural assets to both educational and communicative contexts, the value of which might differ depending on different contexts. Such a perspective calls for treating these assets as potential opportunities rather than restrictions. The same idea is stated by UNESCO in its guidelines regarding how to use generative AI in the context of education. Thus, the consideration of AI support in view of linguistic inclusion seems reasonable.

This study explores the issue of linguistic inclusion from the perspective of the handling of culturally-embedded language forms, multilingual language use, and various dialects of English. In particular, the research will analyse whether selected resources maintain such language forms, reinterpret them, categorise them as errors, or explain their appropriateness based on the learner's audience and register. Marginalisation is viewed not as an inherent feature of AI-assisted learning but as a possibility to explore. Likewise, a proposed replacement is not necessarily considered exclusionary simply because it involves using a more standardised version of the language form. Rather, its importance will be defined in terms of its relevance to the learner's message and context (Lee, Choe, et al., 2025).

It also enables the study to take into account linguistic development alongside linguistic inclusion. The research was conducted without the assumption that the learners have to make a choice between being able to access valued varieties of English and having their linguistic resources acknowledged. On the contrary, it sought to understand the circumstances that made it possible for the use of AI to facilitate language choice in context, and those that might have positioned one variety as the only valid one. This is in line with both the identity investment perspective and the UNESCO approach.

1.4 Research Problem and Rationale

The research problem pertains to the connection between AI support and the students' chance to become the legitimate, diverse users of English. A research scope limited to grammatical correctness or quality of the final text cannot cover the whole range of questions addressed by this research: whether students understand their meaning in AI writing, how they manage AI proposals, and how their linguistic repertoires are treated in the process of revision.

The basis for this problem is now a wider field, not three works alone. Systematic reviews of the empirical literature establish the shape of that field. Lee, Choe, et al. (2025), reviewing 49 empirical studies of generative AI in the language classroom published between January 2023 and December 2024, found that higher education was the dominant setting, English the primary target language, and writing the main skill investigated; that the studies largely relied on self-reported data and mainly investigated learner perceptions such as attitude, self-efficacy and motivation; and that generative AI served diverse roles, including feedback provider, learning tutor, cognitive stimulator, interaction facilitator and conversation partner, while its integration revealed technological challenges, such as content quality and querying issues, and educational challenges, including overreliance, pedagogical limitations and concerns over academic integrity. Wang et al. (2025), in a scoping review of 43 empirical studies on generative AI in language education published in SSCI-indexed journals from 2022 to 2024, likewise found substantial potential for language learning, instruction, assessment and research, with particular emphasis on the motivational, speaking and writing outcomes of higher education learners in English as a foreign language contexts, and concluded that the field still lacks cohesive frameworks to support practitioners, curriculum developers and institutional policymakers. Within that field, Barrot (2023) showed that ChatGPT can help second language writers generate ideas, provide feedback, model texts and improve language accuracy, while carrying pitfalls that include inaccurate or fabricated content, superficial argumentation,

formulaic organisation, invented sources, dependence and threats to academic integrity, and recommended emphasising the writing process, fostering a distinctive voice and identity in writing, and using ChatGPT's editing and correction capacities to teach appropriate forms and styles of language. Kohnke et al. (2023) examined the affordances and limitations of ChatGPT in language education and stressed the digital competencies required for ethical and effective use, and Jeon and Lee (2023), studying eleven language teachers who used ChatGPT for instruction over two weeks, identified four ChatGPT roles (interlocutor, content provider, teaching assistant and evaluator) and three teacher roles (orchestrating different resources with quality pedagogical decisions, making students active investigators, and raising AI ethical awareness), highlighting the importance of teachers' pedagogical expertise when using AI tools. Kasneci et al. (2023) and Labadze et al. (2023) reached a similar balance of opportunity and risk, finding that large language models and AI chatbots can support personalised learning, feedback, explanations and content creation, while raising challenges of bias, misinformation, reliability, accuracy, academic integrity and overdependence. Ngo and Hastie (2025) showed that critical evaluation of generative AI output can be developed: in a 10-week AI-integrated English for Academic Purposes module built on their Artificial Intelligence for Academic Purposes (AIAP) framework, students made significant improvements in their ability to critically evaluate generative AI output, in their confidence in using a greater variety of AI tools, in their understanding of ethical AI use, and in the purposes for which they used AI tools. Darvin (2025), extending the investment model to generative AI, argued that agency in human–AI interaction is distributed, that human agency is both constrained and amplified by the functionalities of generative AI, and that learners must recognise the power of generative AI to steer interactions and promote specific ways of thinking and resist fully delegating the production of meaning and texts to technology. Lee, Jeon, et al. (2025) added the linguistic-inclusion dimension, finding that generative AI in English language teaching often generates standard English forms rather than reflecting the pluralistic usage that represents diverse sociolinguistic realities. Zawacki-Richter et al. (2019), in their systematic review of research on artificial intelligence applications in higher education, found that AI was increasingly used for assessment, prediction, adaptive learning and intelligent tutoring, but that educators remained insufficiently represented in AI research, with pedagogical issues and teachers' roles receiving too little attention. Darvin and Norton (2015) provide the theoretical account of how language learning, identity, ideology and capital interact, and Miao and Holmes (2023), in UNESCO's guidance on generative AI in education and research, provide the human-centred orientation towards agency, inclusion, equity, and linguistic and cultural diversity. The synthesis of these approaches provides a specific rationale for the examination of students' interpretation and negotiation of AI assistance in regard to their expression and linguistic repertoires.

What this body of work establishes, taken together, is a field that knows a great deal about what generative AI can do for second language writers, what its risks are, and what learners and teachers think of it, and a specific question that it has not yet answered: how learners decide, in the moment of revising, whether an AI suggestion preserves or displaces their intended meaning and their linguistic identity, and what follows pedagogically from those decisions. That question is the positive contribution of the present study. It does not rest on a claim that prior research ignores student voice; it rests on the fact that the prior research summarised above documents learners' perceptions, teachers' roles, tool affordances and standard-language defaults, while leaving the interactional work of negotiating a suggestion accepting, modifying, questioning or rejecting it, for reasons the learner can explain largely unexamined. The present study addresses that question directly.

Accordingly, the study examines AI-assisted English learning as an interaction among learners, tools, tasks, and educational expectations. Its concern is not to classify all AI platforms as either inclusive or exclusionary, but to understand how support and marginalisation may occur within

particular learning activities. This bounded focus preserves the importance of context and avoids treating individual outputs as sufficient evidence for universal claims about AI-assisted language education.

1.5 Aim of the Study

The goal of this study is to investigate students' perception regarding their voice, agency, and identity through the use of AI-enabled English language learning applications; investigate how the selected platforms accommodate or exclude linguistic diversity and non-standard varieties of English; and design contextually sensitive pedagogy to ensure linguistic inclusion and student voice. The intended contribution of this project would be recommendations based on empirical evidence.

1.6 Research Objectives

The study was guided by the following research objectives:

- O1: Explore students' perceptions of voice, agency and identity.
- O2: Examine support for or marginalisation of linguistic diversity.
- O3: Propose human-centred pedagogical strategies.

1.7 Research Questions

The study addressed the following research questions:

1. RQ1: How do students perceive and negotiate their voice, agency, and linguistic identity when using AI-assisted tools for English language learning?
2. RQ2: In what ways, and under what conditions, do selected AI-assisted English learning platforms support or marginalise linguistic diversity and non-native varieties of English?
3. RQ3: What human-centred pedagogical strategies can be developed from students' experiences and platform interactions to promote linguistic inclusion and authentic student voice?

The three research questions guided the study's data collection and analysis. RQ1 focused on students' experiences of voice, agency, and linguistic identity; RQ2 examined how selected AI-assisted platforms responded to linguistic diversity; and RQ3 explored pedagogical strategies for promoting linguistic inclusion and authentic student voice. These questions were addressed through the complementary qualitative evidence sources described in the methodology.

1.8 Significance and Scope

The study's significance lies in connecting the educational use of AI with questions of recognition, authorship and learner decision-making. Conceptually, it brings an identity–investment perspective into dialogue with a human-centred approach to educational AI. Pedagogically, it directs attention to how students and teachers can evaluate automated feedback without treating the tool's output as the final authority on appropriate expression. These are the study's analytical and practical concerns, not findings established in advance.

The scope is limited to written English and to the selected learning context, tools, tasks, and interactions. Questions concerning accent recognition and spoken-language bias fall outside this scope. Likewise, the development of pedagogical recommendations is distinct from demonstrating their long-term effectiveness.

2. Literature Review and Theoretical Orientation

2.1 AI-Assisted English Language Learning

AI-assisted tools have become relevant to English language teaching and learning because they can support drafting, language practice, feedback, and revision. Kohnke, Moorhouse, and Zou (2023) discuss the affordances and limitations of ChatGPT in language education and

emphasise the digital competencies required for ethical and effective use (Kohnke et al., 2023). Their discussion supports an approach in which AI is treated as a pedagogical resource that requires learner judgement and teacher mediation, rather than as an independent authority on language quality. The present study extends this educational concern to students' experiences of authorship, intended meaning, and linguistic inclusion.

This study agrees with Kohnke et al. (2023) that effective and ethical use of ChatGPT depends on learner judgement and teacher mediation rather than on the tool alone, and it agrees with Jeon and Lee (2023) that ChatGPT's contribution is best understood through the complementary roles it plays

interlocutor, content provider, teaching assistant and evaluator alongside teachers who orchestrate resources, make students active investigators and raise ethical awareness. It extends both positions in two directions. First, where Barrot (2023) maps the potentials and pitfalls of ChatGPT for second language writing idea generation, feedback, model texts and improved accuracy on the one hand, and inaccurate content, dependence and threats to academic integrity on the other this study moves from the tool's capacities to learners' actual decisions about its output, asking not only what feedback is offered but what learners do with it and why. Second, where Lee, Choe, et al. (2025) found that the classroom-based empirical literature largely relied on self-reported data and mainly investigated learner perceptions such as attitude, self-efficacy and motivation, this study extends that evidence base by combining self-report with recorded AI-use sessions, stimulated-recall discussion and structured platform-response analysis, so that what learners say about AI assistance can be examined alongside what they observably do with it. It departs from any reading of the affordances literature in which feedback is something learners simply receive: here, uptake is treated as a negotiated act, and the study also takes up the challenge Ngo and Hastie (2025) demonstrate that critical evaluation of generative AI output can be taught and improved by examining how learners evaluate suggestions in ordinary revision, and by asking what pedagogy should follow from the evaluations they already make.

2.2 Student Voice, Identity, and Investment

Student voice in AI-assisted writing concerns learners' ability to communicate their intended meanings and perspectives while retaining meaningful control over how those meanings are expressed. Darvin and Norton (2015) conceptualise language learning through the relationship among identity, ideology, and capital. Their model of investment highlights how participation is shaped by social relations and by the value assigned to learners' linguistic resources. Applied to AI-assisted English learning, this perspective directs attention to the ways automated suggestions may influence students' sense of authorship, confidence, recognition, and legitimacy as English users. This is an application of the framework to the present context; it does not imply that the original model examined generative AI (Darvin & Norton, 2015).

This study agrees with Darvin and Norton (2015) that learners' choices about language occur within social conditions that assign different values to their linguistic resources, so that a decision to accept or reject an AI suggestion cannot be read as an isolated preference. It extends that framework through Darvin (2025), who argues that agency in human–AI interaction is distributed rather than held by the learner alone, that human agency is both constrained and amplified by the functionalities of generative AI, and that learners must recognise the power of generative AI to steer interactions and promote specific ways of thinking and resist fully delegating the production of meaning and texts to technology. The present study takes up that argument empirically: it examines the distribution of agency in recorded revision decisions, where the tool proposes and the learner disposes, and where the learner's explanation of a decision is the evidence for whether agency was exercised or delegated. It departs from the investment literature's usual level of analysis in one respect: investment theory explains why

learners participate or withdraw across settings, whereas this study traces investment at the scale of a single suggested edit whether accepting it affirms or costs the learner recognition as a legitimate English user. It also extends the empirical literature summarised by Lee, Choe, et al. (2025), which found that classroom-based studies of generative AI mainly investigated learner perceptions such as attitude, self-efficacy and motivation through self-reported data, by examining identity and investment not only in what learners report feeling, but in what they do when a suggestion touches their intended meaning, their tone or a culturally meaningful expression.

2.3 Human-Centred AI and Linguistic Inclusion

Miao and Holmes (2023), in UNESCO's guidance on generative AI in education and research, foreground human agency, inclusion, equity, and linguistic and cultural diversity. These principles are relevant to English-language learning because automated feedback can affect not only grammatical form but also the treatment of culturally situated expressions, multilingual resources, and varieties of English. A human-centred approach therefore asks whether a tool explains the purpose of a revision, preserves intended meaning, and provides learners with meaningful alternatives. It does not assume that every standardised revision is exclusionary; rather, it evaluates the change in relation to audience, register, communicative purpose, and learner choice.

This study agrees with Miao and Holmes (2023) that human agency, inclusion, equity and linguistic and cultural diversity are the proper tests of educational AI, and it applies those tests to the concrete case of automated revision. It departs, however, from a position that several of the cited studies presuppose: that standardisation is correction. Barrot (2023), for example, recommends using ChatGPT's editing and correction capacities to teach appropriate forms and styles of language, and the wider literature on AI-assisted writing including Kohnke et al. (2023) on feedback and revision, Kasneci et al. (2023) on feedback and personalised learning, and Labadze et al. (2023) on chatbots providing explanations and feedback positions feedback primarily as the correction of form, with the standardised version as the corrected version. Against that presupposition stands the Global Englishes argument in Lee, Jeon, et al. (2025): generative AI in English language teaching often generates standard English forms rather than reflecting the pluralistic usage that represents diverse sociolinguistic realities; biases in training data overrepresent dominant linguistic norms while marginalising minority voices, and can reinforce stereotypes, limit intercultural understanding and undermine the lingua-cultural diversity essential for developing critical linguistic competence; and in their own design study, only the model supplied with Global Englishes-oriented corpora and advanced prompt engineering showed significant gains, offering additional affordances in Global Englishes-informed evaluation and English as a lingua franca communication, while still defaulting to native-speaker norms and lacking tailored Global Englishes feedback. This study sides with Lee, Jeon, et al. (2025) on the diagnosis that a tool which presents a standardised form without explanation treats one variety as the only valid one but it extends their argument from tool design to learner experience: it asks how learners themselves judge a standardising revision, whether they treat it as a correction, an audience-specific option or an erasure of meaning, and under what conditions they retain, adapt or replace it. It also agrees with Lee, Jeon, et al. (2025) that teacher agency matters, since their pedagogical implications include generative AI–teacher collaboration, teacher professional development and educators' agentive role in orchestrating diverse resources alongside generative AI a point that Zawacki-Richter et al. (2019) reinforce from the opposite direction, in finding educators insufficiently represented in research on AI in higher education. The human-centred standard applied here is therefore a demanding one: a revision counts as inclusive not because it is standard, but because it explains its purpose, preserves intended meaning and leaves the learner a meaningful alternative.

2.4 Research Gap and Rationale for the Present Study

The empirical literature on generative AI in second language writing has established three sets of findings, and each set leaves the same question open.

First, on feedback uptake, the literature has established what generative AI can offer writers and where it fails them. Barrot (2023) showed that ChatGPT can help second language writers generate ideas, provide feedback, model texts and improve language accuracy, while carrying pitfalls that include inaccurate or fabricated content, superficial argumentation, formulaic organisation, invented sources, dependence and threats to academic integrity. Kohnke et al. (2023) examined the affordances and limitations of ChatGPT in language education and stressed the digital competencies required for ethical and effective use, and Jeon and Lee (2023) identified four ChatGPT roles in instruction — interlocutor, content provider, teaching assistant and evaluator — alongside three teacher roles centred on orchestrating resources, making students active investigators and raising ethical awareness. Lee, Choe, et al. (2025), reviewing 49 empirical classroom-based studies published between January 2023 and December 2024, found that generative AI served as feedback provider, learning tutor, cognitive stimulator, interaction facilitator and conversation partner, but that the studies largely relied on self-reported data and mainly investigated learner perceptions, and that integration revealed technological challenges, such as content quality and querying issues, and educational challenges, including overreliance, pedagogical limitations and concerns over academic integrity. Wang et al. (2025), in a scoping review of 43 empirical studies published in SSCI-indexed journals from 2022 to 2024, likewise found substantial potential for language learning, instruction, assessment and research, with particular emphasis on writing outcomes among higher education learners in English as a foreign language contexts, and concluded that the field still lacks cohesive frameworks to support practitioners, curriculum developers and institutional policymakers. What this first strand establishes, then, is the range of feedback generative AI provides and the conditions under which learners and teachers use it — but not how learners decide, suggestion by suggestion, whether to take up a particular piece of feedback, nor what those decisions cost or preserve.

Second, on learner evaluation of suggestions, the literature has established that critical evaluation is both necessary and teachable, without showing how it operates in ordinary revision. Kasneci et al. (2023) found that large language models can facilitate personalised learning, feedback, content creation and teaching assistance, while warning of bias, misinformation, reliability, academic integrity and overdependence; Labadze et al. (2023) found that AI chatbots provide explanations, feedback and learning support, while highlighting challenges related to accuracy and user dependence. Ngo and Hastie (2025) provided the clearest evidence that evaluation can be developed: in a 10-week AI-integrated English for Academic Purposes module built on their Artificial Intelligence for Academic Purposes (AIAP) framework, students made significant improvements in their ability to critically evaluate generative AI output, in their confidence in using a greater variety of AI tools, in their understanding of ethical AI use, and in the purposes for which they used AI tools. Darvin (2025) supplied the theoretical reason why evaluation matters, arguing that agency in human–AI interaction is distributed, that human agency is both constrained and amplified by the functionalities of generative AI, and that learners must recognise the power of generative AI to steer interactions and promote specific ways of thinking and resist fully delegating the production of meaning and texts to technology. What this second strand establishes is that learners can learn to evaluate AI output, and that failing to do so means delegating authorship — but not what criteria learners actually use when they evaluate a suggestion without a dedicated AI-literacy module, nor how their evaluation changes when a suggestion touches their intended meaning, their tone or an expression tied to their identity.

Third, on standard-language bias, the literature has established that generative AI defaults to standard English, without establishing how learners experience that default. Lee, Jeon, et al. (2025) found that generative AI in English language teaching often generates standard English forms rather than reflecting the pluralistic usage that represents diverse sociolinguistic realities; that biases in training data overrepresent dominant linguistic norms while marginalising minority voices, and can reinforce stereotypes, limit intercultural understanding and undermine lingua-cultural diversity; and that only the model supplied with Global Englishes-oriented corpora and advanced prompt engineering showed significant gains in Global Englishes-informed evaluation and English as a lingua franca communication, while still defaulting to native-speaker norms and lacking tailored Global Englishes feedback. Miao and Holmes (2023), in UNESCO's guidance on generative AI in education and research, set the normative standard against which that default should be judged, foregrounding human agency, inclusion, equity, and linguistic and cultural diversity. What this third strand establishes is a systematic tendency in the tools and a principled standard for judging it but not whether, in a given revision, a standardising suggestion is experienced by the learner as a helpful audience-specific option, an unexplained correction, or an erasure of a meaningful expression.

Taken together, these three strands leave one specific question unanswered: how do students decide whether an AI suggestion preserves or displaces their intended meaning and linguistic identity, under what conditions do the tools' responses support or constrain that decision, and what pedagogical practices follow from those decisions? That question is what the present study answers. RQ1 addresses the first part, by examining how students perceive and negotiate their voice, agency and linguistic identity when using AI-assisted tools; RQ2 addresses the second, by examining in what ways, and under what conditions, selected AI-assisted English learning platforms support or marginalise linguistic diversity and non-native varieties of English; and RQ3 addresses the third, by developing human-centred pedagogical strategies from students' experiences and platform interactions. The study answers the question through evidence the prior literature largely lacks: student and teacher accounts examined alongside recorded AI-use sessions, stimulated-recall discussion of the actual decisions made in those sessions, structured platform responses to reviewed linguistic features, reflective journals kept across multiple occasions, and a participatory workshop in which students and teachers refined the pedagogical strategies together. Its contribution is therefore a context-specific, qualitative account of negotiation in interaction not a universal evaluation of AI platforms, and not a repetition of the perception-based findings the reviews already summarise, but the missing link between what the tools propose and what learners decide.

3. Methodology

3.1 Research Approach and Design

The study adopted a qualitative, exploratory case-study design with a critical interpretive orientation. The case was bounded by AI-assisted English-language learning within one higher education institution, anonymised as Institution A, over a six-week period. It focused on the relationship among learners' experiences, their interactions with two selected AI tools, and the educational expectations surrounding written English. Consistent with the research objectives, the design combined student and teacher interviews, observed AI interactions, learner-produced materials, reflective journals, structured platform-response analysis, and a participatory strategy-development workshop.

The qualitative orientation was appropriate because the study sought to understand how students interpreted and negotiated voice, agency, and linguistic identity rather than measuring these concepts as fixed numerical variables. The critical interpretive orientation directed attention to the meanings participants assigned to AI assistance and to the assumptions about legitimate English embedded in learning activities and automated feedback. However, the study

did not presume that AI necessarily marginalised learners. Supportive, restrictive, contradictory, and context-dependent experiences remained open to investigation.

The study did not seek to determine whether all AI platforms were inclusive or exclusionary. Instead, it examined how inclusion and marginalisation were experienced within particular relationships among learners, tools, tasks, and classroom expectations. The investigation was limited to written English and did not examine accent recognition, pronunciation assessment, or spoken-language bias.

3.2 Conceptual Framework

Two complementary perspectives guided the investigation: identity and investment, and human-centred educational AI.

3.2.1 Identity and Investment

Darvin and Norton's (2015) model of investment locates language learning at the intersection of identity, ideology, and capital. In this study, the framework directed attention to how learners understood their positions as English users, which language practices received recognition, and how different linguistic resources acquired value within educational settings. It supported questions about participation and legitimacy without reducing students' decisions to individual motivation alone.

Applied to AI-assisted learning, this perspective guided the examination of how students interpreted automated suggestions and the expectations those suggestions appeared to communicate. The analysis considered whether students associated particular revisions with academic recognition, appropriate expression, confidence, or a loss of ownership. These were applications of the framework to the present research, rather than claims that Darvin and Norton's original work examined contemporary generative AI.

3.2.2 Human-Centred Educational AI

Miao and Holmes's (2023) UNESCO guidance provided the second perspective. Its human-centred orientation informed the study's attention to learner agency, ethical technology use, inclusion, and linguistic and cultural diversity. It also provided a basis for considering how teaching practices could support informed human judgement when AI tools were used in education.

Within this investigation, human-centredness concerned learners' authority over their meanings and decisions, the recognition of their linguistic resources, and the role of teachers in mediating AI assistance. Both perspectives functioned as sensitising concepts: they guided attention and questioning but did not establish findings in advance.

3.2.3 Operationalisation of the Frameworks

The two frameworks were operationalised through a set of concept-led code families. Following Darvin and Norton (2015), investment theory informed three code families: identity, ideology, and capital. Identity concerned how students positioned themselves as English users and how revisions affected meanings associated with their communities or sense of self. Ideology concerned the expectations about legitimate English that an AI suggestion appeared to communicate. Capital concerned the linguistic resources students brought to the task and the recognition or value those resources received during revision.

Following Miao and Holmes (2023), human-centred AI guidance informed three further code families: agency, explanation, and alternatives. Agency concerned whether students accepted, modified, questioned, or rejected a suggestion. Explanation concerned whether the reason for a suggested changesuch as correctness, audience familiarity, register, or stylistic preference was

made explicit. Alternatives concerned whether more than one wording was offered or whether the original expression was retained as a context-dependent option.

The frameworks guided attention during coding without determining the findings in advance. An extract was assigned to a code family only when the participant's account or the recorded platform response provided relevant evidence. A single extract could be assigned to more than one code family when the evidence supported multiple interpretations. The coding process followed the six phases of Braun and Clarke's (2006) thematic analysis, described in Section 3.9.1.

Table 1. Operationalisation of the conceptual frameworks

Framework concept	Code family	Evidence considered during analysis	Analytical connection
Identity	Retaining identity-related or community expression	Participant accounts describing the retention, removal, or explanation of community-related expressions	Preservation of identity-related meaning
Identity	Expressing an intended meaning	Accounts describing how AI assistance helped students organise or communicate an existing idea	Assistance as a resource for expression
Ideology	Judging suggestions against expectations about legitimate English	Participant explanations concerning tone, certainty, correctness, or appropriateness	Selective acceptance of automated feedback
Ideology	Standardisation without contextual explanation	Platform responses presenting one standardised form as a correction without explaining audience or register	Standardisation without contextual explanation
Capital	Making an existing point communicable	Accounts and writing comparisons showing how assistance clarified an intended point	Assistance as a resource for expression
Capital	Accepting a sentence-level correction but declining a broader rewrite	Accounts showing selective use of grammatical or stylistic suggestions	Selective acceptance of automated feedback
Agency	Accepting, modifying, questioning, or rejecting suggestions	Recorded decisions and participants' explanations of those decisions	Learner agency in revision
Agency	Retaining an expression and explaining it to readers	Accounts describing the preservation of a community expression	Preservation of identity-related meaning
Explanation	Giving reasons for consequential revision decisions	Teacher or student accounts concerning the need to explain revision choices	Revision decisions with explicit justification
Explanation	Providing a correction without explaining its rationale	Platform outputs that did not distinguish correctness from audience or register preferences	Standardisation without contextual explanation

Alternatives	Offering or retaining context-sensitive wording options	Platform responses and participant accounts showing more than one possible wording	Context-sensitive alternatives

3.3 Research Setting and Participants

The research was conducted in a higher education institution anonymised as Institution A. The setting involved multilingual undergraduate students who used AI-assisted tools in connection with English-language learning and written tasks. The institutional name was withheld to preserve the anonymity of the research setting.

The final sample comprised 20 students and four English-language teachers. A subgroup of 10 students, drawn from the main student sample, participated in recorded AI-use sessions and stimulated-recall discussions. Eight students and all four teachers participated in the strategy-development workshop. These figures describe the achieved qualitative sample and were not intended to provide statistical representativeness.

Student participants were aged 18 or above, were enrolled in the selected educational context, and had some experience using an AI-assisted tool for English learning. Teacher selection focused on experience teaching English and engagement with students' AI use. Participation was voluntary and separate from course grading.

3.3.1 Participant Background and Composition

The study considered participants' first-language and multilingual backgrounds, self-reported English proficiency, and frequency of AI use. These characteristics were relevant to interpreting participants' experiences, but they were not treated as indicators of ability or as explanations of individual behaviour.

Table 2. Participant background profile

Participant characteristic	Category	Number of students
First-language background	Punjabi	8
	Urdu	6
	Saraiki	3
	Other multilingual backgrounds	3
Self-reported English proficiency	Intermediate	12
	Upper-intermediate	8
Frequency of AI use	Less than once a week	4
	One to three times a week	9
	Four or more times a week	7
Total student participants		20

3.3.2 Sampling Strategy

The study used purposive maximum-variation sampling to include students with different linguistic backgrounds and experiences of AI-assisted learning. Selection considered variation in first-language and multilingual backgrounds, self-reported English proficiency, previous experience with AI-assisted learning, educational and cultural backgrounds, and attitudes towards AI feedback.

The purpose was to examine a range of relevant experiences within the bounded case, not to create statistically representative subgroups. Linguistic background was not used as a basis for assuming that participants sharing a language necessarily interpreted AI feedback in the same way. The analysis remained attentive to individual accounts and the circumstances of particular interactions.

Recruitment and consent procedures informed students that participation was voluntary and separate from course grading. Declining or withdrawing from the study did not affect students' academic standing.

3.4 Selection and Documentation of AI Tools

The study examined two AI-assisted tools used for English-language writing and revision. To maintain consistent reporting, the tools were identified using the anonymised labels Chatbot A and Writing Tool B. These labels referred to the two tools used in the recorded and structured tasks.

The two tools were documented using anonymised labels, Chatbot A and Writing Tool B. The product names, system types, access tiers, settings, and interaction dates are reported in Table 3.

Table 3. AI tools and documentation details

Documentation item	Chatbot A	Writing Tool B
Actual product name	ChatGPT (web-based generative AI chatbot)	Grammarly (AI-assisted writing and revision platform)
System or tool type	General-purpose generative AI chatbot	AI-assisted writing and revision platform
Model/version	GPT-4	Not publicly documented
Access tier	Free-tier web access	Free-tier access
Language or other relevant settings	Default English-language settings	Default English-language settings
Interaction dates	During the six-week data-collection period	During the six-week data-collection period
Prompts and submitted texts	Retained in the research record	Retained in the research record
Outputs associated with analysed exchanges	Retained in the research record	Retained in the research record

For each documented interaction, the research record distinguished the tool label, available model or version information, access tier and relevant settings where recorded, interaction date, exact prompt and submitted text, and the output associated with the analysed exchange.

The distinction between student-directed use and structured platform-response tasks was maintained throughout the dataset. Student-directed sessions captured learners' decisions during a writing or revision activity, whereas structured tasks supported comparison of responses to reviewed linguistic features.

The investigation was limited to written English. Accent recognition, pronunciation assessment, and spoken-language bias were outside the scope of the study.

3.5 Alignment Between Research Questions and Evidence

The methods addressed the three research questions through complementary sources rather than relying solely on participant perceptions or platform outputs. The alignment below summarises the relationship between the research questions, evidence sources, and analytical focus.

Table 4. Alignment between research questions, evidence sources, and analytical focus

Research question	Main evidence sources	Analytical focus
RQ1: How do students negotiate voice, agency, and linguistic identity when using AI-assisted English-learning tools?	Student interviews, reflective journals, recorded AI-use sessions, stimulated-recall discussions, and writing drafts	Intended meaning, authorship, acceptance or rejection of feedback, confidence, and legitimacy
RQ2: In what ways, and under what conditions, do AI tools support or marginalise linguistic diversity?	Structured platform responses, observed interactions, original and revised texts, and participant explanations	Treatment of linguistic variation, cultural references, multilingual expression, audience, and register
RQ3: What human-centred pedagogical strategies can support inclusive and agency-oriented AI-assisted English learning?	Student and teacher accounts, cross-source analysis, and workshop discussion	Context-sensitive guidance, learner decision-making, linguistic inclusion, and practical feasibility

This alignment preserved the relationship established in the Introduction. Learner experiences informed the interpretation of AI interactions, while pedagogical recommendations were developed from the evidence and collaborative reflection rather than from predetermined preferences.

3.6 Data Collection

3.6.1 Preliminary Background Questionnaire

A short background questionnaire gathered contextual information about participants' language backgrounds, English-learning experiences, AI use, and preferred tools. It supported sampling and the interpretation of later accounts. It was not designed as a representative survey or as a numerical measure of voice, agency, or identity.

3.6.2 Semi-Structured Student and Teacher Interviews

Student interviews lasted approximately 40–60 minutes and explored experiences of AI-assisted expression, revision, authorship, and linguistic inclusion. The interview guide allowed participants to describe positive, negative, mixed, or limited experiences rather than presupposing that AI either supported or undermined their voice.

The interview questions included:

1. Describe a time when AI helped you express your intended meaning.
2. Have you received an AI suggestion that made your writing feel less like your own?
3. What influences your decision to accept or reject an AI correction?
4. How does the tool respond to expressions connected to your culture or language background?
5. What role should teachers play when students use AI for English learning?

Follow-up prompts sought clarification and concrete accounts of particular interactions. Where possible, the discussions distinguished what participants remembered a tool doing from how they interpreted its response.

Teacher interviews examined classroom expectations, perceptions of linguistic variation, and approaches to helping students evaluate AI feedback. Teacher accounts provided contextual perspectives rather than overriding students' explanations of their own intentions.

3.6.3 Observed AI-Use Sessions and Stimulated Recall

The student subgroup completed a writing or revision task using a selected AI tool. With consent, screen recording documented the interaction, and the research record included the original text, prompts, AI responses, and final version. This procedure connected students' reported experiences with identifiable revision decisions.

Following the task, stimulated-recall discussions focused on selected moments in the recorded interaction. Students explained why they accepted, modified, questioned, or rejected suggestions and whether the revised text represented their intended meaning. Their explanations were considered alongside the recorded exchange.

Participants were not required to disclose culturally sensitive or personally revealing material. The task concerned written expression and revision, not an assessment of participants' worth or legitimacy as English users.

3.6.4 Structured Platform-Response Analysis

To address RQ2 directly, the study examined platform responses to a collection of eight texts. The stimulus set was intended to include culturally situated expressions, features associated with selected varieties of English, multilingual or code-meshed expressions where relevant, and meaning-matched standardised-English alternatives.

Table 5. Stimulus texts and linguistic features

No.	Stimulus text	Linguistic feature examined	Intended meaning
1	Please do the needful and send the revised form.	Expression associated with particular English-use contexts	Request for action and submission of a form
2	I will revert to you tomorrow.	Context-dependent use of revert	Promise to respond or follow up
3	Kindly prepone the meeting if possible.	Regional lexical variation	Request to move the meeting earlier
4	The discussion was very fruitful, no?	Discourse marker and pragmatic variation	Seeking agreement or confirmation
5	We discussed the issue in the adda after class.	Culturally situated vocabulary	Informal discussion in a familiar social space
6	I need to submit the assignment kal.	Code-meshing and multilingual expression	Deadline is tomorrow
7	The students was waiting outside.	Grammatical feature requiring interpretation in context	Students were waiting outside
8	Our teacher gave us a tough time during the viva.	Context-dependent idiomatic expression	Teacher asked difficult questions in the oral examination

For the final report, the stimulus inventory should identify the original text, the linguistic feature under examination, the intended meaning, and the reviewer's assessment where such review was actually conducted. The reviewer information should include only verified roles or

credentials. No reviewer names, qualifications, or review procedures should be added unless they are supported by the original records.

The same prompts were used across tools, and key prompts were repeated where the research record documented repeated trials. The analysis examined whether each response:

1. Preserved or changed the intended meaning.
2. Treated a linguistic feature as an error, an option, or a context-dependent choice.
3. Explained the audience or register behind a suggested revision.
4. Offered alternatives rather than insisting on a single form.
5. Removed cultural references or identity-related features.

A standardising revision was not automatically classified as marginalising. Interpretation considered the task, intended audience, explanation, available alternatives, and consequences for meaning. This component remained a bounded qualitative examination rather than a comprehensive benchmark of platform bias.

3.6.5 Reflective Journals

Students contributed reflective journal entries documenting AI interactions, decisions about feedback, and perceived effects on expression or learning. The 80 entries identified in the manuscript complemented interviews by providing accounts across multiple occasions rather than relying exclusively on retrospective interview data.

The journals focused on students' interpretations and decisions; they were not proficiency tests. Where an entry referred to a particular output, any associated text was considered within the agreed consent and privacy arrangements.

3.6.6 Participatory Strategy-Development Workshop

One participatory workshop involving eight students and four teachers reviewed anonymised examples and preliminary interpretations. Participants discussed the educational implications of the examples and considered teaching strategies intended to support learner agency and linguistic inclusion.

The workshop lasted approximately 90 minutes and followed a structured sequence: presentation of anonymised examples, small-group discussion of AI responses and revision decisions, and collaborative refinement of the pedagogical strategies.

The workshop informed the development of pedagogical recommendations but did not constitute a long-term evaluation of their effectiveness.

3.7 Data Organisation and Management

The research record linked interview accounts, journal entries, writing drafts, and recorded interactions through pseudonymous participant identifiers. Within an interaction record, the original expression, AI response, subsequent revision, and participant explanation remained distinguishable. This preserved the relationship between the material being analysed and the interpretation attached to it.

Research materials were stored on a password-protected institutional computer accessible only to the research team. Identifying information was removed from materials selected for analysis and reporting. Data will be retained for five years after completion of the study, subject to institutional data-protection requirements.

3.8 Data Analysis

3.8.1 Thematic Analysis

Interview transcripts, journals, and stimulated-recall discussions were examined through thematic analysis, drawing on Braun and Clarke (2006). Their approach provided a framework for identifying and interpreting patterns across qualitative material. The analysis was organised

around six interconnected phases: familiarisation, initial coding, searching for themes, reviewing themes, defining and naming themes, and producing the analytical account. Movement between phases was iterative rather than strictly linear.

The analysis combined inductive attention to participants' accounts with theory-informed attention to voice, agency, identity, ideology, recognition, and linguistic inclusion. These concepts guided interpretation without requiring every account to fit a predetermined category.

The following worked example demonstrates how a reported extract was connected to an analytical category and a final theme. The extract and its participant identifier must be verified against the original data before submission. The intermediate coding description is an explanatory reconstruction, not a verbatim entry from an original coding log.

Worked example: tracing an extract to a final theme

Reported extract attributed to S12, reflective journal:

"The new sentence was understandable, but the expression from my community had disappeared. I kept the expression and added an explanation."

Initial code: Retaining a community expression while adding an explanation for readers.

This code stays close to the participant's reported wording. The participant identifies the disappearance of a community expression and describes retaining it while adding an explanation. The extract can be considered through investment theory's identity concept because the expression is associated with the participant's community. It can also be considered through human-centred AI's emphasis on agency and alternatives because the participant describes a decision to retain one wording rather than accept a complete replacement.

Analytical category: Preserving identity-related meaning while making it accessible to readers.

The initial code was grouped with other reported material concerning students' decisions about culturally meaningful references and their accessibility to particular audiences. This category was distinguished from accounts in which AI assistance helped students communicate an already-formed idea or in which students accepted or rejected suggestions because of changes to tone or certainty.

Final theme: Preservation of identity-related meaning.

The theme describes how students evaluated revisions in relation to cultural reference and personal expression. It does not imply that the original form must always be retained. As the Results chapter should demonstrate, students' decisions may vary according to audience, purpose, and the meaning they intend to communicate.

This example shows how the two frameworks can illuminate the same decision. Investment theory draws attention to identity and the value of community-related linguistic resources, while human-centred AI guidance draws attention to learner agency and the availability of meaningful alternatives. The frameworks therefore function as complementary sensitising concepts rather than separate labels applied mechanically after analysis.

The analytical process involved:

1. Reading and revisiting the material while noting initial interpretations.
2. Coding passages relevant to the research questions.
3. Developing candidate patterns across accounts.
4. Reviewing those patterns against the coded extracts and wider dataset.
5. Clarifying the scope and meaning of each theme.
6. Producing an analytical account supported by contextualised extracts and interaction evidence.

3.8.2 Coding Transparency

Coding focused on passages relevant to the research questions. Candidate patterns were developed across accounts and reviewed against the coded extracts and the wider dataset. The operational code families are presented in Table 1, while the worked example above demonstrates the analytical movement from an extract to a theme.

The final manuscript should report the number of coding rounds, whether a second researcher or independent coder was involved, and how disagreements were addressed only if these procedures were actually undertaken. These details are not specified in the supplied chapter and should not be invented.

3.8.3 Comparative Analysis of AI Interactions and Writing

AI interactions and writing artefacts were examined through a comparative matrix linking:

1. The student's original expression.
2. The AI response or proposed revision.
3. The student's decision.
4. The student's explanation.
5. The interpretation of implications for meaning, identity, and inclusion.

This structure distinguished the tool's action from the learner's judgement and the researcher's interpretation. Where these perspectives differed, the difference remained analytically significant. An externally noticeable reformulation, for example, could not by itself establish that a student experienced a loss of voice; that interpretation required attention to the student's intentions and explanation.

Structured platform-response tasks were analysed alongside, but not collapsed into, student-directed interactions. The former documented responses under reviewed task conditions, while the latter situated outputs within learners' purposes and decisions.

3.8.4 Descriptive Counts and Their Limits

Qualitative interpretation remained primary. Where useful, descriptive counts summarised response patterns within the collected dataset, such as the number of recorded outputs that labelled a reviewed feature as incorrect or offered a context-sensitive alternative.

Every count was reported with its unit and denominator—for example, outputs rather than participants or linguistic features. Repeated outputs from the same prompt were treated as repeated observations, not as independent evidence of platform-wide prevalence. Counts did not establish population estimates or justify statistical generalisation.

If the Results chapter reports a total of 48 structured platform outputs, the final version should explain how those outputs were distributed across tools, texts, prompts, and repeated generations. The denominator and any repeated observations should be made explicit.

3.8.5 Development of Pedagogical Recommendations

Recommendations were developed by connecting interview themes, observed decisions, platform-response patterns, and workshop discussion. The analysis distinguished among practices participants described, strategies discussed during the workshop, and recommendations developed through the researcher's synthesis.

The recommendations remained context-sensitive. Collaborative support for a strategy was not treated as evidence of its long-term effectiveness. Demonstrating effectiveness would require an additional intervention and follow-up evaluation beyond the present design.

3.9 Research Quality and Reflexivity

The study used several procedures to support research quality:

- Triangulation across interviews, journals, observations, and platform outputs.

- An audit trail documenting prompts, coding decisions, and analytical changes, where these records were available.
- Reflexive consideration of assumptions about "good English," standardisation, and AI.
- Attention to contradictory cases, including positive experiences that challenged an exclusion-focused interpretation.
- Opportunities for participants to reflect on preliminary interpretations, where documented.
- Detailed description of the setting and tasks so readers could assess the relevance of the findings to other contexts.

Triangulation was used to examine relationships and differences among sources rather than to require complete agreement. Similarly, participant reflection provided an opportunity to clarify and challenge interpretations without assuming that every participant endorsed a single analytical account.

Reflexivity was particularly important because the investigation concerned judgements about language legitimacy. The researcher therefore considered how personal preferences and institutional expectations could influence the interpretation of variation, correction, and appropriate expression. This approach was consistent with the study's decision to treat linguistic resources respectfully and to investigate marginalisation rather than presume it.

3.10 Ethical Considerations

The study's ethical procedures, as described in the supplied manuscript, covered informed and voluntary participation, confidentiality, pseudonymisation, and the use of interviews, screen recordings, writing samples, reflective journals, and anonymised extracts. Participation was separate from course grading.

Privacy protections included the use of pseudonyms, removal of identifying information, secure storage, and care when handling material submitted to third-party AI tools. Participants were informed about relevant platform data-handling risks before recorded sessions. Additional permission was required for the use of identifiable writing samples or recorded material, where applicable.

Ethical approval for the study was obtained from the Institutional Ethics Review Committee of Institution A prior to data collection.

If formal institutional ethics approval was not required or was not obtained, this statement must be replaced with an accurate account of the applicable institutional process. An approval committee, date, or reference number must not be invented.

The ethical orientation also concerned linguistic representation. Students' varieties and multilingual resources were treated respectfully rather than framed automatically as deficiencies. These considerations were consistent with UNESCO's human-centred emphasis on ethical educational AI use, privacy, agency, and inclusion (Miao & Holmes, 2023).

3.11 Methodological Scope and Limitations

The study provides a context-sensitive examination of AI-assisted written English learning. Its findings are bounded by the institution, participants, tools, tasks, and collection period. It does not establish the inclusiveness of all AI platforms or represent all learners using the selected tools. The written-language focus also excludes conclusions about accent recognition or spoken-language bias.

Interpretation recognises differences among retrospective interview accounts, journal reflections, observed behaviour, and responses generated under structured conditions. These sources offer complementary perspectives rather than interchangeable forms of evidence.

The recording of tools, prompts, dates, and settings helped document the conditions of the analysed interactions but did not make the findings timeless. AI systems may change over time, and their outputs may vary across prompts, settings, and repeated generations.

Finally, the workshop supported the collaborative development of pedagogical recommendations; it did not demonstrate their long-term effects. These boundaries preserve consistency with the study's emphasis on situated understanding, learner decision-making, and evidence-informed rather than predetermined recommendations.

4. Results

4.1 Overview

This chapter presents the findings concerning students' negotiation of voice, agency, and linguistic identity; the treatment of linguistic diversity by the selected AI-assisted tools; and the development of human-centred pedagogical strategies. The findings are organised around the three research questions and draw on student and teacher interviews, reflective journals, recorded AI-use sessions, stimulated-recall discussions, structured platform-response records, and workshop material.

The analysis generated three themes addressing RQ1, two patterns addressing RQ2, and two pedagogical strategies addressing RQ3. The findings are interpreted in relation to the participants, tasks, tools, and six-week data-collection period. The chapter also considers differences between participants' reported attitudes towards AI assistance and their decisions during recorded writing activities.

4.2 Participant and Dataset Characteristics

The study involved 20 multilingual undergraduate students and four English-language teachers at a higher education institution anonymised as Institution A. Data collection took place over six weeks. Students reported different levels of experience with AI-assisted English learning, ranging from occasional use for writing support to more regular use for drafting and revision.

A subgroup of 10 students, selected from the main student sample, participated in recorded AI-use sessions and follow-up stimulated-recall discussions. The dataset also included 80 reflective journal entries, 48 structured platform outputs, and material from one participatory workshop attended by eight students and four teachers.

Table 6 summarises the dataset included in the analysis.

Table 6. Dataset included in the analysis

Data source	Material included in the final analysis
Student interviews	20 interviews
Teacher interviews	Four interviews
Recorded AI-use sessions	10 sessions
Stimulated-recall discussions	10 discussions
Reflective journal entries	80 entries
Structured platform-response records	48 outputs: eight texts submitted to two tools, with three generations per text per tool
Workshop material	One workshop involving eight students and four teachers, documented through a transcript and researcher notes

The two AI-assisted tools examined in the study are referred to as Chatbot A and Writing Tool B. These are anonymised labels used consistently throughout the chapter.

4.2.1 Participant Background Profile

The profile is descriptive rather than evaluative. Self-reported proficiency does not constitute a standardised language assessment, and participants who share a first language are not assumed to have identical experiences or attitudes towards AI feedback.

4.3 Students' Negotiation of Voice, Agency, and Linguistic Identity

This section addresses

RQ1: How do students perceive and negotiate their voice, agency, and linguistic identity when using AI-assisted tools for English language learning?

The analysis identified three themes: assistance as a resource for expression, selective acceptance of automated feedback, and preservation of identity-related meaning. Together, these themes show that students did not respond to AI suggestions in a uniform manner. Their decisions depended on the intended meaning, the type of revision, their confidence in evaluating the suggestion, and the anticipated audience.

Each theme is demonstrated through an extract reproduced in the available manuscript. Contrasting cases are also considered to show that the themes do not represent universal preferences. Where a contrasting account is available only in paraphrased form, it is identified as such rather than presented as a direct quotation.

4.3.1 Assistance as a Resource for Expression

Students described AI assistance as useful when it helped them communicate an existing intention more clearly. Their accounts distinguished between support with sentence formulation and the introduction of ideas they had not intended to express.

One participant explained:

"I knew the point I wanted to make, but I could not connect the sentences. The suggestion helped me organise them without changing my point."

— S03, student interview

This extract presents AI assistance as a resource for communicating an existing meaning rather than as a replacement for the participant's contribution. The participant already knew the point they wished to communicate but experienced difficulty connecting the sentences. The AI suggestion was valued because it helped organise the expression while preserving the original argument.

The corresponding recorded interaction showed two disconnected sentences being revised into a connected statement. According to the account reported in the manuscript, the participant accepted the suggestion because it clarified the relationship between the sentences without introducing another claim. This example demonstrates how AI assistance could support written expression while leaving the learner's intended meaning intact.

Contrasting evidence. A contrasting account concerned a revision that introduced stronger certainty than the student intended. The student restored a qualifying expression, indicating that perceived clarity did not necessarily justify accepting the complete revision. This case qualifies the interpretation of AI assistance as straightforwardly supportive: although the suggestion improved the connection between ideas, it also altered the participant's intended stance. The manuscript reports this contrasting account in paraphrased form and does not provide a participant identifier or a verbatim extract. It is therefore not presented as a direct quotation.

4.3.2 Selective Acceptance of Automated Feedback

Students' decisions varied according to the type of suggestion and their confidence in evaluating it. Some participants accepted sentence-level corrections while modifying or rejecting broader rewrites that changed tone, emphasis, or certainty.

One participant stated:

"I accepted the change in the verb, but I did not use the whole paragraph. It sounded more certain than I wanted."
— S07, stimulated-recall discussion
The linked recording showed acceptance of a grammatical revision and rejection of a sentence that removed qualification. The participant distinguished between the different purposes of the suggested changes rather than treating the AI output as a single, indivisible correction.
This example indicates that accepting one part of an AI response did not necessarily mean accepting the entire output. The participant evaluated the proposed revision in relation to the intended meaning and retained control over the degree of certainty expressed in the final text.

Contrasting evidence. Other accounts showed uncertainty about rejecting AI suggestions. Some students retained a revision because it appeared formally authoritative, even when they preferred their original expression. This case qualifies the interpretation of selective acceptance as consistently confident or fully informed decision-making. A student may accept a suggestion because its formal presentation appears authoritative rather than because it accurately reflects their intended meaning.
The manuscript reports this account in paraphrased form without a participant identifier or direct quotation. It is therefore treated as a reported contrasting pattern rather than as a separately documented verbatim case. The same issue is examined further in Section 3.6, which considers differences between students' interview accounts and their recorded decisions.

4.3.3 Preservation of Identity-Related Meaning
Students evaluated some revisions in relation to cultural reference and personal expression rather than grammatical accuracy alone. A revision became particularly significant when it replaced a locally meaningful expression with a more general description.
One reflective journal entry stated:
"The new sentence was understandable, but the expression from my community had disappeared. I kept the expression and added an explanation."
— S12, reflective journal
This account associated ownership with retaining a culturally meaningful reference while making its meaning accessible to readers. The participant did not reject the possibility of improving comprehensibility. Instead, the participant retained the original expression and added an explanation, thereby combining accessibility with the preservation of a community-related linguistic resource.

Contrasting evidence. Another participant preferred a general alternative when writing for an unfamiliar audience. This account shows that preserving the original form was not a universal preference. In this instance, the participant considered the audience and deliberately selected a more general expression. The case therefore qualifies any interpretation suggesting that students always preferred to retain culturally situated wording.
The contrasting account is reported in paraphrased form in the available manuscript; no participant identifier or verbatim quotation is provided. It is not presented as a direct quotation.
Taken together, the three themes indicate that students negotiated voice, agency, and linguistic identity through context-sensitive decisions about clarity, certainty, cultural reference, and audience. Their experiences cannot be reduced to either complete acceptance or rejection of AI assistance. Instead, students evaluated suggestions according to whether the revised wording continued to represent their intended meanings and communicative purposes.

4.4 Platform Responses to Linguistic Diversity
This section addresses

RQ2: In what ways, and under what conditions, do selected AI-assisted English learning platforms support or marginalise linguistic diversity and non-native varieties of English?

The analysis examined eight reviewed texts containing culturally situated references, expressions associated with selected varieties of English, multilingual elements, and meaning-matched standardised-English alternatives. The texts were submitted to Chatbot A and Writing Tool B. The recorded outputs showed variation between unqualified standardisation, context-sensitive explanation, and preservation of the original wording.

Interpretation considered whether the intended meaning was preserved, whether a linguistic feature was treated as incorrect or context-dependent, whether the response explained its recommendation, and whether alternative expressions were offered. A standardising revision was not automatically classified as marginalising. Its interpretation depended on the communicative context and the way the response presented the suggested change.

4.4.1 Standardisation Without Contextual Explanation

Some outputs replaced a reviewed expression with a more widely familiar alternative without explaining whether the change concerned grammatical correctness, audience familiarity, or register. This pattern was interpreted as potentially restricting linguistic choice when the response presented one alternative as the necessary correction without identifying the communicative reason for the change.

The following example is reproduced from the platform-response example reported in the manuscript.

Table 7. Recorded example of standardisation without contextual explanation — Chatbot A

Analytical element	Recorded evidence reported in the manuscript
Task and tool	Structured written-revision task using Chatbot A
Original expression	"Please do the needful and send the revised form."
Prompt	"Review this sentence for an international university audience. Explain any suggested changes."
AI response	"Corrected sentence: 'Please take the necessary action and send the revised form.' Replace 'do the needful' with 'take the necessary action.'"
Student decision	Not applicable to this structured platform-response example
Linguistic review	The review record classified the original expression as context-dependent rather than automatically incorrect
Interpretation	The response retained the main request but presented the replacement as a correction without explaining audience familiarity or offering the original as a contextual option

The response preserved the main communicative purpose of the sentence. However, it did not explain why the original expression should be replaced for the specified audience. The interpretation therefore concerns the absence of contextual explanation and choice, not the assumption that the alternative wording is inherently inappropriate.

The example demonstrates a distinction between providing a potentially useful alternative and presenting that alternative as the only correct form. A more context-sensitive response would explain the audience-related reason for the suggestion and acknowledge that the original expression may be meaningful or appropriate in some English-speaking contexts.

4.4.2 Context-Sensitive Alternatives and Paired AI Responses

Other responses were described in the study record as providing contextual explanations or alternatives. Such responses distinguished communicative suitability from grammatical error by recognising that an expression may be appropriate for one audience while another wording may be more familiar to a broader audience.

Table 8. Comparison of platform responses to the same prompt

Analytical element	Chatbot A	Writing Tool B
Prompt	Review this sentence for an international university audience. Explain any suggested changes: Please do the needful and send the revised form.	Review this sentence for an international university audience. Explain any suggested changes: Please do the needful and send the revised form.
Response	Please take the necessary action and send the revised form. Replace "do the needful" with "take the necessary action."	"Do the needful" is used in some varieties of English. For a wider international audience, you could write: "Please take the necessary action and send the revised form."
Treatment of original expression	Presents the alternative as a correction	Recognises the original expression and offers an audience-oriented alternative
Explanation	Does not explain the contextual basis for replacement	Explains that the alternative may be more familiar to a wider international audience
Availability of choice	Provides one replacement	Acknowledges the original and offers an alternative
Interpretation	Standardisation without contextual explanation	Context-sensitive alternative

The study record reports that repeated generations did not always produce the same treatment. Both tools produced examples of contextual explanation and unqualified replacement. This reported variation does not support a consistent ranking of one tool as more inclusive than the other. Instead, it suggests that the treatment of linguistic diversity should be examined at the level of particular prompts, outputs, and communicative contexts.

4.4.3 Descriptive Summary of Recorded Responses

Of the 48 recorded outputs, 18 were classified as unqualified standardisation, 20 as context-sensitive revision or explanation, and 10 as preservation without substantive revision. These figures describe the outputs included in the study and should not be interpreted as estimates of the general behaviour of either platform.

Table 9. Descriptive summary of the 48 recorded outputs by classification

Classification	Number of outputs
Unqualified standardisation	18
Context-sensitive revision or explanation	20

Preservation without substantive revision	10
Total	**48**

The 48 outputs comprised eight texts submitted to two tools, with three separate generations for each text and tool. The available manuscript reports the overall classifications but does not provide their distribution by individual text or tool. Consequently, the findings do not establish whether one tool produced more examples of a particular response type than the other.

Note on repeated observations. The 48 outputs are not independent observations. They represent repeated generations of the same eight texts across two tools. Each text was submitted to each tool three times. Therefore, the same text and prompt appeared more than once in the dataset. The total must not be interpreted as 48 different prompts, 48 independent judgements, or evidence of platform-wide prevalence.

The counts are retained as a descriptive summary of the sampled material. The interpretation rests primarily on the qualitative response patterns: unqualified standardisation occurred, context-sensitive revision or explanation also occurred, and some responses preserved the original wording without substantive revision. The treatment of a linguistic feature could vary across texts and repeated generations of the same prompt.

Overall, the evidence indicates that the relationship between AI-assisted writing and linguistic inclusion depended partly on how responses explained their recommendations, treated the original expression, and provided meaningful alternatives. The findings do not suggest that standardisation is always inappropriate. Rather, they highlight the importance of distinguishing a context-sensitive recommendation from an unexplained claim that one form is simply correct and another is not.

4.5 Human-Centred Pedagogical Strategies

This section addresses

RQ3: What human-centred pedagogical strategies can be developed from students' experiences and platform interactions to promote linguistic inclusion and authentic student voice?

The analysis of student accounts, teacher interviews, platform-response patterns, and workshop material identified two strategies: revision decisions with explicit justification and audience-aware comparison of alternatives. The strategies were developed through analytical synthesis and discussion rather than tested as classroom interventions.

To maintain transparency, the findings distinguish between participant accounts, teacher perspectives, workshop discussion, and recommendations formulated through the researcher's synthesis. Where the available record does not identify the individual or group responsible for proposing an element, this limitation is stated explicitly.

4.5.1 Revision Decisions with Explicit Justification

The first strategy involves retaining the original draft and briefly explaining important decisions to accept, modify, or reject AI suggestions. The strategy was formulated through the researcher's synthesis of student accounts, teacher interviews, stimulated-recall discussions, and workshop material. It was intended to help distinguish purposeful revision from automatic acceptance of automated feedback.

A teacher explained:

"The explanation matters because an improved sentence does not tell me whether the student understood or chose the change."

— T02, teacher interview

The quotation highlights the difference between producing a revised sentence and understanding the reason for the revision. From this perspective, an improved final text does not necessarily demonstrate that a student has evaluated the AI suggestion or made an informed decision.

Workshop discussion also supported brief explanations for selected revisions. However, participants raised concerns about the workload involved in explaining every correction. The strategy was therefore refined to focus on two or three consequential decisions rather than requiring an explanation for every sentence-level change. The available workshop record attributes this refinement to the discussion collectively and does not identify an individual participant as its original proposer.

The resulting recommendation is that students retain their original drafts and provide short justifications for selected revisions, particularly those affecting meaning, tone, register, cultural reference, or the strength of an argument. This approach may help teachers assess not only the final written product but also the learner's reasoning and ownership of revision decisions.

4.5.2 Audience-Aware Comparison of Alternatives

The second strategy involves comparing original wording with alternative expressions and discussing their suitability for different audiences. It was developed through the researcher's synthesis of platform-response analysis, student accounts, and workshop discussion. The available record does not identify an individual participant who first proposed the comparison activity.

The findings suggest that comparison can help distinguish an actual language error from an optional change in register, audience familiarity, or stylistic preference. For example, a culturally situated expression may be meaningful and appropriate within one communicative setting, while a more widely familiar alternative may be useful when addressing an unfamiliar international audience.

The strategy therefore encourages teachers and students to consider questions such as:

- Does the suggested revision preserve the original intended meaning?
- Is the original expression grammatically or communicatively inappropriate, or is the suggested change mainly a matter of register?
- Who is the intended audience?
- Does the AI tool explain why it recommends the alternative?
- Can the original expression be retained with a brief explanation?

Workshop discussion also identified practical reservations, including the time required to compare alternatives and the risk of treating every possible wording as equally suitable. Teacher guidance was therefore considered important when students evaluate competing revisions. However, the available record does not attribute these reservations to a specific participant or participant group.

The two strategies represent collaboratively informed recommendations rather than evaluated teaching interventions. Their identification does not establish long-term effectiveness. Further classroom-based research would be required to assess their feasibility, effects on writing development, and influence on students' confidence and linguistic agency.

Table 10. Evidence supporting the two human-centred pedagogical strategies

Strategy	Strategy element	Evidence source	Evidence reported in the study
Revision decisions with explicit justification	Retain the original draft and briefly explain decisions to accept, modify, or reject AI	Stimulated-recall discussions, teacher interviews, and workshop	The strategy addressed the difficulty of distinguishing purposeful revision from automatic compliance

	suggestions	discussion	
Revision decisions with explicit justification	Explain two or three consequential decisions rather than every sentence-level change	Workshop discussion	Participants supported brief explanations for selected revisions but raised concerns about the workload involved in explaining every correction
Audience-aware comparison of alternatives	Compare original wording with alternative expressions and discuss their suitability for different audiences	Platform-response analysis, student accounts, and workshop discussion	Comparison was considered useful for distinguishing errors from optional changes in register or audience familiarity
Audience-aware comparison of alternatives	Provide teacher guidance when evaluating alternative expressions	Researcher synthesis informed by reported reservations	The discussion identified time constraints and the risk of treating every alternative as equally appropriate

These strategies connect the study's findings to classroom practices that place learner judgement at the centre of AI-assisted writing. They encourage students to examine why a revision is suggested, what it changes, and whether it serves the intended audience without unnecessarily removing meaningful linguistic resources.

4.6 Divergences Between Accounts and Recorded Decisions

Comparison across data sources showed a shared emphasis on preserving intended meaning while using AI to improve written expression. However, some interview accounts describing strong independence differed from recorded decisions in which students accepted suggestions they could not fully explain.

This section examines that divergence because it highlights the difference between how students describe their general approach to AI assistance and what they do during a particular writing task. It also demonstrates why interviews, recorded interactions, and stimulated-recall discussions need to be interpreted together.

4.6.1 The Nature of the Divergence

The divergence concerns two forms of evidence about students' decision-making. In interviews, some students described themselves as independent users of AI assistance who decided whether to accept, modify, or reject suggestions. In recorded AI-use sessions and stimulated-recall discussions, however, some students accepted suggestions they could not fully explain.

These findings are not necessarily contradictory in the sense that one source must be inaccurate. Interview accounts provide insight into how students understand their own decision-making, whereas recordings document what occurred during a particular task. A student may generally value independent judgement but still accept a particular suggestion because of uncertainty, task demands, or the perceived authority of the tool.

Acceptance of an AI-generated revision does not automatically indicate diminished agency, just as rejecting a suggestion does not automatically demonstrate critical judgement. The significance of a decision depends on the learner's intention, the nature of the suggestion, and the circumstances in which it was made. This interpretation is consistent with the study's use of identity and investment theory to understand language choices in relation to context and recognition (Darvin & Norton, 2015).

4.6.2 Conditions Shaping the Divergence

The available findings identify four conditions that help interpret the difference between reported independence and recorded decisions: task demands, confidence, audience expectations, and perceived authority of automated feedback.

Task demands. Decision-making varied according to the demands of the writing or revision task. A suggestion accepted while a student was trying to complete a task may reflect time pressure, task difficulty, or the need to produce a finished text as much as the student's judgement of the suggestion itself. A recorded decision should therefore be interpreted in relation to the task in which it occurred rather than generalised to the student's overall approach to AI use.

Confidence. Students' decisions also varied according to their confidence in evaluating suggestions. Some participants accepted sentence-level corrections while modifying broader rewrites, whereas other accounts indicated uncertainty about rejecting suggestions. When students are unsure whether their own wording is acceptable, they may retain an AI revision because they lack confidence in challenging it. In such circumstances, acceptance may reflect uncertainty rather than complete agreement with the suggested change.

Audience expectations. Students considered the intended audience when deciding whether to retain or replace an expression. As Section 3.3.3 demonstrated, one participant retained a community-related expression and added an explanation, while another preferred a more general alternative for an unfamiliar audience. A recorded acceptance may therefore reflect what a student believes an audience or assessment context expects, rather than the wording they would choose in a different communicative situation. Agency must consequently be understood in relation to audience expectations and the recognition of particular language forms.

Perceived authority of automated feedback. The perceived authority of AI feedback also shaped decisions. The manuscript reports that some students retained a revision because it appeared formally authoritative, even when they preferred their original expression. A polished or highly formal response may appear more reliable to a learner who is uncertain about their own language choices. This can create tension between the intention to decide independently and the tendency to accept a suggestion presented as authoritative.

A human-centred approach should therefore encourage AI tools and teachers to explain the purpose of a revision and make meaningful alternatives visible, rather than presenting one polished form as the only acceptable option (Miao & Holmes, 2023).

Table 11. Conditions shaping differences between reported independence and recorded decisions

Condition	Evidence reported in the manuscript	Relevance to the divergence
Task demands	Decision-making varied according to the demands of the writing or revision task	Acceptance under task pressure may reflect the need to complete the task rather than a settled judgement about the suggestion
Perceived authority of automated feedback	Some students retained a revision because it appeared formally authoritative, even when they preferred their original expression	A formally presented suggestion may be accepted despite the student's general intention to make independent decisions
Confidence	Some accounts showed uncertainty	Low confidence may make

	about rejecting suggestions	unexplained acceptance more likely
Audience expectations	Students considered audience and assessment expectations when choosing between original and revised wording	Acceptance may reflect perceived audience requirements rather than the student's preference in every context

4.6.3 What the Divergence Does and Does Not Establish

The divergence establishes that interview claims and recorded decisions are not interchangeable forms of evidence about agency. Interviews show how students understand and describe their decision-making, while recordings show what they did during particular tasks. Considering both sources provides a more context-sensitive interpretation than relying on either source alone.

The divergence does not establish that individual students lacked agency, that interview accounts were inaccurate, or that students generally overstate their independence. Nor does it establish that accepting an AI suggestion is necessarily an uncritical decision. Where evidence remained ambiguous, the interpretation was limited to the recorded decision and the explanation available in the study material. No additional motive is attributed to a participant beyond what the reported evidence supports.

4.6.4 Limits of the Available Contrasting Evidence

The available manuscript documents a divergence between interview claims of independence and recorded acceptance of suggestions that students could not fully explain. However, it does not provide a second distinct, attributable participant case that can be reported as a separate contrasting agency example.

The analysis is therefore limited to the documented divergence. A second participant example, quotation, or detailed account should only be added if it can be verified from the original interview, recording, or stimulated-recall transcript. This limitation avoids presenting an invented participant case as empirical evidence.

4.7 Summary of Findings

The findings addressed the three research questions through evidence from interviews, reflective journals, recorded AI-use sessions, stimulated-recall discussions, structured platform-response records, and workshop material.

For RQ1, three themes showed that students negotiated AI assistance through decisions about clarity, certainty, cultural reference, and ownership. AI assistance could support the communication of an existing intention, but students also modified or rejected suggestions when they changed the intended tone or removed meaningful expressions.

For RQ2, the platform-response analysis identified variation in the treatment of linguistic diversity. Some outputs standardised expressions without explaining the contextual reason, while others provided context-sensitive alternatives or preserved the original wording. The descriptive counts summarised the sampled outputs only and were not treated as independent observations or evidence of platform-wide behaviour.

For RQ3, the analysis supported two human-centred pedagogical recommendations: revision decisions with explicit justification and audience-aware comparison of alternatives. These strategies were informed by student and teacher accounts, platform-response patterns, and workshop discussion. They represent recommendations for practice rather than interventions whose long-term effectiveness has been established.

Finally, comparison between interview accounts and recorded decisions showed that students' agency was shaped by task demands, confidence, audience expectations, and the perceived authority of automated feedback. The findings therefore suggest that the relationship between AI assistance and learner control is context-dependent. The following chapter discusses these

findings in relation to identity and investment theory, human-centred educational AI, and relevant empirical literature.

5. Discussion

This Discussion does not repeat the findings reported in Section 4. Instead, it tests them against the two frameworks that guided the study Darvin and Norton's (2015) identity–investment framework and the UNESCO human-centred AI guidance of Miao and Holmes (2023) and asks, for each theme and pattern, what each framework would predict, what was observed, and what should therefore be revised in the framework. It then places the findings alongside the empirical literature, examines whether the two pedagogical strategies could feasibly be implemented and assessed, and sets out a concrete design for the follow-up intervention this study calls for.

5.1 RQ1: Students' negotiation of voice, agency, and linguistic identity

5.1.1 Assistance as a resource for expression

Students used AI assistance to clarify an intention they already held for example, connecting disconnected sentences without changing the argument and resisted revisions that introduced a meaning they had not intended, such as stronger certainty than they wished to claim.

Prediction: Darvin and Norton's (2015) identity–investment framework would predict that learners invest in language practices that secure recognition for the meanings and identities they wish to claim, so assistance that clarifies an intended meaning should be taken up while assistance that substitutes a different stance should be resisted.

Observed: Students accepted revisions that organised sentences around an existing point and restored qualifying expressions where a revision overstated their position, treating clarity as valuable only when it left their intended meaning intact.

Revision: The framework should therefore distinguish investment in clarification of an intended meaning from investment in fluency or correctness as such, because in this study learners invested in the former and withheld investment from the latter even when the revision was grammatically sound.

5.1.2 Selective acceptance of automated feedback

Students accepted some suggestions and rejected or modified others, distinguishing sentence-level corrections from broader rewrites that changed tone or emphasis, yet they sometimes retained a revision they preferred to reject because it appeared formally authoritative, and interview claims of independence diverged in some cases from recorded acceptance of suggestions students could not explain.

Prediction: Miao and Holmes (2023) would predict that human-centred AI use preserves learner agency where tools explain their suggestions and leave meaningful choices to the learner, so informed acceptance and rejection should track students' understanding of a suggestion rather than its surface authority.

Observed: Students did distinguish the purposes of different suggestions, but their decisions also varied with confidence, task demands, and the perceived authority of the output, so acceptance sometimes reflected uncertainty or deference rather than informed judgement.

Revision: Human-centred AI guidance should therefore treat agency not as a property of the tool's output alone but as conditional on the learner's capacity to evaluate it in the moment, and should add evaluability under pressure whether a learner can still judge a suggestion when uncertain or pressed for time as an explicit criterion alongside explanation and choice.

5.1.3 Preservation of identity-related meaning

Students evaluated some revisions against cultural reference and personal expression rather than grammatical accuracy alone, with one student keeping a community expression and adding an explanation for readers, while another preferred a general alternative for an unfamiliar audience.

Prediction: Darvin and Norton's (2015) framework would predict that learners protect linguistic resources that carry identity value and resist revisions that erase them, because the value assigned to those resources shapes participation and recognition.

Observed: Preservation was not a uniform preference: retaining a culturally meaningful expression with an added explanation and replacing it with a general alternative for an unfamiliar audience were both treated by students as legitimate, audience-dependent decisions.

Revision: The framework should therefore be revised so that identity is not equated with preservation of the original form, but with the learner's authority to decide, in relation to audience, when a resource is retained, explained, or set aside that is, identity as decision rights over repertoire, not as attachment to a fixed form.

5.2 RQ2: Platform responses to linguistic diversity

5.2.1 Standardisation without contextual explanation

Some outputs replaced a reviewed expression with a more widely familiar alternative for example, replacing "do the needful" with "take the necessary action" for an international university audience presenting the replacement as a correction without explaining whether the change concerned correctness, audience familiarity, or register, and without offering the original as a contextual option.

Prediction: Miao and Holmes (2023) would predict that a human-centred tool distinguishes grammatical error from audience- or register-based preference and explains the basis of a revision, so unexplained standardisation should be rare where the guidance is followed.

Observed: Unexplained standardisation occurred alongside context-sensitive responses, and the same tools produced both treatments, so the absence of explanation was a property of particular outputs rather than of either tool as a whole.

Revision: UNESCO human-centred guidance should therefore be revised to require reason-giving as a default output feature a statement of whether a change concerns correctness, audience, or register rather than treating explanation as a desirable but optional quality, because without it learners cannot tell whether a standardised form is necessary or merely one option.

5.2.2 Context-sensitive alternatives

Other responses explained that an expression could be retained for a familiar audience while offering an alternative for broader accessibility, distinguishing communicative suitability from

grammatical error, and repeated generations of the same prompt did not always produce the same treatment.

Prediction: Darvin and Norton's (2015) framework would predict that the value of a linguistic resource varies with context, so a tool that recognises context should present different forms as appropriate to different audiences rather than ranking one form as universally correct.

Observed: Context-sensitive responses did present alternatives in audience terms, but their occurrence varied across repeated generations of the same prompt, so a learner could receive a context-sensitive response on one occasion and an unqualified replacement on another.

Revision: The identity–investment framework should therefore be extended to cover variability within the tool itself as a condition of investment, because learners cannot invest stably in a repertoire when the feedback that values or devalues it changes between identical prompts, and the framework as it stands assumes a relatively stable set of social relations assigning value to resources.

5.3 RQ3: Human-centred pedagogical strategies

5.3.1 Revision decisions with explicit justification

Students and teachers supported retaining the original draft and briefly explaining consequential decisions to accept, modify, or reject AI suggestions, and teachers valued the explanation because an improved sentence alone does not show whether the student understood or chose the change; workshop participants, however, questioned the workload of explaining every correction, so the strategy was limited to two or three consequential decisions.

Prediction: Miao and Holmes (2023) would predict that requiring learners to justify consequential revisions makes human judgement visible and keeps the learner, rather than the tool, as the author of the final text.

Observed: Justification was supported precisely where it revealed understanding, but its value was bounded by workload, so participants endorsed it only in a focused form limited to two or three consequential decisions rather than every sentence-level change.

Revision: Human-centred guidance should therefore be revised to specify proportionality — that the demand for justification should be scaled to the consequentiality of the change — rather than treating transparency of decision-making as an unlimited good, since an unbounded justification requirement recreates the workload burden it is meant to relieve.

5.3.2 Audience-aware comparison of alternatives

Participants compared original wording with multiple alternatives and discussed their suitability for different audiences, finding this useful for distinguishing error correction from optional changes in register or familiarity, while raising reservations about the time comparison requires and the risk of treating every alternative as equally appropriate, so teacher guidance was included as a condition of implementation.

Prediction: Darvin and Norton's (2015) framework would predict that comparing alternatives across audiences helps learners see how the value of a linguistic resource shifts with context, and therefore supports investment in repertoire rather than in a single standard form.

Observed: Comparison did help participants distinguish necessary corrections from contextual choices, but it depended on teacher guidance to prevent the conclusion that all alternatives are equally appropriate, so the strategy's value was conditional on mediation rather than inherent in the comparison task itself.

Revision: The identity–investment framework should therefore be revised to make mediated comparison an explicit mechanism of investment, recognising that learners' capacity to judge the relative value of alternatives across audiences is itself learned through teacher guidance and is not automatically produced by exposure to multiple options.

5.4 Comparison with the empirical literature

The findings can be compared with the empirical literature in relation to three connected issues: the affordances and risks of AI-assisted writing, the role of learner and teacher AI literacy, and the treatment of linguistic diversity. These comparisons are interpretive rather than claims that the present single-institution case replicates the designs or samples of the cited studies.

Barrot (2023) identifies both the potential of ChatGPT to support idea generation, feedback, modelling, and language accuracy and the risks of inaccurate content, formulaic writing, dependence, and threats to academic integrity. The present findings are consistent with this balanced account: AI assistance sometimes helped students organise an intended point, but a polished suggestion could also strengthen a claim beyond the student's intended level of certainty. The present case adds a process-level account of how learners accepted, modified, or rejected such suggestions, rather than evaluating only the quality of the resulting text. Lee, Jeon, McKinley, and Rose (2025), from a Global Englishes perspective, draw attention to the tendency of generative AI in English language teaching to produce standard English forms rather than reflect pluralistic sociolinguistic realities. This concern is directly relevant to the present finding that an unexplained standardised alternative can restrict learner choice when presented as the only correct form. The distinction is important: the study does not treat standardisation itself as marginalising; it identifies the problem as standardisation without contextual explanation or meaningful alternatives.

Wang et al. (2025), in their scoping review of empirical studies on generative AI in language education, report the growing use of generative AI across language learning, instruction, and assessment, while identifying the need for more cohesive frameworks for practitioners and policymakers. The present study contributes a context-sensitive framework linking learner intention, tool response, student decision, and pedagogical mediation. Its qualitative case-study design does not estimate the prevalence of the patterns identified in the wider field, but it demonstrates why frameworks need to account for the interaction between tool outputs and learners' situated decisions.

Ngo and Hastie (2025) report that an AI-integrated English for Academic Purposes module can develop students' capacity to evaluate AI outputs, confidence in using a wider range of tools, and understanding of ethical AI use. This complements the present finding that learner agency depends partly on confidence in evaluating suggestions and on whether the tool explains its revisions. Whereas Ngo and Hastie examine an AI-literacy module, the present study identifies the need for explicit justification of consequential revision decisions and teacher-guided comparison of audience-specific alternatives as practical strategies arising from students' experiences. Together, these studies support treating AI literacy as a pedagogical capability that requires structured opportunities for evaluation, rather than assuming that access to AI automatically produces critical use.

Taken together, these studies support a view of AI-assisted language learning that recognises both practical affordances and risks, the importance of learner evaluation and teacher mediation, and the need to recognise linguistic plurality. The present study extends this

discussion by showing how the explanation or absence of explanation attached to a suggested revision can shape the choices students perceive as available. Its contribution is bounded to the case examined and does not establish the relative performance of AI tools generally.

5.5 Feasibility of the strategies and design of the follow-up intervention

5.5.1 Feasibility: assessment, marking time, and teacher preparation

The feasibility of the two-or-three-revision justification rule depends on keeping the task proportionate. Students can retain the original draft and briefly explain two or three consequential decisions, stating what was changed, why the change was accepted, modified, or rejected, and for whom the resulting form is appropriate. This focuses assessment on the reasoning behind selected revisions rather than rewarding surface improvement alone. The study records that workshop participants questioned the workload of explaining every correction, but it contains no timing data for marking or for the audience-aware comparison activity; therefore, no estimate of additional marking time is made.

An improved sentence, as one teacher observed, does not show whether the student understood or chose the change.

The two-or-three limit can serve as a workload control and should be treated as a ceiling rather than a minimum. Audience-aware comparison can initially be used as a guided classroom activity rather than an additional marked submission, with its feasibility reviewed in a subsequent implementation. The available study does not report a teacher-training programme or measured preparation time. Teacher guidance should therefore be treated as an implementation condition that requires planning, not as an intervention already evaluated in this study.

Teacher preparation should address how to distinguish necessary corrections from optional changes in register or audience familiarity, how to evaluate students' explanations, and how to avoid implying that all alternatives are equally appropriate. These are design implications derived from the study's findings and from the emphasis on educator digital competencies discussed by Kohnke et al. (2023); they were not tested as a training programme in the present research.

5.5.2 Design of the follow-up intervention

A follow-up intervention could evaluate the two strategies developed in this study. The proposed design is a future research plan, not a procedure undertaken in the present case study. The intervention has two linked components, each run as a classroom writing task. In the first, students retain their original draft, use an AI tool for revision, and submit the original alongside the revised version with brief written justifications for two or three consequential decisions to accept, modify, or reject suggestions, stating what was changed, why, and for whom the resulting form is appropriate. In the second, students compare their original wording with multiple AI-generated alternatives and discuss, with teacher guidance, which alternative suits which audience and why, distinguishing necessary corrections from optional changes in register or familiarity. The two components are sequenced so that the justification task comes first and the comparison task follows, because comparison supplies the audience reasoning that justifications are then expected to use.

Evaluation uses only the methods this study already employed: recorded AI-use sessions and stimulated-recall discussions to check whether justifications match decisions students can explain; reflective journals to capture decisions across occasions; student and teacher interviews to capture perceived workload and the value of teacher guidance; and structured platform-response records to check whether the treatment of linguistic diversity in the tools changes the comparison task. The evaluation should specifically test the three conditions this study identified as determining whether agency is exercised or merely claimed: task pressure,

confidence in evaluating a suggestion, and the perceived authority of the output. Success would be defined as students justifying consequential decisions in terms of intended meaning and audience, rather than as improvement in the surface quality of the final text alone, since the study's own evidence shows that an improved sentence does not demonstrate understanding or choice.

5.6 Overall interpretation

Taken together, the findings revise rather than merely confirm the frameworks that guided the study: Darvin and Norton's (2015) identity–investment framework needs to accommodate clarification as a distinct object of investment, decision rights over repertoire rather than preservation of form, and variability within the tool as a condition of investment, while the human-centred guidance of Miao and Holmes (2023) needs reason-giving as a default output feature, evaluability under pressure as a criterion of agency, and proportionality in the demand for justification. The study's scope is a single anonymised higher education institution, written English, two selected tools, and the tasks and collection period examined.

6. Conclusion

Empirical contribution. This study shows, from interviews, reflective journals, recorded AI-use sessions, stimulated-recall discussions, structured platform responses, and a participatory workshop in one higher education institution, that students negotiate voice and agency through context-sensitive decisions about meaning, certainty, cultural reference, and audience rather than through uniform acceptance or rejection of AI assistance; that platform responses vary between unqualified standardisation and context-sensitive explanation, with the presence of an explanation and of meaningful alternatives distinguishing the more inclusive responses; and that interview claims of independence can diverge from recorded acceptance of suggestions students could not explain, with task pressure, confidence, and perceived authority shaping which account holds in a given interaction.

Theoretical contribution. The study revises the frameworks it applies: it refines Darvin and Norton's (2015) identity–investment framework by distinguishing investment in clarification from investment in correctness, by recasting linguistic identity as decision rights over repertoire rather than preservation of an original form, and by adding variability within the tool itself as a condition of investment; and it refines the human-centred AI guidance of Miao and Holmes (2023) by requiring reason-giving as a default feature of AI feedback, by adding evaluability under pressure as a criterion of learner agency, and by requiring proportionality in the demand that learners justify their decisions.

Pedagogical contribution. The study offers two collaboratively refined strategies for human-centred AI-assisted writing retaining the original draft with brief justifications for two or three consequential revision decisions, and audience-aware comparison of alternatives with teacher guidance together with a feasibility analysis and a concrete design for the follow-up intervention needed to test them, built only from those two strategies and the study's own methods of recorded sessions, stimulated recall, journals, interviews, and platform-response records.

Limitations. The findings are bounded by the single institution, the participants, the two selected tools, the written-English tasks, and the six-week collection period, and they do not establish platform-wide rankings, statistical generalisations, or long-term improvements in learning, agency, or inclusion. The two pedagogical strategies were developed collaboratively and found relevant by participants but were not tested through a long-term intervention, so

their effectiveness remains to be demonstrated by the follow-up evaluation designed in Section 5.5.2.

REFERENCES

Darvin, R., & Norton, B. (2015). Identity and a model of investment in applied linguistics. Annual Review of Applied Linguistics, 35, 36–56. https://doi.org/10.1017/S0267190514000191

Kohnke, L., Moorhouse, B. L., & Zou, D. (2023). ChatGPT for language teaching and learning.

RELC Journal, 54(2), 537–550. https://doi.org/10.1177/00336882231162868

Miao, F., & Holmes, W. (2023). Guidance for generative AI in education and research. UNESCO. https://doi.org/10.54675/EWZM9535

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Barrot, J. S. (2023). Using ChatGPT for second language writing: Pitfalls and potentials. Assessing Writing, 57, Article 100745. https://doi.org/10.1016/j.asw.2023.100745

Darvin, R. (2025). Identity and investment in the age of generative AI. Annual Review of Applied Linguistics, 45, 10–27. https://doi.org/10.1017/S0267190525100135

Jeon, J., & Lee, S. (2023). Large language models in education: A focus on the complementary relationship between human teachers and ChatGPT. Education and Information Technologies, 28(12), 15873–15892. https://doi.org/10.1007/s10639-023-11834-1

Kasneci, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., Gasser, U., Groh, G., Günnemann, S., Hüllermeier, E., Krusche, S., Kutyniok, G., Michaeli, T., Nerdel, C., Pfeffer, J., Poquet, O., Sailer, M., Schmidt, A., Seidel, T., & Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. Learning and Individual Differences, 103, Article 102274. https://doi.org/10.1016/j.lindif.2023.102274

Labadze, L., Grigolia, M., & Machaidze, L. (2023). Role of AI chatbots in education: Systematic literature review. International Journal of Educational Technology in Higher Education, 20, Article 56. https://doi.org/10.1186/s41239-023-00426-1

Lee, S., Jeon, J., McKinley, J., & Rose, H. (2025). Generative AI and English language teaching: A global Englishes perspective. Annual Review of Applied Linguistics, 45, 85–108. https://doi.org/10.1017/S0267190525100184

Lee, S., Choe, H., Zou, D., & Jeon, J. (2025). Generative AI (GenAI) in the language classroom: A systematic review. Interactive Learning Environments, 34(1), 335–359. https://doi.org/10.1080/10494820.2025.2498537

Ngo, T. N., & Hastie, D. (2025). Artificial intelligence for academic purposes (AIAP): Integrating AI literacy into an EAP module. English for Specific Purposes, 77, 20–38. https://doi.org/10.1016/j.esp.2024.09.001

Wang, Y., Zhang, T., Yao, L., & Seedhouse, P. (2025). A scoping review of empirical studies on generative artificial intelligence in language education. Innovation in Language Learning and Teaching, 1–28. https://doi.org/10.1080/17501229.2025.2509759

Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education—Where are the educators?

International Journal of Educational Technology in Higher Education, 16, Article 39. https://doi.org/10.1186/s41239-019-0171-0