# Exploring the Use of Artificial Intelligence in Journal Article Writing Among Postgraduate Students at Universiti Kebangsaan Malaysia (UKM)

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## ABSTRACT

This study examined postgraduate students' adoption of Artificial Intelligence (AI) tools in academic writing at Universiti Kebangsaan Malaysia (UKM). The results indicated a moderate to high level of familiarity and daily engagement with AI, influenced by deadlines, peer interactions, and institutional training. Various tools were utilized, including ChatGPT, Copilot, Grammarly, QuillBot, and Mendeley. Students frequently recognized drafting and editing as the most beneficial phases, during which AI improved clarity, organization, vocabulary, and confidence. The benefits included increased efficiency, scaffolding support, and lower stress levels, while the challenges included fabricated references, inaccurate summaries, the risk of plagiarism, and a potential loss of academic voice. Guided by the Technology Acceptance Model (TAM), this conceptual paper reviewed literature on students' acceptance of AI-assisted academic writing tools and conducted a qualitative study with six postgraduate students from Universiti Kebangsaan Malaysia (UKM). The importance of maintaining an ethical and pedagogical balance was highlighted, with AI positioned as a supportive tool that necessitates supervisory oversight and validation against peer-reviewed materials. AI literacy evolved gradually, transitioning from initial scepticism to a greater appreciation, shaped by peer influence, institutional exposure, and practical requirements. In summary, students viewed AI as a collaborative partner that enhanced productivity but required careful scrutiny to maintain originality and academic integrity. This highlights the necessity for well-defined institutional policies that direct the responsible use of AI in postgraduate research settings. Effective supervisory oversight and validation against peer-reviewed sources are crucial to maintain authenticity and avert misuse. Fostering critical digital literacy among students will guarantee that AI serves as a supportive ally, enhancing academic rigor while upholding originality and ethical principles.

**Keywords:** Artificial Intelligence, Journal Writing, Technology Acceptance Model, Postgraduate Students, AI Literacy, Academic Integrity, Higher Education

## INTRODUCTION

Academic writing, particularly the publication of journal papers, is essential for postgraduate education and intellectual communication. As Jeyaraj (2020) noted, "academic writing remains the most critical skill for postgraduate research students in Malaysia, serving both institutional and disciplinary demands." For students, mastering academic writing is not only a prerequisite for degree completion but also a means of advancing disciplinary knowledge and their own professional growth. However, problems such as language proficiency, concept organisation, and the preservation of uniqueness frequently undermine confidence and productivity. Singh (2019) emphasised that "international postgraduate students often struggle with academic writing due to linguistic and cultural barriers," a difficulty that is further intensified in multilingual and multicultural contexts like Malaysia. These obstacles are exacerbated in multilingual and multicultural societies like Malaysia, making journal writing both necessary and demanding for postgraduate researchers.

The advent of Artificial Intelligence (AI) tools has opened new avenues for assisting academic writing. As. Esmaeil et al. (2025) observed, "postgraduate students increasingly rely on AI applications such as ChatGPT, Copilot, Grammarly, QuillBot, and Mendeley for drafting, editing, citation management, and language scaffolding." The advantages of AI tools include enhancing clarity, improving grammar, and expanding

vocabulary, thereby boosting confidence among non-native writers (Kurniati & Fithriani, 2022; Ahmad et al., 2025). Moreover, they significantly reduce the time required for drafting and editing, allowing students to focus more on critical analysis and originality in their work (Anani, Nyamekye, & Bafour-Koduah, 2025; Hazari, 2024). Findings from a qualitative study at Universiti Kebangsaan Malaysia (UKM) demonstrated moderate to high familiarity with and everyday usage of AI, influenced by deadlines, peer influence, and institutional training (Kurniati & Fithriani, 2022). Students consistently ranked drafting and editing as the most valuable stages, citing improvements in clarity, organisation, vocabulary, and confidence (Ahmad et al., 2025).

However, difficulties such as fabricated references, misleading summaries, plagiarism concerns, and erosion of academic voice underscored the importance of ethical and pedagogical balance (Singh, 2019). AI literacy grew gradually, from early scepticism to appreciation, establishing AI as a collaborative ally rather than a substitute (Esmaeil et al., 2025). Similar findings were echoed by Anani, Nyamekye, and Bafour-Koduah (2025), who reported that postgraduate students perceived AI tools as highly useful but required validation against peer-reviewed sources. Likewise, Hazari (2024) emphasised the importance of structured AI literacy courses to foster responsible use in higher education. Furthermore, Pandya (2025) highlighted ethical challenges, including plagiarism detection and the erosion of academic voice, reinforcing the need for supervisory guidance and institutional safeguards. This conceptual article analysed research on students' acceptance of AI-assisted academic writing tools, guided by the Technology Acceptance Model (TAM), which comprises four constructs: perceived usefulness, ease of use, attitude towards use, and behavioural intention to use. Following an analysis of research gaps, a qualitative study was conducted with six postgraduate students at UKM.

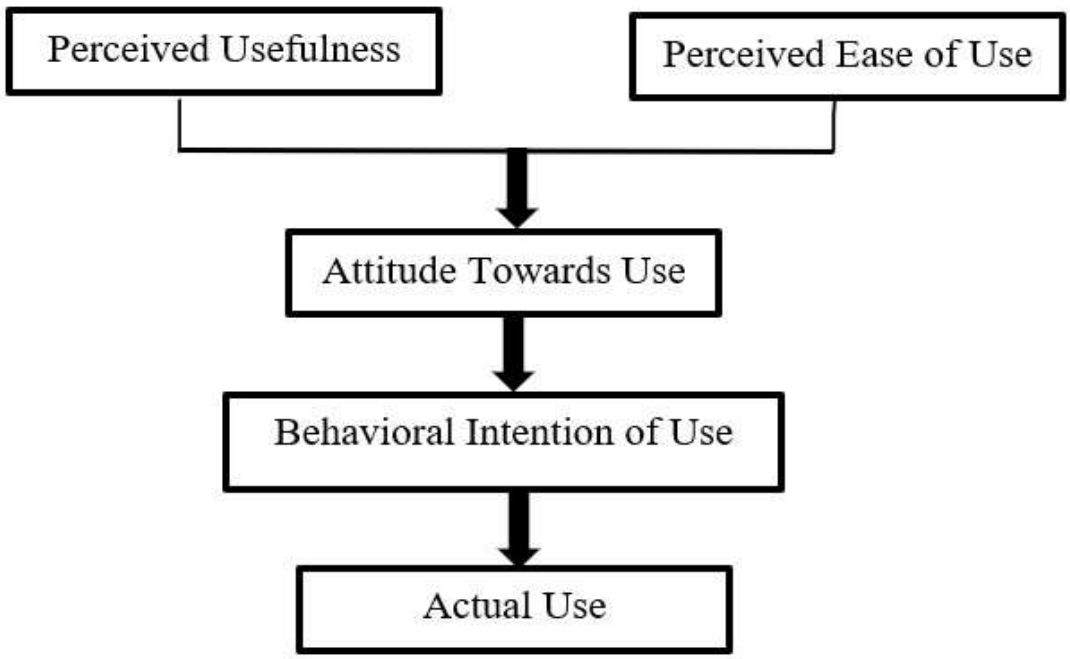
**Objectives**

i. To examine postgraduate students' perceptions of the usefulness and ease of use of AI tools in academic writing
ii. To investigate the influence of AI tools on students' confidence, motivation, and attitudes toward journal article writing

**Research Questions**

i. How does the Technology Acceptance Model (TAM) explain postgraduate students' acceptance of AI-assisted academic writing tools at Universiti Kebangsaan Malaysia (UKM) in terms of perceived usefulness, perceived ease of use, attitude towards use and behavioural intentions. ii. What challenges do postgraduate students encounter when using AI-assisted academic writing tools?

Figure 1. Technology Acceptance Model (TAM)



# LITERATURE REVIEW

## AI In Journal Article Writing

Artificial intelligence (AI) mimics Cognitive functions in humans, including learning, reasoning, as well as selfcorrection through computer systems. AI can be broadly defined as the simulation of human intelligence processes by machines, enabling tasks such as problem-solving, decision-making, and language processing (Das & Chen, 2025). In the field of higher education, AI tools refer to applications like ChatGPT, Copilot, Grammarly, QuillBot, and Mendeley, which assist with language processing, drafting, editing, and citation management. Writing journal articles entails the creation of original scholarly manuscripts that conform to peer-review standards and structured formats, which include an introduction, literature review, methodology, findings, and discussion. Journal article writing is therefore defined as the systematic process of presenting original research or theoretical insights in a structured manuscript intended for dissemination through peer-reviewed academic journals. Research has consistently shown that AI tools have transformed how postgraduate students approach journal article writing.

Li and Wu (2025) discovered that AI technologies enhanced writing quality and efficiency within academic environments. Kurniati and Fithriani (2022) found that QuillBot aided postgraduate students in paraphrasing and vocabulary enhancement, boosting confidence among non-native writers. Ahmad et al. (2025) reported that UKM students utilized ChatGPT to create argumentative essays, resulting in improved clarity, coherence, and organization. Anani, Nyamekye, and Bafour-Koduah (2025) stressed the importance of validating AI technologies against peer-reviewed sources to ensure their reliability, despite their asserted benefits.

Hazari (2024) highlighted the necessity for AI literacy courses to encourage proper usage and prevent excessive dependence. Esmaeil et al. (2025) also found that postgraduate students increasingly trusted AI technologies, perceiving them as collaborative partners rather than substitutes. Overall, this body of research illustrates that AI tools have evolved into collaborative partners in the production of journal articles, offering efficiency, scaffolding support, and stress alleviation, while still necessitating critical oversight to uphold originality and integrity.

## Challenges Faced by Postgraduate Students in Journal Article Writing

Research consistently indicates that postgraduate students encounter a variety of challenges when writing journal articles. Zakaria, Hashim, and Zaini (2024) found that students at UKM experienced difficulties with language proficiency, adherence to academic conventions, and the integration of complex ideas. Jeyaraj (2020) noted that Malaysian postgraduate students struggled to structure their arguments and maintain originality, which negatively affected their confidence and productivity. Singh (2019) highlighted international postgraduate students experience linguistic and cultural barriers, which complicate academic writing in multilingual environments. Joseph (2025) pointed out that postgraduate students struggled with research writing due to insufficient institutional support and limited exposure to academic discourse.

Kassim and Maniam (2025) found that TESL students struggled to grasp academic vocabulary and grammar, hindering their ability to produce publishable work. Furthermore, Ahmad et al. (2025) reported that students were apprehensive about the risks of plagiarism when using AI tools. Hazari (2024) indicated that students misapplied AI-generated content due to a lack of structured guidance, leading to ethical issues. Pandya (2025) stated that fabricated references pose a significant obstacle to trusting AI-assisted writing. Together, these studies illustrate that postgraduate students face substantial obstacles in writing journal articles, ranging from language proficiency to academic integrity, underscoring the necessity for institutional support and supervisory guidance.

## Benefits of Using AI Tools in Journal Article Writing

Research has shown that AI technologies significantly enhance the process of producing journal articles. Li and Wu (2025) revealed that generative AI improved both the quality and efficiency of writing, particularly during the drafting and editing phases. Deep and Chen (2025) reported that AI technologies fostered critical thinking and writing skills among higher education students, enabling them to concentrate on originality. Kurniati and Fithriani (2022) discovered that QuillBot bolstered the confidence of non-native authors by enhancing their

vocabulary and paraphrasing abilities. Ahmad et al. (2025) found that UKM students regarded AI as beneficial during the drafting and editing stages, where it improved clarity and organization. Anani, Nyamekye, and Bafour-Koduah (2025) noted that AI tools reduced stress and boosted productivity, assisting students in meeting deadlines more efficiently.

Hazari (2024) asserted that well-structured AI literacy courses maximized these advantages by equipping students with the skills to critically assess AI outputs. Esmaeil et al. (2025) also observed that postgraduate students increasingly trusted AI technologies, viewing them as collaborative partners rather than substitutes for human judgment. AI simplified citation management, reducing referencing errors. AI offers targeted feedback to help students refine their writing style. Joseph (2025) added that AI has assisted postgraduate students in overcoming writer's block, facilitating quicker progress in preparing journal articles. These findings suggest that AI tools have the potential to improve efficiency, providing scaffolding and boosting confidence in journal article writing, making them excellent partners.

### Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) has been widely used to analyse students' acceptance of AI tools in academic writing. Originally proposed by Davis (1989), TAM encompasses perceived usefulness, perceived ease of use, attitude toward use, and behavioural intention to use. Huang and Yang (2025) conducted a critical review of TAM and its extensions, emphasizing its significance in educational settings and its capacity to elucidate technology adoption. Baharum et al. (2025) implemented TAM with Malaysian ESL learners, revealing that students exhibited positive attitudes toward AI writing tools when they regarded them as useful and userfriendly.

TAM was chosen for this research due to its well-established framework that links students' perceptions of usefulness and ease of use to their attitudes and behavioral intentions. This makes it especially appropriate for exploring the adoption of AI tools in academic writing. Furthermore, TAM has consistently demonstrated predictive power across various educational settings, confirming its relevance to postgraduate students navigating new technologies. Its focus on both the technical and psychological aspects of adoption is particularly significant for understanding how students weigh efficiency improvements against concerns about originality and integrity (King & He, 2006).

Venkatesh and Bala (2008) further developed TAM into TAM3, which clarified adoption in intricate learning environments, including higher education. King and He (2006) performed a meta-analysis that validated TAM's robustness across studies in educational technology, reinforcing its relevance to AI adoption in academic writing. Esmaeil et al. (2025) demonstrated that postgraduate students' behavioural intention to use AI tools increased with greater familiarity. Hazari (2024) contended that well-structured AI literacy programs positively impacted attitudes toward AI adoption. Anani et al. (2025) discovered that perceived usefulness was the most important predictor of ongoing AI tool usage among postgraduate students. Together, these studies indicate that TAM provides a solid theoretical framework for understanding how postgraduate students embrace AI tools, linking perceptions of usefulness and ease of use to attitudes and behavioural intentions.

## METHODOLOGY

### Research Design

As Creswell (2014) notes, "Qualitative research starts with assumptions and employs theoretical frameworks that guide the investigation of research issues concerning the meanings that individuals or groups attribute to a social or human problem" (p. 8). This research employed a qualitative design to investigate postgraduate students' awareness, usage patterns, perceived advantages, and challenges regarding AI tools in academic writing. The design was rooted in the interpretivist paradigm, which highlighted the significance of meaningmaking, lived experiences, and contextual understanding over mere quantification.

Data collection consisted of semi-structured online interviews and demonstrations of tool usage, allowing participants to highlight the distinctive features of their preferred AI applications, including ChatGPT, Grammarly, QuillBot, and Mendeley. This method aligned with Braun and Clarke's (2006) claim that qualitative researchers frequently use thematic analysis to assess perceptions and behavioral intentions for ease of use. By

focusing on narrative accounts and contextual observations, the study documented how students incorporated AI into their writing practices, their motivations for adopting it, and the ethical dilemmas they faced.

In contrast to mixed-methods designs that merge surveys with qualitative data, this study deliberately restricted its focus to qualitative inquiry to maintain depth and authenticity. The triangulation of interview transcripts and observed tool usage bolstered credibility and trustworthiness, aligning with Tracy's (2010) standards for qualitative rigor. The design also emphasized the genuine representation of participant voices, steering clear of statistical generalizations and instead highlighting experiential nuances. This framework was particularly effective for exploring emerging phenomena, such as AI-assisted academic writing, where personal narratives and situated practices offered valuable insights into how technology transformed scholarly engagement.

**Research Participants**

The study used purposive sampling to select participants who could provide valuable, relevant insights into the use of AI tools in academic writing. Purposive sampling is well-established in qualitative research for identifying and selecting information-rich cases related to the phenomenon of interest (Patton, 2002). Palinkas et al. (2015) further noted that "purposive sampling is widely used in qualitative research for the identification and selection of information-rich cases related to the phenomenon of interest" (p. 534).

The participant group consisted of approximately 6 postgraduate students from the Faculty of Education enrolled in the TESL Open and Distance Learning (ODL) program at Universiti Kebangsaan Malaysia (UKM) who participated in this interview session. This group included individuals who had varying levels of familiarity with AI technologies. This sample size was considered appropriate for qualitative research, as it allowed for an indepth investigation while remaining manageable for data collection and analysis (Guest, Bunce, & Johnson, 2006).

Purposive sampling ensured that participants volunteered based on their direct experience with AI tools such as ChatGPT, Copilot, Grammarly, QuillBot, Zerogpt, Mendeley, Perplexity, and others. This approach increased the likelihood of gathering a wide range of perspectives, from participants who extensively used AI to those who were just beginning to explore its potential. The variety of tools and experiences among participants enriched the dataset, enabling the researcher to identify both commonalities and differences across cases. By focusing on postgraduate students, the research targeted a demographic actively involved in writing journal articles and thus most likely to face both the benefits and challenges of AI integration. This sampling strategy guaranteed that the findings were in-depth, relevant, and credible.

**Research Setting**

The study was conducted in a virtual setting, using platforms such as Zoom for interviews and demonstrations. This choice reflected the real-life situations encountered by postgraduate students, who often juggled academic responsibilities with personal commitments and thus preferred the ease of online involvement. Carrying out the research in a digital format also aligned with the nature of the phenomenon under investigation, as AI tools were fundamentally digital assets integrated into students' academic routines.

Archibald, Ambagtsheer, Casey, and Lawless (2019) noted that video conferencing tools such as Zoom offered practical, flexible, and efficient methods for qualitative data collection, especially when participants were geographically dispersed or constrained by time. Likewise, Janghorban, Roudsari, and Taghipour (2014) noted that online synchronous interviews via platforms such as Skype enabled researchers to capture genuine participant experiences while ensuring convenience and accessibility. These observations reinforced the appropriateness of conducting interviews and demonstrations in a virtual setting, enabling participants to present their selected AI tools directly from their own devices.

By centring the research on UKM postgraduate students, the study included a demographic where AI literacy was increasingly fostered through peer influence, institutional education, and practical needs. The virtual environment facilitated naturalistic observation of tool usage, as students showcased features such as drafting assistance, grammar correction, paraphrasing, citation management, and scaffolding. This context ensured that data collection was both practical and relevant, while also respecting participant privacy and convenience. It

provided a rich backdrop for collecting both verbal accounts and live demonstrations of AI interaction, thereby enhancing the credibility and authenticity of the findings.

**Research Instrument**

Research instruments comprised two complementary methods: semi-structured online interviews and demonstrations. Semi-structured interviews were pivotal to qualitative research, striking a balance between structure and openness. As Kallio, Pietilä, Johnson, and Kangas (2016) noted, these interviews allowed for flexibility in exploring individual experiences while ensuring consistency among participants. Six postgraduate students were interviewed, enabling the researcher to examine their familiarity with AI tools, motivations for adoption, stages of use (drafting, editing, citation management), perceived benefits, and challenges, including accuracy, plagiarism, and over-reliance.

In addition to the interviews, participants were asked to demonstrate the unique features of their preferred AI tools during the sessions. These demonstrations provided contextual insights into tool functionality, user interaction, and practical applications in academic writing. As Adams (2015) highlighted, semi-structured interviews and complementary methods, such as observations, allowed researchers to gather in-depth information while remaining focused on research objectives. The meeting was recorded to capture how students interacted with tools such as ChatGPT, Copilot, Grammarly, QuillBot, and Perplexity AI, emphasizing both strengths and weaknesses.

This dual methodology facilitated triangulation between narrative accounts and observed practices, thereby bolstering the credibility of the findings. Ethical considerations were strictly maintained: participants provided informed consent, confidentiality was ensured, and participation was voluntary. The combination of interviews and demonstrations produced a comprehensive dataset that offered a detailed understanding of AI's role in postgraduate academic writing.

**Data Analysis**

The data were examined using Thematic analysis, a flexible and widely used method for identifying, analyzing, and documenting patterns in qualitative data. Thematic analysis provides a structured yet adaptable approach to organizing and understanding qualitative data, making it particularly suitable for emerging fields of study such as AI in academic writing. The process commenced with familiarization, during which interview transcripts and observation notes were reviewed several times to gain a thorough understanding of the dataset.

Subsequently, initial coding was performed to pinpoint significant segments related to AI familiarity, stages of use, perceived benefits, and challenges. These codes were then categorized into broader themes, such as "AI as a productivity enhancer," "Ethical concerns," "Peer influence in adoption," and "Challenges of accuracy and plagiarism." Demonstration data were combined with interview narratives to facilitate triangulation, ensuring that observed practices either supported or contradicted self-reported accounts.

Themes were refined to ensure consistency, distinctiveness, and correspondence with the study objectives. Each theme was clearly defined and named to capture its essence, ensuring that the labels accurately reflected the underlying data patterns and participants' voices. The credibility of the analysis was enhanced through triangulation, peer debriefing, and the maintenance of an audit trail documenting coding decisions, in line with Nowell, Norris, White, and Moules (2017), who highlighted the significance of rigor in thematic analysis. This analytical approach enabled both inductive insights arising directly from the data and deductive processes guided by existing literature on AI in academic writing, and was subsequently integrated into the reporting of findings with supporting participant extracts.

**Ethics**

This study strictly adhered to ethical research guidelines to safeguard participants' rights and privacy. Informed consent was obtained from all postgraduate students prior to their participation. Participation was entirely voluntary, and students retained the right to withdraw at any stage without consequence. Confidentiality was maintained by removing personal identifiers and employing pseudonyms in all reports. Data, including recordings and transcripts, were securely stored in password-protected files accessible only to the researcher.

Ethical approval was obtained from the institutional review board, and permission from the postgraduate program administration was secured before data collection commenced.

## FINDINGS

This part presents the findings of the study based on thematic analysis. The results are generated by themes to reflect participants' experience with different AI tools that they use to do journal article writing for their research. Table 1 summarises the emergent themes, codes and categories extracted from the online interview data which emphasize the key insights shared by participants within each theme.

Table 1: Emerged Codes, Categories and Themes

| **No.** | **Integrated Themes** | **Codes** | |
|---|---|---|---|
| | | **Categories** | **Students' Perspectives** |
| 1. | Perceived Usefulness | Clarity, writing enhancement and formulating ideas | Structuring the paragraphs, ensuring coherence and developing ideas |
| | | Grammar refinement | Enhance grammar, stylistic tone, plagiarism check and linguistic accuracy. |
| 2. | Perceived ease of use | Intuitive design of AI tools | Minimizes cognitive load, promotes ongoing engagement and implicity of the interface |
| | | Peer and institutional influence | Peers succeed with AI, exchanges served as catalysts and explore new platforms |
| 3. | Attitude towards Use | Confidence and motivation in writing journal article | Enhanced students' confidence and boosting self-confidence for writing |
| 4. | Behavioural intentions | Patterns of engagement | Personal utility and societal norms, responding to the changing needs and daily engagement. |
| 5. | Challenges the postgraduate students encounter when using AI-assisted academic writing tools? | Reliability and Citation Error Issues | Trustworthiness of AI generated references and inaccurate citations |
| | | Over reliance on AI tools | Potential for excessive reliance and ethical integration necessitates |
| | | Risk of misconception | Difficulties in accurately interpreting and generated generic content |

Table 1 outlines the categories, codes, and themes from online interviews conducted via Zoom with UKM's postgraduate students about their experiences using AI tools in writing their journal articles. The first theme, Perceived usefulness, shows students' understanding of how AI tools enhance their writing clarity, help formulate ideas, save time, provide drafting assistance, and improve grammar. The second theme, Perceived ease of use, indicates intuitive design of AI tools, familiarity levels, exploration of new tools, and peer and institutional influence. The third theme is Attitude Toward Use, which reflects participants' confidence in writing journal articles and their motivation to write, and this reinforced the students' positive attitude. The fourth theme, Behavioural Intention, reflects the strength of students' intentions to use AI tools and the pattern of engagement observed at various stages of the writing process. The following section offers an in-depth exploration of each theme along with its subthemes. Key excerpts from postgraduate participants in the Zoom interviews are included to highlight significant insights, followed by an interpretive analysis of how their experiences

influenced their confidence, motivation, attitudes, and intentions regarding the adoption of AI tools in writing journal articles.

**Perceived Usefulness**

This theme reflects learners' views on the practical advantages and significance of using AI tools in journal article writing. It illustrates the enhancements that postgraduate students at UKM observed in clarity, writing, and grammar, as well as in the formulation of writing ideas, to ensure a smooth writing process. These experiences underscore the role of AI tools in supporting independent learning and their alignment with the Technology Acceptance Model (TAM) concept of Perceived Usefulness (Davis, 1989; Venkatesh & Davis, 2000).

**Clarity, writing Enhancement and formulating ideas**

Participants consistently highlighted the transformative impact of AI tools on disorganized thoughts, enabling them to be converted into structured academic writing. Participant 4 remarked, "It assists me in articulating chaotic thoughts into clearer sentences," while Participant 2 noted, *"QuillBot enhances the academic quality of my phrasing."* In a similar vein, Participant 1 noted that *"Copilot indicates the path I should take,"* particularly when faced with uncertainty about how to begin their writing. These insights demonstrate how AI aids in structuring paragraphs, enhancing coherence, and improving clarity, especially for students dealing with intricate concepts. The ability to revise autonomously without waiting for feedback was particularly appreciated by ODL learners. These observations are consistent with the findings of Das & Chen (2025), who contend that AI improves clarity and coherence, particularly for non-native writers. Participants also noted that AI offered prompts, suggestions, and alternative perspectives that aided brainstorming and alleviated writer's block. Participant 4 commented, *"It stimulated my critical thinking abilities, allowing me to produce higher quality writing."* Similarly, Participant 6 expressed, *"AI assists me in generating a greater number of ideas, occasionally providing insights I had not previously considered."* Participant 2 elaborated that she frequently depended on ChatGPT or Gemini, stating, *"I typically draft my ideas initially, and the AI then expands upon them for me,"* prior to reviewing journal articles. This highlights how AI served as a springboard for more profound exploration. These observations align with the research of Gao et al. (2025), who found that AI-assisted tools provide cognitive scaffolding by promoting idea generation and reflection. They also correspond with the work of Cheng, Calhoun, & Reedy (2025), who underscore AI's function in providing "direction" during instances of writer's block, enabling learners to advance confidently in their academic writing.

**Grammar Refinement**

Participants appreciated AI for its ability to enhance grammar and stylistic tone. Participant 3 said, *"I always use Grammarly in the final stage to check my grammar and improve the sentence flow".* Besides, Participant 1 also demonstrated the updated features of Grammarly, which corrected the grammar mistakes and checked for plagiarism. Participant 2 shared in the online interview that *"I utilize QuillBot to improve sentence structures".* Participant 4 mentioned that *"I value how AI makes my writing sound more natural and cohesive."* Participant 6 further explained that *"ZeroGPT assisted me in humanizing the text by substituting overly formal language with more genuine expressions".* These tools were especially beneficial for second-language writers, helping improve linguistic accuracy and maintain personal expression. This is consistent with the findings of Zhang et al. (2025), who indicated that AI tools encourage independent language refinement and critical thinking. Moreover, participants noted that AI reduced the need for ongoing peer or supervisor feedback, enabling them to advance autonomously with greater confidence. This illustrates that grammar-focused AI tools not only enhance language but also empower learners to take charge of their writing development.

**Perceived Ease of Use**

This theme captures students' views on the ease of adopting and using AI tools for academic writing. It mirrors their experiences with the intuitive design of AI tools and peer and institutional influence. These elements influenced their comfort, efficiency, and confidence in interacting with AI, in line with the Technology Acceptance Model's Perceived Ease of Use construct (Davis, 1989; Venkatesh & Davis, 2000).

**Intuitive Design of AI Tools**

Most of the participants commended the user-friendly design of AI tools during the online interview via Zoom. Participant 3 demonstrated the updated Grammarly interface, remarking, *"It simplifies my tasks as a teacher, and I believe it does the same for all its users."* Participant 2 demonstrated by sharing her screen during the online meeting and showing QuillBot's various modes, such as academic, formal, and simple writing formats, which enabled her to customize outputs. Participant 1 favored Copilot's interface over ChatGPT, describing it as *"I feel it's more engaging and easier to navigate."* Participant 6 noted ZeroGPT's paraphrasing feature, which visually highlights the words that are altered, stating, *"It humanizes my text and makes it authentic."* These experiences illustrate that intuitive design minimizes cognitive load and promotes ongoing engagement. Luo et al. (2025) affirm that usability and simplicity of the interface are essential factors influencing technology adoption in higher education. Participants also noted that clear layouts and user-friendly features reduced frustration, allowing them to focus more on the content rather than technical obstacles. This indicates that design simplicity not only facilitates adoption but also fosters long-term trust and reliance on AI tools in academic writing.

**Peer and Institutional Influence**

Peer influence significantly impacted the AI adoption process. Participant 3 shared *"I gained insights into AI through ResearchGate and academic writing groups among my friends", meanwhile* Participant 5 shared that *"I was first introduced to Copilot through one of my friends while* preparing to complete some tasks". Participant 4 initially surprised after witnessing her classmates effectively utilize AI under tight deadlines, stating, *"I was sceptical, but one day I had to rely on AI because of a deadline, and it helped." Participant 2* mentioned that *"I frequently discovered new tools by scrolling through videos and while observing how my friends utilize them for writing".* These observations underscore the role of peer networks and institutional exposure in normalizing AI usage. Furthermore, participants highlighted that witnessing their peers succeed with AI eliminated their reluctance and motivated them to explore new platforms. Consequently, institutional workshops and informal peer exchanges served as catalysts, hastening adoption and integrating AI into routine writing practices. Xue, Mahat, Ghazali, & Shi (2025) assert that peer influence and institutional training are crucial facilitators of TAM adoption in higher education.

**Attitude Towards Use**

This theme encapsulates learners' perspectives on AI tools, illustrating how their experiences have influenced their confidence and motivation in writing journal articles. Structured support and interactive feedback played a significant role in fostering positive dispositions, which aligns with the Technology Acceptance Model's assertion that perceived usefulness and ease of use promote favourable attitudes (Davis, 1989)

**Confidence and Motivation in Writing Journal Article**

AI tools have significantly enhanced students' confidence in their writing, especially in journal articles. Participant 4 referred to AI as a *"supportive companion " and said, "AI is my supportive companion, and it gives me confidence while preparing my journal article,"* which assured her that her drafts were refined. Participant 3 shared that *"The corrections from Grammarly instilled in me the confidence to submit my manuscripts".* Participant 2 also highlighted that *"AI tools made me feel more assured about my grammar accuracy as a nonnative speaker".* Participant 1 stated, *"It gives me confidence that my paragraphs are clear and coherent."* These accounts illustrate that AI tools reduce anxiety and boost self-confidence, especially for non-native writers. Many participants also noted that their confidence increased when AI-generated outputs aligned with their supervisors' feedback, thereby reinforcing their trust in these tools. This suggests that AI can serve as a valuable addition to traditional academic support systems, enhancing learners' confidence in their writing skills. Falebita & Kok (2024) found that AI tools significantly bolster confidence by providing immediate feedback and reducing uncertainty in academic writing. Motivation was boosted through interactive feedback and scaffolding. Participant 4 mentioned that *"AI provided me the direction when I feel stuck."* Meanwhile, Participant 6 stated, *"ChatGPT's recommendations have inspired me to continue revising."* Participant 2 shared, *"AI is making my writing less overwhelming and more manageable,"* which motivated her to engage more actively with her drafts. Participant 5 also highlighted that *"Copilot encouraged me to explore its special features in writing a journal article and refining them".* Participants also remarked that motivation remained high when AI outputs ignited new ideas, rendering the writing process more creative and less mechanical. This indicates

that AI tools can serve as catalysts for deeper engagement, prompting learners to persevere through difficult phases of writing. Intrinsic motivation is strengthened when learners view AI as beneficial and user-friendly.

**Behavioural Intentions**

This theme encapsulates learners' intentions for using AI tools, illustrating their patterns of engagement. It emphasizes the strength of students' intentions to use AI tools and the pattern of engagement observed at various stages of the writing process. These results are consistent with the behavioral intention construct of the Technology Acceptance Model (TAM) as proposed by Venkatesh et al. (2012). Participants consistently indicated that AI would remain a component of their writing resources, with their intentions shaped by both personal benefits and institutional support. This indicates that behavioural intention is not solely an individual matter but is also reinforced by social and contextual factors.

**Patterns of Engagement**

Engagement patterns ranged from occasional to daily. Participant 1 used AI sometimes when encountering unfamiliar subjects, whereas Participants 2 and 4 reported using it frequently or almost constantly. Participant 5 noted daily engagement, particularly for writing and while creating bilingual modules. Participant 3 employed AI at specific milestones, like moving from rough notes to refined drafts. Participant 6 mentioned that she frequently used AI during the drafting and editing phases, but less so during analysis. These patterns indicate a writing process, with intensity influenced by deadlines, confidence, and institutional training. Participants also pointed out that engagement was adaptable, with usage increasing during high-pressure situations and decreasing when tasks demanded more critical thinking. This illustrates that AI adoption is fluid, responding to learners' changing needs and contexts. Zuo et al. (2025) emphasize that engagement is shaped by contextual factors, including deadlines, peer networks, and institutional support.

**Challenges of Using AI Tools in Journal Article Writing**

Although students recognized the benefits and convenience of AI tools, various challenges emerged, shaping their cautious perspectives and underscoring the need for critical engagement. These challenges encompassed citation inaccuracies, concerns about dependency, and misinterpretation of results. Collectively, they expose the limitations of AI in academic writing and highlight the significance of human judgment and institutional support.

**Over Reliance and Citation Error Issues**

Participants frequently expressed concerns about the reliability and precision of AI-generated references, highlighting potential threats to academic integrity. Participant 2 noted that *"at times, the citations appear authentic, but upon verification, they are non-existent,"* while Participant 1 commented that *"Copilot occasionally produced incomplete or outdated references, necessitating manual verification."* In a similar vein, Participant 6 stressed the importance of validation, asserting that while AI can suggest sources, *"I still need to cross-check everything with Google Scholar or Scopus."* These narratives underscore the risks of false or erroneous citations, resonating with the warnings of Gao et al. (2025), who argue that uncritical reliance on AIgenerated references could jeopardize scholarly credibility. In addition to citation-related concerns, students reported challenges in interpreting AI-generated outputs. Participant 2 articulated that *"sometimes the suggestions do not align with the context of my paper, requiring me to rephrase them,"* whereas Participant 1 observed that AI frequently generated vague or generic content that demanded significant revision to fit his research focus. Participant 6 further shared that paraphrased text sometimes *"lost the intended meaning,"* necessitating manual rewriting. Collectively, these experiences highlight the potential disconnect between AI outputs and academic standards, especially in specialized research areas. Cheng, Calhoun, and Reedy (2025) support this viewpoint, emphasizing that AI should be viewed as a drafting tool rather than a definitive source, requiring active human interpretation to ensure accuracy, relevance, and scholarly rigor.

# DISCUSSION

**RQ1: How does the Technology Acceptance Model (TAM) explain postgraduate students' acceptance of AI-assisted academic writing tools at Universiti Kebangsaan Malaysia (UKM) in terms of perceived usefulness, perceived ease of use, attitude towards use and behavioural intentions.**

In this finding, the Technology Acceptance Model (TAM) serves as a valuable framework for understanding the acceptance of AI-assisted academic writing tools among postgraduate students at Universiti Kebangsaan Malaysia (UKM). The findings indicate that perceived usefulness emerged as a primary factor influencing adoption, with students consistently noting enhancements in clarity, idea generation, time efficiency, drafting assistance, and grammar correction. These tangible advantages not only alleviated cognitive load but also empowered learners to operate autonomously, in line with TAM's proposition that perceived usefulness fosters technology acceptance (Davis, 1989; Venkatesh & Davis, 2000). Comparable outcomes have been documented in various settings, where AI tools facilitated improved clarity and coherence for non-native writers (Das & Chen, 2025; Ahmad et al., 2025). Equally significant was the perceived ease of use, which influenced students' comfort and confidence in engaging with AI. Levels of familiarity varied, with some students taking on the role of early adopters while others approached the tools with caution; however, the user-friendly design of applications such as Grammarly, QuillBot, and Copilot reduced frustration and promoted ongoing interaction. Additionally, peer and institutional influences further bolstered the perception of ease of use, normalizing AI adoption through workshops and informal discussions (Xue, Mahat, Ghazali, & Shi, 2025; Baharum, Aziz, & Awang, 2025). These results resonate with broader TAM research, which underscores the importance of usability and contextual support in technology adoption (King & He, 2006; Huang & Yang, 2025). Collectively, these factors shaped students' attitudes towards usage, which were predominantly positive when AI was viewed as a supportive ally rather than a replacement for creativity. Confidence and motivation were enhanced by immediate feedback, diminished anxiety, and scaffolding during challenging writing stages (Anani, Nyamekye, & BafourKoduah, 2025). Institutional exposure and deadlines further solidified positive attitudes, illustrating TAM's assertion that usefulness is a key determinant in technology acceptance.

**RQ2: What challenges do postgraduate students encounter when using AI-assisted academic writing tools?**

In this finding, the postgraduate students at Universiti Kebangsaan Malaysia (UKM) encountered several challenges when using AI-assisted academic writing tools, despite acknowledging their usefulness. A primary concern was reliability and citation errors, as participants reported instances of fabricated or incomplete references generated by tools such as Copilot. These inaccuracies required manual verification in databases such as Google Scholar or Scopus, underscoring the risks to academic integrity. Similar findings have been highlighted in prior studies, which caution that unexamined reliance on AI-generated citations can undermine scholarly credibility (Das & Chen, 2025; Ji et al., 2023). This reflects broader debates on the misuse of AI in academic writing, where hallucinated sources remain a persistent issue (Vasic, 2025). Another challenge was over-reliance on AI tools, with students expressing concern that dependence might erode their critical thinking and originality. While AI provided drafting support and reduced anxiety, participants emphasized the importance of maintaining human agency in the writing process. This aligns with Adamakis and Rachiotis (2025), who argue that ethical integration of AI in higher education requires balancing technological assistance with independent intellectual effort. Finally, students faced the risk of misinterpretation, as AI outputs were sometimes vague, generic, or contextually inappropriate. Participants noted that paraphrasing occasionally distorted the intended meaning, necessitating extensive revisions. Cheng, Calhoun, and Reedy (2025) similarly stress that AI should be treated as a drafting aid rather than a definitive source, requiring active human judgment to ensure alignment with disciplinary standards. Collectively, these challenges highlight the need for structured AI literacy programs (Hazari, 2024; Springer, 2025) and supervisory guidance (Pandya, 2025) to foster responsible use. While AI tools offer significant benefits, postgraduate students must critically engage with outputs to safeguard academic integrity and preserve originality in scholarly writing.

# CONCLUSION

The incorporation of Artificial Intelligence (AI) into academic writing is reshaping postgraduate students' engagement in scholarly communication. This conceptual study at Universiti Kebangsaan Malaysia (UKM) highlights both the benefits and challenges of AI adoption. Tools such as ChatGPT, Copilot, Grammarly, QuillBot, and Mendeley enhance efficiency, accuracy, and confidence, particularly for students with varying English proficiency, aligning with broader findings that AI improves clarity, organization, and fluency in higher education. However, ethical concerns—including fabricated references, plagiarism risks, and diminished academic voice—underscore the need for critical validation and supervisory oversight to safeguard integrity.

The study introduces a conceptual framework grounded in the Technology Acceptance Model (TAM), emphasizing perceived usefulness, ease of use, writing self-efficacy, and ethical awareness as key factors influencing AI adoption. It stresses the importance of cultivating digital literacy to critically evaluate AI outputs and prevent misconduct, while urging institutions to establish clear policies and structured AI literacy programs. Recommendations include supervisor-led guidelines, training workshops on ethical citation and academic voice, and longitudinal research to examine the long-term impact of AI on writing practices and scholarly identity.

This research was based on a small sample of six participants, as the postgraduate course is conducted entirely online with working adult learners. Although approximately 20 students were enrolled, many could not commit to interviews due to professional obligations, so the lecturer proceeded with the minimum feasible number. This limited qualitative scope constrains generalizability.

To strengthen validation, future studies should adopt mixed-method approaches and larger samples across diverse cohorts. Longitudinal designs are particularly recommended to capture evolving writing habits, integrity concerns, and scholarly identity over extended periods of AI use.

# REFERENCES

1. Adams, W. C. (2015). Conducting Semi-Structured Interviews. In K. E. Newcomer, H. P. Hatry, & J. S. Wholey (Eds.), Handbook of Practical Program Evaluation (pp. 492–505). Jossey-Bass.
2. Adamakis, M., & Rachiotis, T. (2025). Artificial Intelligence in Higher Education: A State-of-the-Art Overview of Pedagogical Integrity, AI Literacy, and Policy Integration. Encyclopedia,5(4),180.
3. Ahmad, A. A. E., et al. (2025). Understanding Student Perception Regarding the Use of ChatGPT in Argumentative Writing: A Qualitative Inquiry. Universiti Kebangsaan Malaysia Journal.
4. Anani, G. E., Nyamekye, E., & Bafour-Koduah, D. (2025). Using artificial intelligence for academic writing in higher education: the perspectives of university students in Ghana. Discover Education, 4(46).
5. Archibald, M. M., Ambagtsheer, R. C., Casey, M. G., & Lawless, M. (2019). Using Zoom Videoconferencing for Qualitative Data Collection: Reflections and Recommendations. International Journal of Qualitative Methods, 18, 1–8.
6. Baharum, N. D., Aziz, R. A., & Awang, S. (2025). Malaysian ESL Learners' Perceptions of WAAT Implementation in Academic Writing Using TAM. UiTM Journal.
7. Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77–101.
8. Cheng, A., Calhoun, A., & Reedy, G. (2025). Artificial intelligence-assisted academic writing: recommendations for ethical use. BMC Medical Education.
9. Creswell, J. W. (2014). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (4th ed.). SAGE Publications.
10. Das, P. D., & Chen, Y. (2025). The Role of AI in Academic Writing: Impacts on Writing Skills, Critical Thinking, and Integrity in Higher Education. Societies, 15(9), 247.
11. Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. MIS Quarterly.
12. Deep, P. D., & Chen, Y. (2025). The Role of AI in Academic Writing: Impacts on Writing Skills, Critical Thinking, and Integrity. Societies.

13. Esmaeil, A. A. A., et al. (2025). AI Tools and Postgraduate Academic Writing Practices. UKM Research Report.
14. Falebita, O. A., & Kok, A. (2024). Artificial intelligence–assisted academic writing: Effects on learner confidence and feedback responsiveness. *Journal of Educational Technology & Society, 27*(2), 89–102.
15. Gao, X., Li, Y., Chen, W., & Huang, R. (2025). Generative artificial intelligence in academic research: Opportunities, risks, and ethical challenges. *Computers and Education: Artificial Intelligence, 6*, 100156. https://doi.org/10.1016/j.caeai.2025.100156
16. Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. Field Methods, 18(1), 59–82
17. Hazari, S. (2024). Justification and Roadmap for Artificial Intelligence (AI) Literacy Courses in Higher Education. ERIC.
18. Huang, B., & Yang, Y. (2025). Revisiting the Technology Acceptance Models: A Critical Evaluation and Their Educational Applications. AJESS.
19. Janghorban, R., Roudsari, R. L., & Taghipour, A. (2014). Skype Interviewing: The New Generation of Online Synchronous Interview in Qualitative Research. International Journal of Qualitative Studies on Health and Well-being, 9(1), 24152.
20. Jeyaraj, J. J. (2020). Academic Writing Needs of Postgraduate Research Students in Malaysia. Malaysian Journal of Learning and Instruction.
21. Ji, Z., Lee, N., Frieske, R., Yu, T., Su, D., Xu, Y., Ishii, E., et al. (2023). A survey of hallucination in natural language generation.
22. Joseph, J. J. (2025). It's A Jungle Out There: Challenges in Postgraduate Research Writing. GEMA Online Journal.
23. Kallio, H., Pietilä, A. M., Johnson, M., & Kangas, M. (2016). Systematic methodological review: Developing a framework for a qualitative semi-structured interview guide. Journal of Advanced Nursing, 72(12), 2954–2965.
24. Kassim, Z. S., & Maniam, M. (2025). Language Proficiency of TESL Students in a Malaysian Public Education University. IJARBSS.
25. King, W. R., & He, J. (2006). A Meta-Analysis of the Technology Acceptance Model. Information & Management.
26. Kurniati, E. Y., & Fithriani, R. (2022). Post-Graduate Students' Perceptions of Quillbot Utilization in English Academic Writing Class. Journal of English Language Teaching and Linguistics.
27. Li, H., & Wu, X. (2025). The use of generative AI tools in academic writing: A systematic review. AI and Ethics.
28. Luo, T., Xie, Q., & Zhang, M. (2025). Understanding technology adoption in higher education: The role of usability and interface simplicity in AI tools. *Educational Technology Research and Development, 73*(1), 211–229. https://doi.org/10.1007/s11423-024-10389-6
29. Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. Administration and Policy in Mental Health and Mental Health Services Research, 42(5), 533–544.
30. Pandya, K. (2025). Ethical Challenges of Generative AI in Academic Writing. International Journal of Scientific Advances in Technology (IJSAT).
31. Patton, M. Q. (2002). Qualitative Research & Evaluation Methods (3rd ed.). Thousand Oaks, CA: Sage.
32. Singh, M. K. M. (2019). Academic Reading and Writing Challenges Among International EFL Master's Students in a Malaysian University. Journal of International Students.
33. Springer. (2025). Cultivating AI Literacy in Higher Education Students: A Four-Step Framework. In AI in Higher Education Institutions
34. Tracy, S. J. (2010). Qualitative quality: Eight "big-tent" criteria for excellent qualitative research. Qualitative Inquiry, 16(10), 837–851.
35. Vasic, M. (2025). The Misuse of AI in Academic Writing: Fabricated Citations and Sources in Student Papers. Journal of Academic Integrity and Research Ethics, 12(4), 45–58
36. Venkatesh, V., & Bala, H. (2008). Technology Acceptance Model 3 and a Research Agenda on Interventions. Decision Sciences.
37. Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the Technology Acceptance Model: Four longitudinal field studies. Management Science, 46(2), 186–204.

38. Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. MIS Quarterly, 36(1), 157–178.
39. Xue, L., Mahat, H., Ghazali, N., & Shi, Y. (2025). AI adoption in higher education: Extending TAM with ethical and contextual factors. Journal of Educational Technology Research, 38(1), 45–62.
40. Zakaria, N. Y. K., Hashim, H., & Zaini, M. H. (2024). Exploring the Postgraduate Students' Challenges and Needs in Learning Academic Writing. IJARBSS
41. Zhang, L., Wang, S., & Liu, H. (2025). AI-assisted writing tools and their impact on learner autonomy and critical language development. *System, 118*, 102965. https://doi.org/10.1016/j.system.2025.102965
42. Zuo, M., Sun, Y., & Zhao, K. (2025). Contextual determinants of student engagement with AI-supported learning environments. *British Journal of Educational Technology, 56*(2), 684–701. https://doi.org/10.1111/bjet.13492