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AI and Academic Discourse: A Sociolinguistic Analysis of Language and Interaction

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ABSTRACT

The integration of artificial intelligence (AI), particularly large language models, into academic writing has reshaped scholarly communication by influencing language use, rhetorical practices, and authorial identity. This study employs Mediated Discourse Analysis (Scollon, 2001) to investigate AI as a mediational tool that co-constructs academic texts alongside human authors, redistributing agency and shaping interactional processes. Using purposively selected academic writing samples from postgraduate students and early-career researchers, both AI-assisted and human-authored, alongside reflective narratives, the study examines lexical choices, syntactic complexity, and Meta discursive markers. Findings reveal that AI-assisted texts demonstrate formal vocabulary, simplified syntax, and assertive stance markers, whereas human-authored texts exhibit nuanced hedging, complex syntactic structures, and interactive engagement. Participants negotiated AI suggestions to preserve disciplinary authenticity, epistemic stance, and authorial voice, highlighting AI's dual role as both a facilitator and constraint in academic discourse. The study underscores the sociolinguistic, pedagogical, and institutional implications of AI integration, demonstrating its influence not only on textual outcomes but also on interactional practices and scholarly identity within academic communities.

Keywords: *AI-mediated writing, academic discourse, sociolinguistics, mediated discourse analysis, authorial identity, interactional practices*

INTRODUCTION

In recent years, artificial intelligence (AI)—particularly large language models (LLMs)—has dramatically reshaped academic practice, communication, and knowledge production. The adoption of AI tools such as ChatGPT and other generative models in academic contexts intersects with core issues in sociolinguistics, including how language is produced, how interaction unfolds, and how meaning is negotiated within communities of practice. AI's increasing involvement in academic discourse is both profound and multifaceted: it transforms writing processes, alters language patterns, introduces new forms of interaction, and challenges traditional understandings of authorship and rhetorical norms in scholarly communication. Despite this growing influence, systematic sociolinguistic analysis of AI's role within academic discourse remains emerging and unevenly developed. Studies from communication, linguistics, and computational fields now converge to highlight how AI technologies shape academic language use and interactive practices, prompting a need for focused research that bridges technological developments with sociolinguistic theory and insights.

The integration of AI into academic writing and interaction has accelerated rapidly since the release of advanced generative models in 2022. These tools are being used for tasks ranging from grammar checks and readability improvements to generating ideas and revising complex passages (Xu, 2025). Evidence suggests that AI is affecting not only the *surface* features of academic discourse (i.e., vocabulary and sentence structures) but also *rhetorical practices* and *stance construction*. For example, research into doctoral writing has shown that generative AI can reduce hedging and increase assertive language, thereby shifting how authors construct their academic voice and authority (Nature Communications, 2025). Moreover, corpus-driven analyses reveal distinct linguistic differences between AI-generated academic texts and human-authored scholarly writing, including syntactic patterns and lexical usage, which raises questions about discourse norms and expectations in academic communication (A corpus-driven comparative analysis, 2024). These changes occur within broader debates about academic integrity, critical thinking, and pedagogical adaptation, indicating both the deep integration of AI tools and the intense discussion around their implications.

Background

Sociolinguistic analysis traditionally examines how language both reflects and shapes social interaction, identity, and community norms. Within academic discourse communities, specific linguistic norms govern how knowledge is constructed, contested, and disseminated features that include specialized vocabulary, complex syntactic structures, and strategic rhetorical moves. These norms are integral to maintaining disciplinary boundaries and enabling meaningful scholarly exchange. However, the rise of AI tools that *participate* in these processes, either by assisting authors or generating complete texts, challenges conventional sociolinguistic boundaries between human speaker–writer authority and algorithmic contributions.

Empirical studies in recent years have begun to illuminate this intersection. Corpus analyses comparing AI-generated texts with human writing in social sciences show that AI tends to overuse certain academic vocabulary and displays limited syntactic complexity compared to human authors (A corpus-driven comparative analysis, 2024). In applied linguistics, investigations into AI's influence on doctoral thesis writing indicate significant changes in how stance and authorial identity are expressed, with generative AI fostering more direct and assertive styles that differ from traditional academic rhetorical norms (Nature Communications, 2025). Further research highlights patterns of tool adoption across disciplines and demographic groups, suggesting that AI's impact on academic writing is mediated by factors including career stage, language background, and disciplinary culture (Lin & Zhu, 2025).

Beyond written texts, AI also influences interactional practices in academic communication. Early sociolinguistic research on classroom discourse demonstrates that AI systems can model and affect patterns of classroom interaction, including question-asking, response types, and topic evolution (Artificial intelligence in classroom discourse, 2024). While much of this work has focused on pedagogical settings rather than published academic discourse, it underscores the broader communicative transformations AI may engender in academic spaces.

Despite the establishment of these foundational insights, gaps remain in understanding how AI affects *meaning negotiation*, *interactional roles*, and *power dynamics* within academic communities from a sociolinguistic perspective. Specifically, existing research has not fully integrated AI's technological affordances with sociolinguistic concepts such as *indexicality*, *stance taking*, and *genre repertoires*, which are essential for comprehending how academic discourse is co-constructed by humans and AI agents.

Research Problem

Although artificial intelligence technologies have become increasingly influential in academic discourse,

there remains a significant gap in sociolinguistic understanding of how these tools shape language use and interaction within scholarly communication. Current studies tend to focus on *outcomes* such as writing quality or pedagogical effects but often lack theoretical integration with sociolinguistic frameworks that explain the *processes* and *interactional dynamics* through which AI influences academic communication. This gap impedes comprehensive insights into how AI systems impact authorship practices, language norms, interactional roles, and the negotiation of meaning in academic communities.

Furthermore, while prior research points to measurable linguistic differences between AI-generated and human texts and highlights AI's influence on rhetorical practices, there is limited consensus on how these changes affect academic credibility, disciplinary boundaries, and the sociocultural contexts that sustain academic discourse communities. Without a robust sociolinguistic lens, scholars cannot adequately account for the *interactional complexities* introduced by AI as both a *tool* and a *participant* in academic communication.

Research Questions

To address these gaps, the study will be guided by the following central research questions:

1. How does the use of AI tools influence the linguistic features of academic discourse, including vocabulary choice, syntactic complexity, and rhetorical structures?

2. In what ways do AI-assisted interactions—whether through writing support or interactive feedback alter the norms and practices of academic communication within disciplinary communities?

3. How do academic users perceive and negotiate the role of AI in constructing authorial identity, authority, and interactional participation in scholarly discourse?

These questions aim to unpack not only *what* changes occur in academic language and interaction when AI tools are involved but also *how* and *why* these changes are meaningful within sociolinguistic and disciplinary frameworks.

Objectives of the Study

This research has the following objectives:

1. To conduct a detailed linguistic analysis of AI-assisted academic texts relative to human-only texts, identifying features that differ in vocabulary, syntax, and discourse organization.

2. To explore how AI tools influence communicative norms and interactive practices in academic settings, including collaborative writing, feedback exchanges, and rhetorical decision-making.

3. To contribute theoretically to sociolinguistic understanding of AI's role in academic discourse by integrating technological affordances with notions of interaction, identity, and power in scholarly communication.

Significance of the Study

This study's sociolinguistic lens offers a novel and necessary contribution to research on AI in academic discourse by situating technological developments within broader communicative and social dynamics. First, it bridges a critical gap between computational and sociocultural perspectives on language use, bringing human interactional practices into dialogue with AI technologies that increasingly shape scholarly

communication. By examining how AI affects *meaning negotiation* and *interactional roles*, this research advances theoretical understanding of language and technology co-construction in academic contexts.

Second, the study contributes empirically grounded insights into academic writing practices, providing evidence that can inform policy, pedagogy, and editorial standards related to AI integration. As academic institutions and publishers continue to wrestle with ethical and practical implications of AI use, a sociolinguistic grasp of how AI shapes discourse norms and interactional participation will be essential for responsible practice.

Finally, by foregrounding academics' perceptions and experiences, this research illuminates the social and cognitive dimensions of AI adoption, offering nuanced understanding of how disciplinary communities negotiate the evolving roles of technology in meaning-making and communication. Such insights have relevance not only for linguistics and education but also for broader discussions about the future of scholarly communication in an AI-mediated world.

LITERATURE REVIEW

Artificial intelligence (AI), particularly generative language models such as ChatGPT and other large language models, has increasingly influenced academic writing and scholarly communication. Recent research across applied linguistics, discourse studies, and educational technology suggests that AI tools are not merely auxiliary writing aids but active mediators in the production, organization, and negotiation of academic discourse. As academic communication relies heavily on discipline-specific norms, rhetorical conventions, and interactional practices, the growing presence of AI raises important sociolinguistic questions about language use, authorial voice, and interaction between human writers and technological systems.

One major area of research focuses on linguistic differences between AI-generated and human-authored academic texts. Corpus-based studies comparing AI-generated texts with human academic writing have identified consistent variations in vocabulary use, syntactic complexity, and discourse organization. Research by Tudino and Qin (2024) demonstrated that AI-generated academic texts tend to employ a higher density of formal academic vocabulary but rely on more formulaic sentence structures and limited syntactic subordination. These findings suggest that while AI can imitate surface-level academic conventions, it may lack the nuanced linguistic variation characteristic of human scholarly discourse. From a sociolinguistic perspective, such differences are significant because they affect how credibility, expertise, and disciplinary membership are constructed through language.

Beyond surface linguistic features, scholars have examined rhetorical and meta discursive practices in AI-assisted academic writing. Studies analysing stance and engagement markers indicate that AI-generated texts often display reduced use of hedging, boosters, and interpersonal markers compared to human writing. This tendency can result in more assertive and less dialogic academic prose, which may conflict with disciplinary expectations that value cautious argumentation and negotiated claims. Research on doctoral writing further shows that AI assistance can reshape authorial stance, leading to increased directness and reduced epistemic caution, thereby altering how academic authority and identity are linguistically performed (Lin & Zhu, 2025).

Another important strand of literature explores human–AI interaction during the writing process. Rather than viewing AI as a neutral tool, recent qualitative studies conceptualize AI as a dialogic partner in text production. Wang et al. (2025) found that advanced academic writers engage with AI in interactive cycles of prompting, revising, and evaluating suggestions, positioning AI as a co-participant in meaning-making.

This interactional relationship challenges traditional models of authorship and introduces new sociolinguistic dynamics in which writers negotiate control, agency, and responsibility over textual choices. Such findings emphasize that AI influences not only written outcomes but also the interactional processes through which academic texts are constructed.

Research within educational and EFL contexts has further highlighted how AI reshapes academic discourse practices. Abbas and Meraj (2025) investigated the integration of AI-generated materials in EFL classrooms and found that AI tools significantly altered instructional practices, teacher productivity, and classroom discourse patterns. Teachers reported increased efficiency in material preparation, while students engaged differently with texts produced or supported by AI. These shifts illustrate how AI mediates institutional and interactional norms, influencing how academic language is taught, evaluated, and practiced. Similarly, Abbas et al. (2025) demonstrated that AI-powered linguistic tools are transforming text analysis and language processing practices, reinforcing the idea that AI is becoming embedded in academic knowledge production.

Studies focusing on learner and researcher perceptions of AI reveal important sociolinguistic implications. Empirical research shows that many academic users perceive AI as beneficial for improving fluency, coherence, and confidence in writing, particularly among non-native English speakers. However, these positive perceptions are often accompanied by concerns about overreliance, loss of authorial ownership, and ethical ambiguity. Alkhatib et al. (2026), although working in a non-academic discourse domain, demonstrated that AI-generated texts can influence audience perception and credibility judgments, findings that are transferable to academic contexts where textual authority and trust are central. These perceptions shape how writers position themselves in relation to AI and how they negotiate legitimacy within academic discourse communities.

Another significant theme in the literature concerns AI's role in feedback and revision practices. Research comparing AI-generated feedback with peer and instructor feedback suggests that AI is commonly used for surface-level revisions such as grammar, clarity, and structure, while human feedback remains central for conceptual depth and disciplinary alignment. Zheldibayeva (2025) found that when AI feedback is combined with peer interaction, writers demonstrate greater openness to revision and improved engagement with the writing process. This hybrid feedback environment highlights the interactional redistribution of roles in academic writing, where AI complements but does not fully replace human evaluative practices.

Sociolinguistic critiques have also addressed normativity and linguistic ideology in AI-assisted academic discourse. Several scholars argue that AI tools tend to privilege standardized academic English, potentially marginalizing linguistic diversity and alternative academic voices. This concern is particularly relevant in multilingual academic contexts, where writers draw on diverse linguistic repertoires to construct meaning. By reinforcing dominant norms, AI may contribute to homogenization of academic discourse, raising questions about equity, representation, and linguistic identity within global scholarly communication.

Across these studies, several shared insights emerge. First, AI significantly influences linguistic form, including vocabulary choice, syntactic patterns, and rhetorical structure. Second, AI reshapes interactional practices, altering how writers engage with feedback, revision, and meaning making. Third, AI affects authorial identity and stance, challenging traditional notions of authorship and agency. Finally, AI operates within broader institutional and ideological frameworks, reinforcing certain norms while constraining others.

Research Gap

Despite the growing body of research on AI and academic writing, several critical gaps remain. Much of the existing literature emphasizes textual outcomes and pedagogical efficiency, while comparatively little attention is paid to the interactional and sociolinguistic processes through which AI participates in academic discourse. There is a lack of in-depth analysis of how writers negotiate meaning, stance, and identity during real-time interaction with AI tools. Additionally, disciplinary differences in AI-mediated academic discourse remain underexplored, with most studies treating academic writing as a unified practice rather than a collection of genre-specific and community-bound discourses. Addressing these gaps requires a sociolinguistic approach that foregrounds language, interaction, and social context, positioning AI not merely as a technological aid but as an active participant in the co-construction of academic discourse.

METHODOLOGY

This study adopts a qualitative-dominant research design to examine the sociolinguistic impact of artificial intelligence on academic discourse, with particular attention to language use and interactional practices. The research method is primarily discourse-analytic, combining close textual analysis with interactional interpretation to explore how AI mediates academic writing processes. Academic texts produced with and without AI assistance are systematically analysed to identify differences in lexical choices, syntactic structures, stance markers, and meta discursive features. In addition, brief reflective accounts from academic writers are examined to understand how users interact with AI tools during the writing process and how they perceive AI's role in meaning-making and authorship.

The source of data consists of purposively selected academic writing samples produced by postgraduate students and early-career researchers in the humanities and social sciences. These samples include AI-assisted drafts and independently written texts to allow comparative analysis. Reflective narratives provided by the same participants serve as supplementary data, offering insight into the interactional dimension of human–AI engagement during academic writing.

The study is theoretically grounded in Mediated Discourse Analysis, proposed by Scollon (2001), which conceptualizes discourse as socially situated action mediated by tools and technologies. This framework is particularly suited to the present study as it views AI not as a neutral instrument but as a mediational means that shapes linguistic choices, interactional practices, and the construction of academic identity. From this perspective, agency is distributed between human writers and AI systems, enabling analysis of how academic discourse is co-constructed through human–AI interaction.

Ethical considerations are carefully addressed throughout the research process. Informed consent is obtained from all participants, and anonymity is ensured through the use of pseudonyms and removal of identifying information. AI-generated content is clearly distinguished from human-authored text, and all data is used solely for academic research purposes, ensuring transparency, confidentiality, and responsible handling of AI-assisted materials.

DATA ANALYSIS

The analysis examined the linguistic and interactional features of academic texts generated with and without AI assistance, alongside reflective narratives describing participants' engagement with AI during academic writing. Guided by Mediated Discourse Analysis (MDA) (Scollon, 2001), the study conceptualized AI as a mediational tool that actively shapes discourse practices, influencing lexical selection, syntactic organization, rhetorical strategies, and authorial positioning. MDA's focus on mediated action and distributed agency provided a theoretical lens to understand how academic discourse emerges through the interaction between human authors and AI tools, treating both as co-participants in the production of text.

Lexical Patterns and Academic Vocabulary

Analysis revealed that AI-assisted texts consistently exhibited a higher density of formal academic vocabulary. AI outputs frequently included generalized academic terms such as *methodological framework*, *analytical dimensions*, and *conceptual paradigms*. These lexical choices contributed to the overall academic tone but often lacked the precise, field-specific terminology observed in non-AI-authored drafts. For example, in social science texts, human-authored drafts employed phrases like *ethnographic contextualization of community narratives*, reflecting nuanced engagement with the disciplinary context, whereas AI-assisted drafts tended to use broader phrases such as *in-depth interpretative framework*.

The study indicated that AI's reliance on generalized academic corpora can produce coherent and formal lexicon but may underrepresent specialized terminology, affecting the disciplinary authenticity of the text. Reflective narratives highlighted that participants often revised AI-generated vocabulary to better align with their research context, demonstrating the mediation of AI in shaping language while human authors maintain oversight in disciplinary alignment.

Syntactic Complexity and Structure

Syntactic analysis showed that AI-assisted texts favoured simplified structures and paratactic constructions, linking clauses through coordination rather than embedding subordinate clauses. Non-AI texts commonly employed complex syntactic structures, embedding qualifiers, and conditional clauses, thereby conveying nuanced argumentation and epistemic caution. For example, human-authored sentences included constructions such as *"Although the data indicate a significant correlation, further longitudinal studies are required to confirm the stability of this relationship,"* whereas AI-assisted texts rendered similar ideas as *"The data show a significant correlation, and more longitudinal studies are needed. This will confirm whether the relationship is stable."*

This pattern aligns with MDA's principle that mediational tools shape social action: AI provides clarity and grammatical fluency but mediates the rhetorical stance, influencing the manner in which claims are positioned and interpreted within academic discourse.

Meta Discourse Features and Stance

The analysis of meta discourse markers revealed significant differences between AI-assisted and non-AI texts. Human-authored drafts incorporated a wide range of **hedges, boosters, and attitude markers** that signalled cautious argumentation, reader engagement, and epistemic negotiation. AI-assisted drafts, however, exhibited a tendency toward **assertive formulations**, often omitting hedges such as *may suggest* or *it appears that*, resulting in more declarative statements like *"This finding indicates…"*. Interactional markers guiding the reader through argument structure, such as *as noted above* or *it is important to consider*, were more prevalent in human-authored texts.

These findings demonstrate the mediating effect of AI on the social functions of language. While AI enhances structural coherence and readability, it can reduce interpersonal nuance and the relational aspects of discourse, thereby impacting the sociolinguistic dynamics of academic writing.

Human–AI Interaction Patterns

The study identified distinct patterns of interaction between writers and AI tools, reflecting the distributed agency emphasized in MDA. Some writers treated AI as a tool for generating preliminary text and refining

vocabulary, carefully revising outputs to ensure disciplinary and conceptual accuracy. Others engaged in iterative exchanges with AI, prompting, evaluating, and modifying outputs in a dialogic process resembling collaborative authorship. In these interactions, AI functioned as a semi-agentive participant, mediating the production of text and shaping the rhetorical, lexical, and syntactic choices within the discourse. A smaller proportion of writers relied on AI-generated content with minimal revision, which occasionally led to misalignment with disciplinary norms or stylistic inconsistencies.

Authorial Identity and Agency

Reflective narratives indicated that AI-mediated writing influenced perceptions of authorial identity. AI-assisted texts often facilitated the production of fluent and academically polished drafts, particularly benefiting writers with limited confidence in English proficiency. However, participants noted concerns regarding the authenticity of their voice, highlighting tension between AI mediation and self-representation. The study showed that writers negotiated agency by selectively integrating AI suggestions, retaining control over argumentation, conceptual framing, and discipline-specific conventions. This negotiation aligns with MDA's emphasis on distributed agency and the social construction of action through interaction with mediational tools.

Rhetorical Organization and Coherence

Analysis of rhetorical structures revealed that AI-assisted texts generally maintained clarity and logical flow but relied on standardized organizational patterns. Human-authored texts demonstrated more nuanced discourse organization, including deliberate paragraph transitions, emphasis strategies, and argument scaffolding that conveyed sophisticated engagement with audience expectations. AI-generated texts occasionally required intervention to maintain coherence and ensure the alignment of argument with disciplinary norms. These patterns reflect the mediating role of AI in shaping not only linguistic form but also the procedural and social dimensions of academic writing.

Sociolinguistic Implications

Overall, the data demonstrate that AI tools actively mediate academic discourse by influencing lexical selection, syntactic structures, meta discourse, rhetorical organization, and interactional practices. Human authors negotiate the integration of AI outputs to preserve disciplinary authenticity, stance, and authorial identity. The findings underscore that AI is not a neutral instrument but a semi-agentive participant in the co-construction of academic discourse. The study illustrates the applicability of **Mediated Discourse Analysis** in examining these interactions, highlighting how AI mediates both the textual and social dimensions of scholarly communication.

Summary of Findings

The study reveals several key sociolinguistic patterns:

1. **Lexical Mediation:** AI promotes formal academic vocabulary but limits field-specific precision.
2. **Syntactic Mediation:** AI favours clarity through simplified syntax while reducing embedded rhetorical structures.
3. **Meta discourse Mediation:** AI reduces hedging and interactive markers, affecting audience engagement.

4. **Interactional Mediation:** Writers employ varying strategies to negotiate agency and co-construct text with AI.

5. **Identity and Authorship Mediation:** AI mediates perceptions of voice, agency, and disciplinary belonging.

These patterns collectively demonstrate that AI functions as a mediational agent in academic writing, shaping not only textual characteristics but also social practices, interactional processes, and authorial identity within academic communities. The findings provide a detailed sociolinguistic account of AI's role in academic discourse, aligning closely with the study's theoretical orientation and research focus.

DISCUSSION

The findings of the study provide compelling insights into how artificial intelligence mediates academic discourse, shaping language, interaction, and authorial identity. Through the lens of Mediated Discourse Analysis (Scollon, 2001), AI is conceptualized as a semi-agentive tool that participates in the co-construction of academic texts. The analysis demonstrates that AI does not simply produce text; it actively influences lexical, syntactic, and rhetorical choices, affecting both the form and social function of academic writing.

One of the most prominent patterns observed is the high density of formal academic vocabulary in AI-assisted texts. While AI successfully emulates conventional academic register, it often lacks the specificity and nuance found in human-authored texts. This observation aligns with previous research indicating that AI relies on generalized patterns extracted from large corpora, which may not fully capture discipline-specific language (Tudino & Qin, 2024). The tendency to generate broad academic phrases can lead to reduced field-specific precision, requiring authors to intervene to ensure alignment with disciplinary expectations. This mediational role of AI reflects Scollon's (2001) principle that tools shape action: AI mediates linguistic production, facilitating surface-level fluency while imposing constraints on specialized lexical choices.

Syntactic analysis further indicates that AI-mediated texts favour simpler, paratactic constructions, whereas human-authored texts employ complex subordination to convey nuanced argumentation and hedging. This syntactic simplification has sociolinguistic implications: the reduction of subordinate clauses and embedded qualifiers alters the epistemic stance, potentially affecting how claims are interpreted within academic communities. Such patterns illustrate that AI influences not only textual structure but also the social enactment of academic authority, consistent with the MDA perspective that discourse is inseparable from social action.

Meta discourse analysis revealed a reduction in hedges, boosters, and interactive markers in AI-assisted texts. Human authors routinely employed these features to engage readers, position arguments cautiously, and establish relational rapport. AI-generated text, in contrast, often presented assertive claims with limited interactional scaffolding. This aligns with the view that AI mediates social as well as linguistic practices, emphasizing clarity and structural coherence while constraining dialogic engagement and interpersonal nuance. Participants' reflections confirmed that writers actively reintegrated stance markers during revision to maintain disciplinary authenticity, highlighting the negotiation of agency central to MDA.

The study also identified varied patterns of human–AI interaction, demonstrating distributed agency. AI functioned as a semi-agentive participant: in some cases, writers directed AI outputs for lexical or structural assistance; in others, they engaged iteratively in co-constructive processes. These findings reinforce the

notion that agency in AI-mediated academic writing is shared between human and machine. The reflective accounts underscore the sociolinguistic dimension of this negotiation, as writers balance the efficiency and fluency benefits of AI with concerns about authorial voice, authenticity, and disciplinary conventions.

Another significant insight concerns the impact of AI on identity and authorship. While AI-assisted texts facilitated production of academically polished outputs and supported non-native speakers in managing linguistic challenges, participants expressed ambivalence regarding the authenticity of their voice. This reflects broader sociolinguistic concerns about AI's role in mediating self-representation within academic communities. Writers strategically integrated AI suggestions, preserving conceptual authority and disciplinary alignment while leveraging AI for stylistic and structural refinement. This demonstrates that AI mediates not only textual outputs but also social positioning and identity construction in academic discourse.

Collectively, these findings indicate that AI's role in academic writing is both productive and constraining. AI facilitates formal coherence, lexical fluency, and structural clarity but may limit disciplinary specificity, rhetorical nuance, and dialogic engagement. Mediated Discourse Analysis provides a robust framework for understanding these dynamics, emphasizing that AI acts as a mediational tool shaping both linguistic and social dimensions of academic practice. By foregrounding interaction, agency, and the co-construction of meaning, MDA enables a comprehensive interpretation of AI-mediated academic discourse, highlighting how technological tools influence not just the appearance of text but the processes, interactions, and identities that constitute scholarly communication.

The study's findings contribute to the growing body of research on AI in higher education and applied linguistics by providing an empirically grounded sociolinguistic analysis of AI-mediated academic writing. Unlike studies focused solely on textual outcomes or surface-level stylistic effects, this research emphasizes the interactional, identity-related, and community-specific dimensions of AI integration. It demonstrates that AI's influence extends beyond linguistic production to shape social practices, authorial positioning, and disciplinary engagement. These insights underscore the need for pedagogical frameworks and institutional policies that recognize the dual linguistic and sociocultural impact of AI tools in academic contexts.

CONCLUSION AND IMPLICATIONS

This study provides a comprehensive sociolinguistic analysis of AI-mediated academic discourse, revealing the multifaceted ways in which AI tools influence language use, interaction, and authorial identity. The findings demonstrate that AI functions as a mediational tool, shaping lexical choices, syntactic structures, rhetorical strategies, and meta discourse practices, while simultaneously redistributing agency between human authors and technological systems. AI-assisted texts consistently exhibit formal academic vocabulary, simplified syntactic constructions, and reduced hedging and interactional markers. These patterns highlight AI's capacity to enhance textual fluency and coherence while constraining rhetorical subtlety, disciplinary specificity, and interpersonal engagement.

Through participants' reflective narratives, the study also illustrates that human writers negotiate AI's influence strategically, integrating AI suggestions while preserving conceptual authority, disciplinary norms, and authorial voice. This interaction exemplifies the MDA principle of distributed agency, demonstrating that AI mediates not only textual form but also social action, identity, and community membership within academic discourse. The results underscore that AI's impact extends beyond surface-level language production, shaping the co-construction of knowledge, argumentation, and disciplinary engagement.

The study has several theoretical and practical implications. Theoretically, it reinforces the applicability of Mediated Discourse Analysis for examining human–AI interaction in academic contexts, providing a robust framework to analyze how mediational tools shape linguistic, social, and identity dimensions of scholarly communication. Practically, the findings suggest that AI tools can be leveraged to enhance writing efficiency and clarity, particularly for non-native English speakers, while highlighting the necessity of critical human oversight to maintain disciplinary precision, rhetorical nuance, and authenticity of voice.

From an educational and institutional perspective, the study recommends structured training in AI-assisted writing that emphasizes reflexive engagement, ethical use, and critical evaluation of AI outputs. Policies and pedagogical frameworks should recognize AI as a mediational agent rather than a neutral tool, guiding writers to integrate AI support responsibly without compromising academic integrity or the social functions of scholarly discourse.

Finally, the study highlights directions for future research, including cross-disciplinary comparisons of AI-mediated writing, longitudinal analyses of human–AI interaction, and investigations into how AI affects collaborative academic writing practices. Overall, this research provides empirically grounded evidence that AI is reshaping academic discourse at linguistic, social, and identity levels, offering critical insights for scholars, educators, and policymakers navigating the evolving landscape of AI-mediated scholarship.

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