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Original Research

AI and Academic Discourse: Students' Linguistic Perceptions of AI-Assisted Academic Writing in Higher Education

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Abstract

Artificial intelligence is rapidly transforming academic writing practices in higher education, reshaping how students generate ideas, construct arguments, and refine academic discourse. Despite the increasing adoption of AI tools in educational environments, limited research has explored how students themselves interpret the linguistic role of artificial intelligence in shaping their academic writing processes. Addressing this gap, the present qualitative study investigates students' linguistic perceptions of AI assisted academic writing and examines how these perceptions influence writing behavior in higher education contexts. Data were collected from thirteen university students using preliminary observation, open ended online questionnaires, and in depth semi structured interviews to capture participants' experiences with AI tools during the completion of academic assignments. The data were analyzed through thematic qualitative analysis, incorporating triangulation across multiple data sources to ensure credibility and depth of interpretation. The findings reveal that students predominantly perceive artificial intelligence as a linguistic support system that assists in idea generation, vocabulary expansion, grammatical accuracy, discourse organization, and revision of academic texts. AI also functions as a verification mechanism that strengthens students' confidence in the clarity and correctness of their writing. However, the results simultaneously reveal a dual dynamic in which the efficiency and convenience of AI technologies may encourage greater reliance on automated assistance and reduce engagement in deeper analytical reasoning during the writing process. The originality of this study lies in its focus on students' linguistic perceptions of AI mediated academic writing rather than technological performance or learning outcomes. The findings contribute to current discussions on AI mediated academic literacy and provide important implications for English language teaching by highlighting the need for balanced pedagogical strategies that integrate AI as a supportive learning resource while preserving students' critical thinking, academic integrity, and intellectual autonomy in contemporary digital learning environments.

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1. Introduction

The rapid acceleration of digital technology has fundamentally transformed the landscape of contemporary education. Among the most influential innovations shaping higher education today is artificial intelligence, particularly generative AI systems that assist students in producing written texts. In academic environments where writing is central to knowledge construction and scholarly communication, the emergence of AI powered tools has begun to redefine how students generate ideas, structure arguments, and revise academic discourse. Institutions across the world are therefore increasingly confronted with the challenge of balancing technological innovation with the preservation of academic integrity and intellectual independence. Scholars have emphasized that the growing presence of AI writing assistants requires educators and policymakers to reconsider digital literacy frameworks, assessment practices, and ethical guidelines governing academic work (Imran & Almusharraf, 2023). The integration of AI into learning environments thus signals a broader transformation in the relationship between technology, language production, and academic knowledge creation.

Within this evolving educational ecosystem, artificial intelligence has become embedded in students' everyday academic practices. Systematic and scientometric reviews reveal that recent research has increasingly focused on the intersection between AI use, student learning behaviors, and academic integrity concerns, highlighting how digital technologies now influence the processes through which students produce and evaluate academic texts (Qadhi et al., 2024; Imran & Almusharraf, 2023). Empirical investigations further demonstrate that students frequently employ AI based tools to support proofreading, language improvement, and structural organization in writing tasks (Bimpong et al., 2024; Imran & Almusharraf, 2023). At the same time, scholars caution that excessive reliance on such technologies may alter the cognitive processes involved in academic writing by reducing students' engagement with analytical reasoning and reflective learning practices. As technological innovations continue to reshape learning environments, artificial intelligence is no longer perceived merely as an external aid but rather as an integral component of contemporary academic discourse practices (Sari et al., 2024).

The expansion of digital learning environments has also transformed the ways in which students access information and interact with knowledge resources. Students belonging to the digital generation increasingly rely on artificial intelligence systems when searching for information and completing academic tasks, often preferring AI generated responses over traditional sources such as printed textbooks or scholarly articles. This shift reflects broader changes in information seeking behavior within contemporary education systems (Noviandri et al., 2025). Nevertheless, the use of AI in educational contexts extends beyond the adoption of a new technological tool. A central issue concerns how students conceptualize the role of artificial intelligence in learning and how these perceptions influence their engagement with academic tasks (Cifuentes et al., 2024; Putra & Ciptaningrum, 2024; Ruiz-Rojas et al., 2024). Empirical studies show that many students perceive generative AI platforms such as ChatGPT as efficient resources for accessing information, supporting assignment completion, and receiving personalized guidance, which may enhance motivation and facilitate the development of analytical and problem solving abilities (Cifuentes et al., 2024; Putra & Ciptaningrum, 2024). However, other studies reveal more cautious perspectives, suggesting that frequent dependence on AI technologies may reduce independent effort and potentially weaken students' critical thinking and creativity (Putra & Ciptaningrum, 2024; Cifuentes et al., 2024). Survey research further indicates that students hold differing beliefs regarding the extent to which AI contributes to critical thinking development, illustrating the complex and sometimes contradictory perceptions surrounding AI assisted learning (Ruiz-Rojas et al., 2024; Cifuentes et al., 2024).

In the specific context of academic writing, artificial intelligence has become increasingly involved in the production of scholarly texts. Students now use AI technologies to assist in composing essays, research papers, journal manuscripts, and final theses (Nugroho & Trisusana, 2025). Large language models and other AI driven systems are capable of generating draft paragraphs, summarizing literature, and offering linguistic suggestions that may significantly improve writing efficiency (Rabbianty et al., 2023; Aljuaid, 2024; Jarrah et al., 2023). While these capabilities provide substantial practical benefits, they also raise important ethical concerns regarding authorship, originality, and academic integrity in higher education. Scholars have highlighted that AI generated content may be submitted as students' own work or used to bypass meaningful engagement with reading, analysis, and argument construction (Qadhi et al., 2024; Niraula, 2024; Eaton, 2023). Moreover, the development of strong academic writing skills requires cognitively demanding processes such as evaluating sources, synthesizing evidence, and constructing theoretically grounded arguments, activities that cannot be fully replaced by automated systems (Aljuaid, 2024; Jarrah et al., 2023). These debates highlight the urgent need for educational institutions to develop clearer guidelines, ethical frameworks, and AI literacy initiatives that encourage students to critically evaluate AI outputs rather than accepting them as authoritative sources (Qadhi et al., 2024; Niraula, 2024; Eaton, 2023).

Despite the growing body of literature on artificial intelligence in education, much of the existing research has focused primarily on the instructional impact of AI technologies, such as whether AI improves writing performance or influences critical thinking outcomes (Aljuaid, 2024; Khojasteh, 2025). Comparatively fewer studies have explored how students themselves interpret and experience AI during the process of academic writing. Research examining students' perceptions has begun to emerge, including studies investigating perceived usefulness, ease of use, and attitudes toward AI tools in academic writing classes (Utami et al., 2023; Kurniati & Fithriani, 2022). Additional investigations have explored the role of AI paraphrasing tools such as QuillBot in supporting language development in English as a Foreign Language contexts (Alzubi, 2024). Nevertheless, these studies remain relatively limited in scope and often

focus on specific technological applications rather than examining students' broader perceptions of AI assisted writing practices within academic discourse. This gap suggests the need for further research that explores how learners interpret the presence of AI within their writing processes and how these interpretations influence their engagement with academic communication.

Responding to this gap, the present study occupies a specific research niche by examining how students interpret, evaluate, and respond to artificial intelligence during the process of producing final academic assignments. Rather than focusing on the technical performance of AI tools or measuring the extent of students' dependence on technology, this research emphasizes students' perceptions of AI mediated writing practices. By exploring how students understand the effectiveness, benefits, and ethical implications of AI assisted writing, the study contributes to a deeper understanding of how technological tools shape linguistic awareness and academic responsibility in higher education (Pan, 2024; Khojasteh, 2025). Through this perspective, the research highlights the dual role of artificial intelligence as both a facilitator of linguistic development and a potential challenge to students' intellectual autonomy (Aljuaid, 2024; Khojasteh, 2025).

The significance of this study lies in its attempt to capture students' perspectives regarding the benefits, risks, and ethical implications of using artificial intelligence in academic writing. Students' perceptions are particularly important because they influence how learners utilize AI technologies during the writing process. When students perceive AI primarily as a shortcut for completing assignments quickly, the potential educational benefits of the technology may be overshadowed by reduced engagement in deeper analytical thinking. Conversely, when AI is viewed as a supportive learning tool, it may enhance students' academic literacy and writing competence. Accordingly, the primary aim of this research is to explore how students perceive the role of artificial intelligence in completing final academic assignments and to understand how these perceptions influence their approaches to academic writing practices.

The findings of this study provide important insights into the broader implications of artificial intelligence integration in higher education. By examining students' experiences and interpretations, the study contributes to ongoing discussions regarding responsible AI use in academic environments. In the context of English language teaching, artificial intelligence offers new opportunities for supporting language learning, particularly in areas such as grammar improvement, vocabulary expansion, and discourse organization. When integrated thoughtfully into pedagogical practices, AI technologies can function as valuable tools that assist students in developing more effective academic writing skills while simultaneously encouraging responsible engagement with digital technologies.

Ultimately, this study emphasizes the importance of adopting balanced pedagogical approaches that integrate technological innovation while maintaining the development of students' intellectual independence and critical thinking abilities. Within English language teaching contexts, educators must guide students to use artificial intelligence as a supportive learning resource rather than a replacement for cognitive engagement. By designing instructional strategies that promote responsible AI use and strengthen academic integrity, educators can ensure that artificial intelligence contributes positively to students' linguistic development and academic discourse competence. Through such pedagogical efforts, AI can become not only a technological innovation but also a meaningful educational tool that supports sustainable language learning in contemporary higher education.

2. Method

This study employed a qualitative research design to explore students' linguistic perceptions of artificial intelligence in academic writing practices. A qualitative approach was considered appropriate because the study aims to understand how students interpret and experience the use of AI technologies during the process of composing academic texts. Rather than focusing on technological performance or measurable outcomes, the research emphasizes participants' perspectives, reflections, and interpretations regarding AI assisted writing practices in higher education. This interpretive approach allows the study to capture how students perceive AI as a linguistic support tool that influences their writing behavior and academic discourse development. Qualitative inquiry is particularly suitable for examining educational phenomena that involve subjective experiences and meaning making. In the present study, the approach enables the researcher to investigate how students perceive the advantages and limitations of AI technologies in supporting academic writing. By focusing on students' narratives and reflections, the study provides deeper insights into how digital technologies are gradually shaping academic discourse practices within contemporary higher education contexts.

2.1 Participants and Research Context

The participants of this study consisted of thirteen university students who had prior experience using artificial intelligence tools to support their academic writing tasks. Participants were selected through purposive sampling to ensure that respondents possessed relevant experience with AI assisted writing practices. This sampling strategy allowed the researcher to collect rich and meaningful data from individuals who could provide reflective insights into the role of AI in their writing processes.

All participants were enrolled in higher education programs where academic writing constitutes an essential component of coursework. Their experience using AI tools provided authentic perspectives on how students interact with emerging digital technologies when completing academic assignments. Ethical considerations were carefully addressed by ensuring voluntary participation and maintaining the confidentiality of participants' identities throughout the research process.

2.2 Data Collection

Data were collected through three qualitative instruments: preliminary observation, open ended online questionnaires, and in depth semi structured interviews. At the beginning of the study, observation was conducted to gain an initial understanding of how students interact with artificial intelligence tools when completing academic writing tasks. This preliminary observation helped the researcher identify general patterns of AI usage and informed the development of the subsequent data collection instruments.

Following the observation stage, an open ended online questionnaire was distributed to participants to capture their initial perceptions and experiences related to AI assisted academic writing. The questionnaire allowed students to provide detailed written responses regarding how they use AI tools, the benefits they perceive, and the challenges they encounter when integrating AI into their writing practices. After analyzing the questionnaire responses, in depth semi structured interviews were conducted with selected participants to obtain richer explanations of their experiences. These interviews enabled the researcher to explore students' perspectives more deeply, particularly regarding how AI influences their writing strategies, language choices, and confidence in producing academic texts.

2.3 Data Analysis

The collected data were analyzed using thematic qualitative analysis to identify recurring patterns and key themes related to students' perceptions of AI assisted academic writing. The analysis process began by organizing and reviewing all data obtained from observation notes, questionnaire responses, and interview transcripts. Each dataset was examined carefully to ensure accuracy and completeness before the coding process was conducted.

During coding, meaningful segments of data were identified and categorized according to their relevance to the research focus. These codes were then grouped into broader thematic categories that represented the major patterns emerging from the dataset. The resulting themes included students' perceptions of AI as a linguistic support tool, patterns of AI usage in academic writing, the role of AI in strengthening writing confidence, and the tension between efficiency and cognitive engagement. Importantly, the analysis process incorporated data triangulation, in which findings from observation, questionnaire responses, and interview data were compared and cross examined to ensure consistency and depth of interpretation. This triangulation strengthened the credibility of the findings by confirming emerging themes across multiple sources of qualitative data.

2.4 Trustworthiness and Research Rigor

To ensure the credibility and rigor of the findings, the study applied several procedures including careful instrument design, systematic data analysis, and the use of data triangulation across observation, questionnaire, and interview data. All responses were reviewed to ensure completeness and clarity before analysis, and thematic interpretation was conducted systematically in alignment with the research objectives.

These procedures helped maintain analytical consistency and ensured that the findings accurately represent students' perceptions of artificial intelligence in academic writing within higher education contexts (Yeki et al., 2025).

3. Results

This section presents the empirical findings concerning students' perceptions of artificial intelligence in the process of completing academic assignments. Overall, the results indicate that students perceive AI primarily as a linguistic support tool that facilitates academic writing by assisting with idea generation, grammatical accuracy, vocabulary development, and discourse organization. At the same time, the findings reveal a noticeable pattern of reliance on AI technologies during the writing process. While students acknowledge that AI increases efficiency and confidence in completing assignments, their responses also suggest a potential tension between technological convenience and deeper cognitive engagement in academic writing. The following subsections describe these patterns in detail based on the responses collected from the participants.

3.1 Students' Perceptions of AI as a Linguistic Support Tool

The findings indicate that students generally perceive artificial intelligence as a linguistic support system that assists them during various stages of academic writing. Participants frequently described AI as a tool that helps generate ideas, correct grammatical errors, improve vocabulary selection, and organize arguments more clearly. For many students, AI functions as a practical assistant that helps them transform initial ideas into clearer academic sentences. Rather than replacing the writing process, AI is commonly interpreted as a supportive mechanism that helps refine linguistic quality and enhance the coherence of academic texts. Table 3.1 summarizes several representative statements describing students' experiences with AI during the completion of their academic assignments.

Table 3.1 Students' Perceptions of AI Use in Academic Writing

No	Students' Statements
1	I use AI to help me complete my final assignment.
2	AI features quickly follow instructions.
3	AI is useful for checking grammatical errors in my final project.
4	AI helps improve my vocabulary.
5	AI helps organize my ideas more clearly.

The responses presented in Table 3.1 illustrate that students primarily interpret AI as a facilitator of linguistic clarity rather than a substitute for academic thinking. Participants reported that AI assists them particularly during the revision stage of writing, where they review grammar, adjust vocabulary, and reorganize paragraphs to improve coherence. Many students emphasized that AI enables them to refine their drafts more efficiently by providing immediate feedback on language use. Consequently, AI becomes part of the editing process that supports students in transforming preliminary ideas into academically appropriate written discourse.

Qualitative excerpts from participants provide deeper insight into how students experience AI as a linguistic support tool. The following excerpts illustrate typical responses obtained during the data collection process.

Excerpt 1

Indonesian: *"Biasanya saya sudah punya ide, tapi kalimatnya terasa kurang rapi. Saya pakai AI untuk membantu merapikan struktur kalimat supaya lebih akademik."*

English translation: "Usually I already have the idea, but the sentence structure feels unclear. I use AI to help organize the sentences so they sound more academic."

(P03_12:14-SID.S03)

This excerpt highlights how students perceive AI as a linguistic refinement tool rather than an idea generator. The participant clearly indicates that the core idea already exists before AI is used, suggesting that AI functions primarily during the revision stage. This pattern indicates that students employ AI to restructure their sentences in order to meet academic language expectations. Such behavior reflects an emerging writing practice in which AI operates as a form of digital scaffolding that supports the transformation of conceptual knowledge into academically acceptable discourse.

Excerpt 2

Indonesian: *"AI membantu saya mencari kata yang lebih tepat. Kadang saya tahu maksudnya, tetapi tidak tahu kosakata bahasa Inggris yang paling cocok."*

English translation: "AI helps me find more appropriate vocabulary. Sometimes I know the meaning I want to express, but I do not know the most suitable English words."

(P07_15:32-SID.S07)

This response illustrates how AI assists students in addressing lexical limitations during academic writing. The participant's statement suggests that the primary challenge lies not in conceptual understanding but in linguistic expression. AI therefore functions as a lexical support system that helps bridge the gap between students' ideas and their ability to articulate those ideas in English. From an analytical perspective, this role positions AI as a vocabulary enhancement tool that contributes to the development of more precise academic expression.

Excerpt 3

Indonesian: *"Kalau saya ragu dengan grammar, saya cek lagi dengan AI sebelum tugas dikumpulkan supaya tidak banyak kesalahan."*

English translation: "When I am unsure about my grammar, I check it again using AI before submitting the assignment so that there are fewer errors."

(P05_09:47-SID.S05)

This excerpt reveals that students also use AI as a verification mechanism during the final stages of the writing process. The participant emphasizes the importance of confirming grammatical accuracy before submitting assignments. This practice indicates that AI serves as a form of linguistic reassurance that helps students reduce uncertainty regarding language correctness. The reliance on AI for grammatical verification suggests that AI contributes to increasing students' confidence in the linguistic quality of their academic writing.

Excerpt 4

Indonesian: *"AI membantu saya menyusun ide menjadi paragraf yang lebih jelas. Jadi tulisan saya tidak terkesan loncat-loncat."*

English translation: "AI helps me arrange my ideas into clearer paragraphs, so my writing does not appear fragmented."

(P11_18:05-SID.S11)

This statement demonstrates that AI also plays a role in improving discourse organization. The participant highlights the ability of AI to assist in structuring ideas into coherent paragraphs, indicating that AI contributes not only to sentence level correction but also to broader textual organization. From an interpretive standpoint, this function suggests that AI operates as a discourse level writing assistant that supports students in constructing logically structured academic texts.

Taken together, these excerpts reveal that students interact with AI primarily during the revision and refinement stages of writing. Participants consistently described AI as a tool that helps them improve linguistic accuracy, expand vocabulary, and organize ideas more coherently. The data suggest that AI functions as an intermediary resource that connects students' conceptual understanding with the linguistic demands of academic discourse. In this evolving writing environment, academic text production increasingly involves a hybrid process in which human cognitive effort and digital linguistic assistance interact to produce clearer, more structured academic communication.

3.2 AI Usage Patterns among Students

An important pattern emerging from the data concerns how frequently students rely on artificial intelligence during the process of completing academic assignments. The majority of participants reported that AI has become a routine component of their academic workflow. Students indicated that they typically use AI during several stages of the writing process, particularly when brainstorming ideas, organizing arguments, and reviewing drafts before submission. This recurring use suggests that AI is no longer viewed as an occasional support tool but rather as an integrated resource within students' writing practices. Figure 1 illustrates the general distribution of AI usage patterns reported by participants.

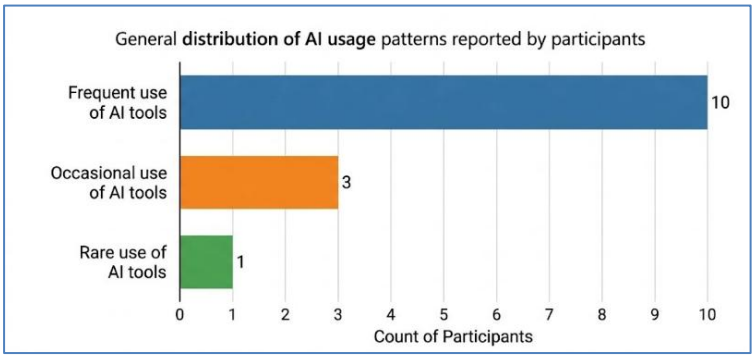

Figure 1. Illustration of Students' AI Usage in Academic Writing

The pattern illustrated in Figure 1 demonstrates that most participants reported frequent engagement with AI technologies when working on academic assignments. Only a small proportion of students indicated occasional or rare use of AI tools. This distribution suggests that AI has gradually become embedded in students' academic routines, particularly in tasks that involve drafting, revising, or refining written responses. Students tend to consult AI systems when they experience difficulty structuring ideas or when they aim to complete assignments more efficiently.

Qualitative excerpts further illustrate how AI is incorporated into students' everyday writing practices.

Excerpt 1

Indonesian: *"Kalau mulai menulis tugas, biasanya saya buka AI dulu untuk mencari gambaran awal supaya ide saya lebih cepat terbentuk."*

English translation: "When I start writing an assignment, I usually open AI first to get an initial idea so my thoughts can develop more quickly."

(P02_10:26-SID.S02)

This excerpt suggests that AI is often used during the early stage of writing, particularly in the process of generating initial ideas. The participant describes AI as a starting reference that helps stimulate the development of ideas before writing begins. From an interpretive perspective, this pattern indicates that AI increasingly functions as a cognitive trigger that assists students in initiating the writing process. Rather than replacing thinking, AI appears to provide a preliminary framework that helps students begin organizing their thoughts.

Excerpt 2

Indonesian: *"Saya biasanya pakai AI saat sudah menulis sebagian tugas, lalu saya minta AI membantu merapikan struktur paragrafnya."*

English translation: "I usually use AI after writing part of my assignment, then I ask AI to help refine the paragraph structure."

(P06_14:11-SID.S06)

This response indicates that AI is often used during the revision stage of writing, particularly to reorganize paragraphs and improve structural coherence. The pattern suggests that AI supports the editing phase of academic writing, as students rely on it to refine the structural flow of their texts after developing their initial ideas.

Excerpt 3

Indonesian: *"Sebelum tugas dikumpulkan, saya biasanya cek lagi dengan AI untuk memastikan jawabannya sudah jelas dan tidak terlalu bertele tele."*

English translation: "Before submitting the assignment, I usually check it again with AI to make sure the answer is clear and not too wordy."

(P09_19:03-SID.S09)

This excerpt demonstrates how AI is also used during the final stage of writing. The participant describes using AI as a final verification tool to ensure clarity and conciseness before submitting the assignment. This pattern suggests that AI functions as a form of linguistic quality control that helps students review and refine their writing before final submission.

Excerpt 4

Indonesian: *"Kalau saya merasa tulisan saya kurang jelas, saya tanya AI bagaimana cara menjelaskannya dengan lebih sederhana."*

English translation: "When I feel my writing is unclear, I ask AI how to explain it more simply."

(P12_21:40-SID.S12)

This statement highlights another usage pattern in which AI is consulted when students experience difficulty explaining complex ideas. The participant's response indicates that AI serves as an interpretive aid that helps simplify explanations and clarify meaning. This suggests that AI is increasingly used as a discourse support tool that assists students in improving the readability and accessibility of their academic writing.

Taken together, these excerpts demonstrate that AI is incorporated throughout multiple stages of the writing process, including idea generation, structural revision, and final verification. Students appear to integrate AI into their academic routines as a practical support system that helps them navigate linguistic and organizational challenges during writing tasks. From a broader interpretive perspective, this pattern reflects a shift in the academic learning environment where digital technologies increasingly mediate the process of knowledge construction. Within this evolving context, AI functions as an intermediary resource that supports students in transforming conceptual ideas into structured academic discourse while also improving efficiency in completing academic tasks.

3.3 AI as a Tool for Confidence and Academic Verification

Beyond supporting idea development and linguistic refinement, the findings show that students also perceive artificial intelligence as a verification tool that helps evaluate the quality of their academic work. Many participants reported consulting AI tools to review their assignments before submission to ensure clarity, accuracy, and organization. In this context, AI is used not only to generate or refine text but also to confirm whether the final version meets academic expectations. Table 3.2 summarizes the primary functions of AI as perceived by the participants.

Table 3.2 Perceived Functions of AI in Academic Writing

Function of AI	Description
Idea generation	AI assists students in identifying ideas when starting an assignment.
Linguistic support	AI improves grammar, vocabulary, and sentence construction.
Text organization	AI helps arrange ideas into coherent and structured paragraphs.
Revision support	AI enables students to review and refine their writing before submission.
Confidence reinforcement	AI strengthens students' confidence in the accuracy of their responses.

The data presented in Table 3.2 indicate that AI serves multiple roles in students' writing processes, extending beyond simple linguistic assistance. While earlier findings emphasize AI's role in supporting idea generation and structural organization, the present findings highlight another important function, namely its role in reinforcing students' confidence in their academic output. Students often described AI as a secondary reviewer that helps them confirm whether their arguments are clear and their language use is appropriate before submitting assignments. Qualitative excerpts from participants further illustrate how AI is used as a verification tool during the writing process.

Excerpt 1

Indonesian: *"Sebelum saya kirim tugas, saya biasanya cek lagi dengan AI untuk memastikan jawabannya sudah benar dan tidak membingungkan."*

English translation: "Before submitting my assignment, I usually check it again with AI to make sure the answer is correct and not confusing."

(P04_16:20-SID.S04)

This excerpt demonstrates that students frequently use AI as a final verification tool prior to submission. The participant's response suggests that AI functions as a form of external feedback that helps identify potential weaknesses in clarity or organization. From an interpretive perspective, this practice reflects students' efforts to reduce uncertainty regarding the quality of their work. AI therefore operates as a supportive mechanism that assists students in evaluating whether their responses meet expected academic standards.

Excerpt 2

Indonesian: *"Kalau saya merasa jawaban saya kurang meyakinkan, saya tanya AI apakah penjelasan saya sudah logis."*

English translation: "When I feel that my answer is not convincing enough, I ask AI whether my explanation is logically structured."

(P08_13:48-SID.S08)

This response highlights how AI contributes to students' confidence in the logical structure of their arguments. The participant's statement indicates that AI is used to validate whether explanations appear coherent and logically connected. This pattern suggests that students rely on AI not only to correct language but also to evaluate the clarity of reasoning presented in their writing.

Excerpt 3

Indonesian: *"AI membantu saya melihat apakah tulisan saya sudah cukup jelas untuk dipahami orang lain."*

English translation: "AI helps me see whether my writing is clear enough for other people to understand."

(P01_11:05-SID.S01)

This excerpt illustrates that students use AI to assess the readability of their texts. The participant views AI as an external reader who can help determine whether a written explanation is sufficiently clear. From an analytical standpoint, this behavior suggests that AI functions as a simulated audience that enables students to evaluate the communicative effectiveness of their writing.

Excerpt 4

Indonesian: *"Kalau setelah dicek AI tidak menemukan masalah besar, saya jadi lebih percaya diri untuk mengumpulkan tugas."*

English translation: "If AI does not find major problems after checking my work, I feel more confident submitting the assignment."

(P10_20:12-SID.S10)

This statement reveals that AI significantly influences students' confidence levels during the final stage of the writing process. The participant explicitly links AI verification with increased confidence when submitting academic work. This suggests that AI has begun to function as a form of digital reassurance that reduces anxiety about potential errors or weaknesses in assignments.

Taken together, these excerpts demonstrate that AI is increasingly perceived as an external academic support system that helps students validate the quality of their work. Students consult AI not only to improve grammar or vocabulary but also to confirm the clarity, coherence, and logical consistency of their responses. From an interpretive perspective, this pattern indicates that AI has become embedded in students' academic self-evaluation practices. The technology functions as a form of supplementary feedback that strengthens students' confidence in their writing while simultaneously shaping how they assess the quality of their academic discourse.

3.4 Efficiency versus Cognitive Engagement in Academic Writing

Although students generally reported positive experiences when using artificial intelligence in academic writing, the findings also reveal a noticeable tension between efficiency and cognitive engagement. Many participants acknowledged that AI helps them complete assignments faster by simplifying idea generation, correcting grammar, and improving text organization. However, some respondents also recognized that the convenience of AI may reduce the level of reflection and analytical thinking involved in the writing process. This dual perception suggests that AI is simultaneously viewed as both a facilitator of efficiency and a potential challenge to deeper intellectual engagement. Figure 2 illustrates the perceived advantages and challenges associated with the use of AI in academic writing.

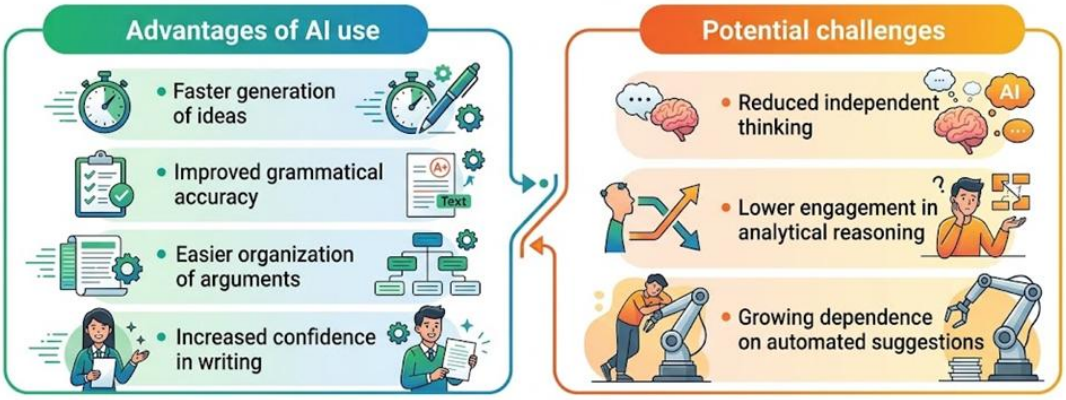

Figure 2. Advantages and Challenges of AI Use in Academic Writing

The patterns presented in Figure 2 demonstrate that AI technologies generate a dual dynamic within students' writing practices. On one hand, AI significantly improves efficiency by allowing students to produce and revise texts more quickly. Participants often described AI as a practical tool that accelerates the writing process and reduces the time required to organize ideas or correct language errors. On the other hand, students also expressed concern that the same convenience may discourage them from engaging more deeply with the intellectual processes involved in academic writing.

Qualitative excerpts from participants further illustrate this tension between efficiency and cognitive engagement.

Excerpt 1

Indonesian: *"AI membuat saya lebih cepat menyelesaikan tugas karena ide dan kalimatnya bisa langsung muncul."*

English translation: "AI allows me to finish assignments faster because ideas and sentences can appear immediately."

(P06_17:28-SID.S06)

This excerpt highlights the efficiency advantage associated with AI usage. The participant emphasizes the speed with which ideas and sentences can be generated, suggesting that AI significantly accelerates the early stages of the writing process. From an interpretive standpoint, this pattern indicates that AI functions as a productivity tool that streamlines academic tasks and reduces the time required for drafting written assignments.

Excerpt 2

Indonesian: *"Kadang kalau sudah ada AI, saya jadi tidak terlalu lama berpikir karena AI bisa langsung memberi contoh jawaban."*

English translation: "Sometimes when AI is available, I do not spend much time thinking because AI can immediately provide example answers."

(P09_13:51-SID.S09)

This response reflects a potential drawback associated with AI use. The participant acknowledges that the availability of AI generated responses may reduce the time spent reflecting on a problem. This suggests that AI can unintentionally shift the writing process from active knowledge construction toward a more passive interaction with generated information. Such a shift may influence how students engage with analytical reasoning during academic writing tasks.

Excerpt 3

Indonesian: *"AI sangat membantu, tapi kalau terlalu sering dipakai saya merasa jadi kurang melatih kemampuan berpikir sendiri."*

English translation: "AI is very helpful, but if it is used too often I feel that it reduces my practice of thinking independently."

(P02_21:06-SID.S02)

This excerpt illustrates students' awareness of the potential cognitive implications of frequent AI use. The participant explicitly recognizes that excessive reliance on AI may weaken opportunities to practice independent reasoning. From an analytical perspective, this response indicates that students are not entirely passive users of technology; rather, they are conscious of the balance that must be maintained between technological assistance and intellectual autonomy.

Excerpt 4

Indonesian: *"AI membantu memperbaiki tulisan, tapi saya tetap harus memahami materi supaya bisa menjelaskan dengan benar."*

English translation: "AI helps improve the writing, but I still need to understand the material in order to explain it correctly."

(P11_19:44-SID.S11)

This statement highlights the continued importance of human cognitive engagement within AI assisted writing practices. The participant acknowledges that while AI may support linguistic improvement, conceptual understanding remains essential for producing meaningful academic explanations. This perspective suggests that students still recognize the limits of AI and maintain awareness that intellectual comprehension cannot be replaced by automated assistance.

Taken together, these findings illustrate that artificial intelligence introduces a complex dynamic within students' academic writing practices. AI significantly enhances efficiency and linguistic accuracy, enabling students to complete assignments more quickly and confidently. At the same time, the convenience of AI may create conditions that reduce opportunities for deeper analytical reflection if used uncritically. The integration of AI into academic writing therefore reflects a broader transformation in higher education where digital technologies increasingly mediate knowledge construction. Within this evolving environment, students' writing practices are shaped by a hybrid interaction between human cognitive effort and algorithmic linguistic assistance, which collectively influences how academic discourse is produced and understood.

4. Discussion

The The findings demonstrate that students generally perceive artificial intelligence as a supportive linguistic tool that facilitates multiple stages of the academic writing process. Participants consistently reported that AI assists them in generating ideas, organizing arguments, improving grammatical accuracy, expanding vocabulary, and reviewing the coherence of their academic texts. These perceptions indicate that AI has gradually become integrated into students' academic writing practices as a form of digital linguistic support that enables them to complete assignments more efficiently. The presence of AI technologies in

academic contexts reflects broader transformations in digital learning environments where technological tools increasingly mediate knowledge construction and communication practices. The emergence of artificial intelligence has created new opportunities for technology enhanced learning by enabling students to access information rapidly and refine their academic writing processes (Vieriu & Petrea, 2025). In this sense, AI functions as a digital facilitator that supports students in constructing academic discourse more effectively.

Despite these positive perceptions, the findings also reveal that students' reliance on AI is closely connected with a growing dependence on technological assistance. Many participants reported frequent use of AI because the tools are practical, fast, and capable of generating responses that appear more coherent than their initial drafts. This tendency reflects a broader shift in students' learning behaviors within digitally mediated environments where rapid text production and efficiency often become dominant drivers of task completion. In particular, generative AI technologies allow students to streamline drafting processes and access synthesized information quickly (Flaherty & Yurch, 2024; Zheltukhina et al., 2024). Similar observations have been reported in previous research indicating that tools such as ChatGPT reduce friction in academic writing by facilitating brainstorming, structuring ideas, and enabling faster access to synthesized content (Nurazizah, 2025). These features significantly enhance the efficiency of drafting and revision processes (Jarrah et al., 2023; Flaherty & Yurch, 2024). However, existing literature also cautions that such convenience may encourage excessive reliance on automated systems, including the potential misuse of AI generated content in assessed writing when technological output substitutes for students' independent reasoning and judgment (King, 2023; Qadhi et al., 2024). For this reason, scholars emphasize the importance of responsible integration supported by institutional guidelines, explicit attribution practices, and the development of AI literacy to maintain academic integrity while still benefiting from technological efficiency (Jarrah et al., 2023; Qadhi et al., 2024; Duah & McGivern, 2024; Stone, 2023).

The findings also reveal a persistent tension between AI enabled efficiency and the cognitive effort required for meaningful learning. Rapid automated outputs may encourage students to prioritize obtaining answers quickly rather than engaging in reflective reasoning processes (Nadim & Fuccio, 2025; Patrick, 2025). Several participants reported using AI to obtain instant responses rather than independently analyzing problems, which aligns with broader concerns that excessive reliance on generative AI can weaken critical thinking, analytical reasoning, and learner autonomy (Kurniasari et al., 2025). Previous research has also associated frequent AI dependence with skills atrophy and reduced engagement in higher order thinking activities within educational contexts (Alhur et al., 2025; Patrick, 2025). When learners routinely delegate essential cognitive tasks such as reasoning, drafting, and decision making to generative systems, the learning process may shift from active knowledge construction toward passive consumption of information. Such conditions may limit opportunities for students to verify, critique, and synthesize knowledge independently (Patrick, 2025; Villarino, 2024; Chen et al., 2025).

Empirical studies further show that heavy reliance on AI technologies can reduce problem solving capacity and creativity, both of which are central components of twenty first century learning skills (Wijaya et al., 2024). Consequently, students' practices of relying heavily on AI also raise long term concerns related to intellectual development and academic integrity, including plagiarism risks and reduced originality in AI assisted writing (Alhur et al., 2025; Nadim & Fuccio, 2025; Pratiwi et al., 2025).

Another important finding concerns students' use of AI as a verification tool that strengthens their confidence in the linguistic accuracy of their writing. Participants frequently reported using AI to review assignments before submission in order to ensure that grammar, vocabulary, and sentence structure appear appropriate. This behavior aligns with previous research showing that AI based writing tools are commonly used for grammar correction, language refinement, and drafting support in academic writing practices (Pratiwi et al., 2025). Tools such as Grammarly and ChatGPT provide immediate feedback that users often perceive as improving grammatical control and producing more cohesive texts (Wulandari et al., 2024). Broader literature syntheses also indicate that AI systems can identify grammatical issues and recommend stylistic improvements while delivering rapid individualized feedback during revision processes (Aljuaid, 2024). Students' reliance on AI for reassurance is therefore consistent with findings that AI mediated tools are perceived positively because they help improve text quality and address writing challenges. At the same time, scholars emphasize that AI outputs still require human verification because excessive reliance may weaken deeper academic competencies such as critical thinking and responsibility for authorship (Pratiwi et al., 2025; Pereira et al., 2024).

Previous studies similarly demonstrate that students frequently use AI technologies to support writing activities and improve the perceived quality of their assignments (Heard, 2025). In this sense, AI becomes an additional layer of linguistic support that contributes to students' confidence in producing academic texts (Wulandari et al., 2024; Aljuaid, 2024; Pereira et al., 2024). However, the convenience offered by AI technologies may also influence students' motivation to develop independent writing abilities. When students prioritize speed and practicality, they may become less inclined to engage in the cognitive processes required to construct arguments, analyze information, and synthesize ideas. Earlier studies indicate that technological assistance in learning environments can influence students' critical thinking development, particularly when AI tools replace reflective learning activities (Agustinasari & Fiqry, 2025). Furthermore, students who do not develop strong analytical and problem solving abilities during their academic training may encounter difficulties in professional environments that demand independent decision making and critical evaluation of information (Rahmadani et al., 2025). These observations emphasize the importance of designing balanced learning strategies that position AI as a supportive resource rather than as a substitute for intellectual engagement.

Linguistic constraints also play a crucial role in shaping students' reliance on AI during academic writing. Many learners may understand disciplinary content but struggle to express their ideas effectively in English. This difficulty is well documented among EFL writers who frequently experience challenges related to sentence construction, cohesion devices, and overall discourse coherence. Such limitations often hinder the development of well structured introductions, thesis statements, topic sentences, and conclusions in academic writing (Anindita, 2024; Zhang et al., 2025). Empirical research further demonstrates that targeted pedagogical interventions such as structured content input and guided planning can significantly improve coherence and cohesion in argumentative writing (Xie & Lv, 2022; Anindita, 2024). Within this context, AI enabled tools may function as textual mediators that assist students in operationalizing lexical and grammatical choices while improving local coherence in academic discourse (Zhang et al., 2025; Hama, 2021). Nevertheless, because cohesion and coherence develop gradually through sustained practice, heavy reliance on AI mediation may obscure whether students are independently consolidating transferable academic discourse skills (Xie & Lv, 2022; Anindita, 2024; Zhang et al., 2025).

From a broader academic perspective, this study contributes to ongoing discussions concerning the evolving relationship between artificial intelligence and academic literacy. While many previous studies have focused primarily on measuring the impact of AI technologies on learning outcomes or critical thinking performance, the present research examines students' linguistic perceptions of AI assisted academic writing. By exploring how students interpret and evaluate the role of AI within the writing process, the study provides deeper insight into how technological tools shape students' linguistic awareness and writing behaviors. This perceptual perspective represents an important contribution to the growing body of literature on AI mediated writing practices in higher education.

The novelty of this study lies in its focus on AI from a linguistic perception perspective within academic discourse practices. Rather than evaluating AI solely as a technological innovation, the research highlights how students experience AI as part of their academic writing process and how this experience influences their understanding of academic communication. The findings reveal that AI performs a dual function within academic writing. On one hand, it enhances efficiency and linguistic clarity by supporting drafting, revision, and language refinement. On the other hand, it may also introduce new pedagogical challenges related to students' independence in thinking and writing. By identifying this dual dynamic, the study contributes to a more comprehensive understanding of the pedagogical implications associated with AI integration in higher education.

In the context of English language teaching, the findings provide several important pedagogical implications. AI technologies have considerable potential to support learners in improving grammatical accuracy, expanding vocabulary, and organizing academic discourse more effectively. When integrated appropriately into classroom practices, AI tools may assist students in developing stronger academic writing skills. At the same time, educators must ensure that the use of AI does not replace essential learning processes such as critical analysis, argument development, and reflective thinking. Teachers therefore play a crucial role in guiding students to use AI responsibly while maintaining academic integrity and intellectual independence. Through carefully designed pedagogical strategies, AI can function as a complementary resource that supports language learning while preserving students' cognitive engagement.

Future research should continue exploring how AI assisted writing influences the development of academic literacy across different educational contexts and disciplinary fields. Studies involving larger and more diverse participant groups may offer broader insights into how students interact with AI technologies during the writing process. Additionally, longitudinal research examining how AI integration influences writing proficiency, learning motivation, and critical thinking development over time would contribute valuable evidence to the field. Further investigations may also focus on pedagogical frameworks for responsible AI integration in English language teaching. Such research would help educators balance technological innovation with the development of students' linguistic competence, academic integrity, and intellectual autonomy within contemporary higher education environments.

5. Conclusion

This study highlights how students perceive artificial intelligence as an increasingly influential tool in the process of academic writing. The findings demonstrate that AI plays a significant role in supporting students' writing practices by facilitating idea generation, improving grammatical accuracy, expanding vocabulary choices, organizing arguments, and assisting with the revision of academic texts. Students largely interpret AI as a linguistic support system that helps them complete assignments more efficiently while also increasing their confidence in the clarity and correctness of their written responses. At the same time, the results reveal a critical dual dynamic in which the efficiency and convenience offered by AI may also encourage a greater reliance on automated assistance that can potentially reduce students' engagement in deeper analytical reasoning and independent thinking. The novelty of this study lies in its focus on students' linguistic perceptions of AI assisted academic writing rather than solely examining technological effectiveness or learning outcomes. By exploring how students interpret the role of AI in shaping their writing practices, the study contributes to a more nuanced understanding of how digital tools influence academic discourse development in higher education. In the context of English language teaching, the findings suggest that AI can serve as a valuable pedagogical resource for supporting language development, particularly in helping learners overcome linguistic barriers related to grammar, vocabulary, and discourse organization. However, educators must carefully design instructional strategies that ensure AI is used as a complementary learning tool rather than a substitute for critical thinking and intellectual engagement. Future research should therefore investigate how AI mediated writing practices influence long term academic literacy development, critical thinking skills, and learner autonomy across diverse educational contexts, as well as explore pedagogical frameworks that guide the responsible and balanced integration of AI technologies in English language learning environments.

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