

From "No Cap" To Empirical Truth: A Qualitative Inquiry into AI-Driven Register Translation as an Academic Writing Scaffold for Generation Z LG120 Undergraduates

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ABSTRACT

With the rapid surge in the use of this new technology called generative artificial intelligence (AI), university students are also undergoing a transformation in their academic writing. The transition between informal social media and online communication and academic discourse may pose linguistic challenges for LG120 Generation Z undergraduate students whose daily communication is dominated by social media and digital culture. While AI-supported writing has already garnered increased academic interest, the prevailing focus in the current literature has been on ethical issues, academic integrity, and learning outcomes. The use of AI to aid transitions between various language registers is not as well-documented. This concept paper suggests a qualitative study of the academic writing scaffold of LG120 Generation Z undergraduate students in the scope of AI-based register translation. Within the scope of this inquiry, register translation is conceptualized as the strategic application of generative AI to transform colloquial digital vernacular into institutional academic prose, ensuring the preservation of the authorial intent. Furthermore, AI-based academic writing scaffolding encompasses the linguistic and cognitive assistance provided by these technologies, enabling undergraduates to navigate complex disciplinary codes through lexical refinement, syntactic restructuring, and the adaptation of formal stylistic conventions. The study adopts a sociocultural perspective on learning and frames the use of generative AI as a mediating tool, which can help facilitate students' ability to adapt colloquial language into more academic forms. The purpose of the proposed study is to examine how undergraduates are using AI for this purpose, the meaning(s) they are giving to these uses, and whether and how they think the reformulations are helping them to grow as academic writers. Using purposive sampling, approximately 12–15 LG120 undergraduate students who regularly use generative AI for academic writing will be recruited. Data will be collected through semi-structured interviews and analyzed using Braun and Clarke's (2006) thematic analysis to explore students' experiences and perceptions of AI-mediated register translation. The study aims to inform the ongoing debates around the pedagogical implications of the use of generative AI tools for academic literacy, conceptualized as students' ability to communicate effectively using appropriate academic language conventions, disciplinary discourse, and formal writing practices in learning in higher education, and to extend the knowledge about the mediating role of new technologies in the development of academic literacy. In this study, AI is viewed as an equitable learning scaffold that supports students in maintaining their authorial voice and intended meaning while adapting their writing to institutional academic conventions that maintain students' voice and intent while making institutional academic codes accessible.

Keywords: Gen Z, slang, scaffolding, AI

INTRODUCTION

Higher education is experiencing a radical change in terms of technology, demographics, and language. With the growing incorporation of artificial intelligence (AI) into the educational setting, universities start to consider a new approach to teaching and learning, especially in the field of academic writing. The AI writing assistant, including ChatGPT, Grammarly, and QuillBot, is no longer considered an assistance tool in the proofreading and grammar correction process; instead, it is becoming more popular as an instructional technology capable of aiding learners during the drafting and revision phase. According to recent qualitative studies, AI-based writing aids may act as a linguistic or affective scaffold, assisting students in overcoming obstacles to academic language, alleviating writing anxiety, and facilitating the acquisition of academic writing skills (Mahmud, 2026).

This technological change is parallel to the advent of Generation Z (Gen Z) as the largest population in higher education. Generation Z was born in a digitally connected world where the language is evolving through a dynamic linguistic ecosystem because of the influence of social media, online communities, and digital culture. Agha (2015) presents a background perspective: slang is an ideology of assessing speech as deviant against a norm. He claims that such terms as slang mark social boundaries to declare something slang means that a speaker is leaving the (often unmarked) standard. More importantly, Agha demonstrates that slang words are always going in and out of the language; what is slang today can be mainstream tomorrow. This view point is that Gen Z slang is a social phenomenon (identity, values) but not a linguistic disintegration. It also coincides with Mattiello (2005) who emphasizes on the innovative word-formation processes and new meanings of slang, which play different pragmatic roles. Overall, we believe that Gen Z slang will be imaginative and intentional, rather than arbitrary.

Internet slang, abbreviations, memes, and fast-changing slangs, including no cap, it's giving, lowkey, and rizz, are often used in their daily communication (Sari and Widodo, 2023). These expressions are not manifestations of linguistic inadequacy but effective modes of communication that express identity and creativity, social integration and cultural engagement. Sitohang and Damanik (2025) state that Gen Z language is constantly evolving in terms of its semantics and states that broadening, narrowing, metaphorical extension, amelioration, and pejoration are the processes that help Gen Z language to evolve and become a valid and developing form of communication in modern society.

Although such modern communication practices are legitimate, a huge linguistic gap still persists in the field of higher education. Academic writing demands students to use a formal register which is precise, objective, coherent, provides evidence-based arguments and uses conventions that are specific to the discipline. As a result, a lot of undergraduate learners find it hard to convert their digital language, which occurs in their daily lives, into formal discourse. This task is further complicated by the fact that learners who study English as a second or foreign language have to be able to produce ideas, structure arguments, assess evidence, and convey the ideas they have with the help of formal academic language at the same time. According to Mahmud (2026), academic writing involves negotiating linguistic accuracy, rhetorical organisation, critical interaction with sources, and revision at the same time, which makes it one of the most challenging literacy practices in higher education.

Based on the Cognitive Load Theory (CLT) these multitasking demands can impose too much burden on the working memory of learners. According to Sweller (2024), academic writing entails biologically secondary knowledge that needs conscious mental effort and teaching. Learners might experience cognitive overload when required to simultaneously generate, organise, select vocabulary, grammar and academic style, which lowers the effectiveness of learning and writing performance. Teaching strategies that reduce the amount of unnecessary mental activity and promote higher-order thinking are thus useful in promoting academic learning. Over time, CLT has grown to encompass different aspects of learning. Sweller (2020) also stressed the need to combine technological developments with the principles of CLT to make learning more efficient. The theory has been extended to incorporate the various kinds of cognitive loads; intrinsic, extraneous, and germane loads that have varying contributions to the learning process. Orru and Longo (2019) analyzed this type of cognitive load diversification and talked about the development and measurement of such loads and their role in the design of education.

Register translation using generative AI is one of the promising instructional interventions. Instead of substituting the thought process of students and automating the process of writing, AI can act as a linguistic interpreter that will help learners to convert their original concepts expressed in the language they are familiar with into the required academic language. Mahmud (2026) discovered that students rated AI paraphrasing tools as helpful learning companions as they alleviated anxiety associated with language accuracy besides presenting learners with more suitable academic expressions. Significantly, students also noted that they actively revised and assessed AI-generated work instead of accepting it blindly, indicating that AI could aid and not eliminate the agency of a learner.

Vygotsky, in his Zone of Proximal Development (ZPD), can also help to comprehend the pedagogical value of AI-assisted register translation. Anwar et al. (2024) suggest that learning is most effective when learners are provided with temporary assistance that helps them to achieve tasks that are higher than their present level of independent capability. Scaffolding enables the learners to internalise new knowledge and eventually be able to do similar tasks, on their own. The authors also highlight that the latest educational technologies allow customised and adaptive learning experiences, and the traditional concept of scaffolding is transferred to the digital learning space. Similarly, Raslan (2024) asserts that scaffolding based on the ZPD improves problem-solving and learning outcomes in students by offering a systematic guidance in difficult learning activities, and the assistance is gradually removed as the learners become competent.

Despite the increasing rate of research on AI-assisted writing, the current research has focused mainly on grammar correction, automated feedback, paraphrasing, drafting habits, and writing quality (Mahmud, 2026). Likewise, the study on Generation Z language has been largely characterized by the description of the semantic features of digital slang and not the negotiation of the passage between informal digital language and formal academic texts by students (Sitohang and Damanik, 2025). Therefore, little studies have delved into AI as a register translation scaffold, and even fewer qualitative research studies have examined how Generation Z college students perceive this process as a part of English language proficiency classes.

This paper fills this gap by discussing the perceptions and experiences of Generation Z LG120 undergraduates regarding AI-based register translation when writing academic papers. Instead of theorizing AI as an alternative to learning, the research frames AI as an instructional aide that helps students to adjust to the linguistic gap between informal communication in digital space and the formal language of the academic discipline. This qualitative inquiry is informed by Zone of Proximal Development and Cognitive Load Theory by Vygotsky to learn how AI-assisted register translation affects the writing experiences of students, their perceived learning, and their confidence in writing academic texts. Finally, the research will add to the existing body of literature on responsible AI implementation in higher education by investigating whether AI can be used to facilitate higher linguistic access and help to develop independent academic writers.

Research Questions

To guide this investigation, the study will address the following three questions:

1. How do Generation Z undergraduates describe the cognitive and emotional barriers of translating their native digital vernacular into a traditional academic writing register?
2. In what ways do these students perceive an AI-driven translation tool as a supportive, transparent scaffold during the initial ideation and drafting stages of an academic assignment?
3. How do students describe the influence of the AI's linguistic explanations on their independent understanding of, and ability to adopt, the academic register in future writing?

LITERATURE REVIEW

The high rate of development of the artificial intelligence (AI) technologies has modified the environment of academic writing, especially among the learners of the Generation Z who are already engaged in the practices of digital communication. AI-driven writing assistants like ChatGPT, Grammarly, and AI paraphrasing tools are

becoming more popular as a way to help students write in an academically acceptable manner. Although these technologies have been extensively mentioned in the context of writing enhancement and language acquisition, not much attention has been paid to the fact that they are scaffolding technologies that can be used as a means of register translation between informal language of Generation Z and formal academic writing. The literature review is based on Generation Z digital language, AI-aided academic writing, scaffolding theory, and Cognitive Load Theory to provide the theoretical framework of the current study.

Generation Z Language and Digital Communication

The use of digital platforms like Tik Tok, Instagram, X (previously Twitter) and other social media has also allowed generation Z to form a unique linguistic identity. In contrast to older generations, Gen Z uses fast-changing slang words that frequently have a meaning that is significantly different than that of the traditional lexical meaning. Such terms like “no cap”, “slay”, “vibe”, and “rizz” are illustrations of semantic innovations of the modern youth language.

According to Sitohang and Damanik (2025), Gen Z slang is not just a collection of informal terms, but an identity-building, expressive, humorous, solidarity, and group-identifying phenomenon in digital communities. Their qualitative analysis reveals that these expressions go through different semantic changes; metaphorical extension, amelioration, pejoration, narrowing, and broadening as they are spread across social media platforms. These semantic changes reflect how digital communication is in a constant state of revising language and at the same time strengthening youth identity and belonging.

The authors also describe that social media is a linguistic ecosystem in which the lexical innovation is diffused very quickly. The ever-appearing novel expressions pose challenges outside the realm of casual communication since meanings are very context-specific and culturally oriented. As a result, those students who are used to communicating through informal digital registers might face challenges when they need to write an academic text, especially in the context of higher education where the standard of academic discourse is still typical.

This is the difference between conversational digital language and academic language, which is the foundation of register translation. Instead of substituting linguistic identities of students, educative interventions are supposed to help learners in acknowledging the appropriateness of contexts and adjusting their language to the communicative intent.

Academic Register Translation and AI-Assisted Writing

The language used in academic writing has much different conventions when compared to daily communication on the internet. The students will be asked to write consistent arguments, use formal diction, be objective in their tone, and have the right academic style. To most undergraduate students especially those who study English as a second language, it is a major challenge to be able to turn informal ideas into prose that is academic.

Mahmud (2026) explored the impact of AI paraphrasing tools on drafting habits of EFL university students in a qualitative phenomenological study. The results suggest that AI applications serve as both linguistic and affective scaffolds. The students indicated that AI lessened anxiety about grammar and vocabulary choice and academic tone and enhanced confidence in the drafting and revision process. Learners began to write more and more rewrites and refinements of AI-generated language, implying that AI has changed the way people traditionally drafted.

Notably, the paper highlights the advantages as well as drawbacks of AI-mediated writing. Part of the participants felt that the more they were exposed to AI-generated reformulations, the more they were aware of the structure of academic language. Some were worried about the overreliance on AI systems and whether they would lose the skills to paraphrase and write independently after relying on AI systems so often. In addition, students were passive negotiators of the problem of authorship and academic honesty by modifying AI-generated work instead of accepting it as it was.

The results indicate that AI cannot be considered as an automated writing tool but rather as a mediating resource that can help to develop language when it is used critically and reflectively. This view is consistent with the modern teaching methods which focus on the guided learning, as opposed to technological replacement of human thinking.

Artificial Intelligence as an Academic Writing Scaffold

Scaffolding is the provision of short term instructional assistance that helps learners to do something that they cannot do independently at present until they slowly develop competency. Traditionally, scaffolding has been extended by the teacher, peers or more knowledgeable persons. Nevertheless, the development of AI has increased the potential of intelligent technologies to also have scaffolding capabilities.

Mahmud (2026) envisions AI paraphrasing systems as linguistic scaffolds since they minimize both cognitive and linguistic obstacles that are faced when writing academically. Academic vocabulary, alternative sentence structure, and better stylistic options allow students to put more attention on idea development instead of grappling with language production by themselves, which is made possible by AI.

However, scaffolding cannot be effective without the involvement of the learners. AI must support the acquisition of academic discourse in students, as opposed to passive reliance. When students critically appraise, alter, and internalise AI suggestions, technology is an educational companion, not a substitute of learning.

This point of view is especially applicable to register translation. Instead of producing full essays, AI can help students to translate colloquial phrases into a more scholarly format without losing meaning. This kind of support helps students to make the transition between the conversational and academic norms which are not well known.

Zone of Proximal Development and Scaffolding

Vygotsky and his Zone of Proximal Development (ZPD) can be used to explain the theoretical background of AI-assisted learning. Vygotsky believed that the learning process is most effective in the zone between what learners can do on their own and what they can do with the proper guidance.

According to Anwar et al. (2024), the ZPD is the developmental zone in which learners undertake difficult tasks with the support of a More Knowledgeable Other (MKO), which can be teachers, peers, or experienced people. The authors underline that scaffolding can help learners to develop higher-order thinking skills, confidence, problem-solving skills, and academic competence gradually.

The review also identifies some of the instructional strategies that are based on ZPD, which are formative assessment, differentiated instruction, collaborative learning, and technology integration. Digital technologies are introduced as useful teaching tools since they provide individual and adaptive learning opportunities that can support the level of development of different learners.

Using this framework in the context of AI-assisted writing would imply that AI can serve as a modern MKO by offering instant feedback, word recommendations, and register conversion assistance when completing writing assignments. Instead of substituting teacher support, AI complements instructional scaffolding by providing continuous support beyond classroom interactions. It is through these patterns of academic language that the students gradually internalise them until they can independently write formally.

Cognitive Load Theory and AI-Supported Learning

Another theory that explains the educational merit of AI-assisted writing is Cognitive Load Theory (CLT). Sweller (2024) posits that learning relies on the effective use of working memory that has limited capacity when it comes to processing biologically secondary knowledge, like academic writing. The teaching techniques ought to therefore reduce the superfluous cognitive load and maximise meaningful learning.

In academic writing, one must focus on grammar, vocabulary, structure, coherence, reference and argumentation at the same time. Such numerous requirements can overwhelm new authors, particularly, second language

students. The assistant AI writing programs have the potential to diminish this extraneous cognitive load by automating lower-level linguistic tasks, enabling students to devote more cognitive resources to higher-level thought, critical thinking, and generation of ideas.

Sweller also points out that instructional support needs to develop with the expertise of the learners since a beginner and an expert learner need different types of instructional support. This rule indicates that AI assistance must be dynamic as opposed to being standardized. New writers might need a considerable amount of language support, but more advanced learners need less and less support to promote independent performance.

Therefore, AI-mediated register translation can be an instructional approach maximising cognitive resources and facilitating the acquisition of academic language in the long term.

Altogether, the literature reviewed shows that there are some significant trends. To begin with, Generation Z is becoming more fluent in highly dynamic digital vernacular that is marked by ever-changing slang, abbreviated words, and meaning that varies depending on the situation (Sitohang & Damanik, 2025). Second, AI writing technologies are already becoming a part of academic writing practice by students by alleviating linguistic anxiety and facilitating the process of drafting and revision (Mahmud, 2026). Third, Cognitive Load Theory describes learning as a scaffolded process that takes place in the Zone of Proximal Development, and Sociocultural Theory describes how instructional support facilitates learning by lessening the needless cognitive load (Anwar et al., 2024; Sweller, 2024).

Though the literature has already recognized the role of AI in the development of writing, it mostly examines paraphrasing, revision, grammar correction, or drafting habits. There has been comparatively little focus on AI as a register translation scaffold that allows students to translate informal Generation Z language into formal academic language. Moreover, there is limited literature on qualitative research examining the lived experiences of undergraduate students using AI to perform register translation, especially in English language proficiency courses.

The literature reviewed indicates that there are a number of gaps. Current literature analyzes the use of Generation Z slang as a separate phenomenon and analyzes the use of AI-assisted scholarly writing, although research of AI writing assists is rarely related to the translation of registers between informal online speech and academic writing. Similarly, the majority of research assesses AI through writing or paraphrasing but not how students perceive AI as a learning aid.

Besides, there is a paucity of qualitative studies examining the experiences of Generation Z undergraduates when using AI to transform the register when writing academic papers. There is not much research on this phenomenon in English proficiency classes among Malaysian university students.

Thus, the current research fills these gaps by discussing the perceptions of Generation Z LG120 undergraduates regarding AI-based register translation as an academic writing scaffold. This qualitative investigation, based on the Zone of Proximal Development and Cognitive Load Theory of Vygotsky, aims to comprehend the role of AI in helping students to decode colloquial digital expressions to formal academic writing and helping them to build independent academic writing competence

DISCUSSION

The main aim of the research was to investigate the process of overcoming the academic register barrier in undergraduates of Generation Z with the assistance of an AI-based translation scaffold. The expected results of the analysis of the student experience in the context of Critical Language Awareness (CLA), Cognitive Load Theory (CLT), and the Zone of Proximal Development (ZPD), developed by Vygotsky reveal three key themes that disrupt the deficit-based perspective on student literacy and redefine the purpose of generative AI in higher education.

Theme 1: Mitigating the Dual-Task Penalty and Cognitive Load

The initial research question aimed at gaining insights into the cognitive and emotive impediments that are encountered by students in academic writing. It is expected that the data will indicate that the traditional drafting process imposes a penalty of a dual-task, in which students are subjected to extreme cognitive load by attempting to both generate arguments and convert that argument into institutional prose.

Students will report that their writing anxiety and cognitive strain will decrease immediately when they are introduced to the AI scaffold. The working memory can be liberated to deal directly with critical analysis and structural reasoning by explicitly dissociating the ideation stage (enabling students to brain-dump in their own digital vernacular) with the lexical formatting stage. This is absolutely in line with the Cognitive Load Theory of Sweller, since by offloading the extraneous load of formal vocabulary retrieval to the AI, students are able to optimize their germane load in the synthesis of concepts. The AI tool does not eliminate thinking, instead, it clears the thinking runway allowing deep thinking to take place.

Theme 2: Linguistic Validation and the Demystification of Power Registers

The second theme deals with the perception of the AI by students as a transparent scaffold. Instead of perceiving the AI as having corrected their erroneous English, participants are expected to see the tool as a legitimizing linguistic reflection. The appearance of such expressions as the data is giving sketchy was changed to the data set has serious statistical anomalies gives the students psychological feedback right away.

This is a direct result of the principles of Critical Language Awareness. The AI demystifies the academic register, by revealing their original thoughts and the academic one, not as a signifier of greater intelligence, but as a particular, learnable code of power. Students move toward a non-linguistic alienation condition (I do not belong in academia because I do not speak like this) to an agency condition (My conceptual knowledge is of the highest sophistication; I only needed the linguistic key to open the institutional door).

Scaffolding Internalization vs. The Risk of Mechanical Dependency

The last theme is about the long-term educational effects of the tool (Research Question 3). Since the specialized system prompts the AI to give a reason why it has made particular lexical substitutions (the linguistic rationale), the tool acts as a Vygotskian More Knowledgeable Other.

The qualitative data should reveal a clear gap in the manner in which the students internalize this knowledge. To a large number of students, reading the rationales of the AI is a sort of active learning process, and they tend to be more aware of linguistic patterns (e.g. subjective slang is replaced by objective and measurable indicators) which they can reproduce on their own later. Nonetheless, there is a slight chance of mechanical dependency appearing, as some students would fail to properly use the output by not thoroughly considering the reasoning. This underscores the fact that it is crucial to position the AI as a provisional, transient scaffold and not a long-term substitute to writing teaching.

CONCLUSION

Over the centuries, higher education has regarded the mastery of the academic register as an invisible sorting device, a vocabulary exam that implicitly punishes students who speak high-context, contemporary digital languages as their primary language. The given concept paper has introduced a fair alternative, showing that the use of slang by Generation Z is not a lack of critical thinking, but a different language mode of cognition of the world.

Universities should use generative AI as a direct translator of registers to overcome the divide between youth language and institutional requirements. The suggested qualitative approach provides a humanistic perspective on the assessment of this technology with the emphasis not on automated measures, but on student relief, self-efficacy, and acquisition of skills in the long term.

The results of this theoretical framework call a complete change of policy in universities. Institutions of higher learning should stop a culture of unconditional AI ban, which tends to widen equity disparities, and transition to a culture of critical AI literacy. Teachers ought to purposefully incorporate AI translation scaffolds in first-year writing classes, where they would instruct students on how to use technology to sort out their thinking prior to organizing it into academic prose.

Being a qualitative investigation, this study is limited by its small, purposive sample and its dependence on student self-reported perceptions in a condensed period of time. The next step of the research ought to be longitudinal, qualitative studies aimed at tracing the impact of the long-term exposure to AI linguistic rationales on the independent writing style of a student across multiple semesters. Also, it is important that researchers investigate the effectiveness of this AI scaffolding model in other academic fields, including the translation of informal concepts into the particular languages of STEM and the humanities.

Finally, this paper finds that, under the conditions of ethical and open application of AI as a teaching aid, it does not reduce the intelligence of students, it democratizes it. Higher education will finally have an opportunity to judge students by the genius of their empirical facts, and not the rareness of their language, by making sure that cultural and generational shorthand ceases to be a barrier to scholarly recognition.

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