

**THE IMPACTS OF GENERATIVE AI ON ACADEMIC WRITING  
DEVELOPMENT AMONG POSTGRADUATE EFL LEARNERS****Kristian Florenso Wijaya<sup>1\*</sup>, Marshinel Shiwani Nelson<sup>2</sup>**<sup>1</sup>kristianwijaya500@gmail.com, <sup>2</sup>marshaniel@gmail.com<sup>1</sup>CITA HATI INTERNATIONAL SCHOOL, SAMARINDA CITY, INDONESIA<sup>2</sup>DELHI UNIVERSITY, NEW DELHI, INDIA

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**ABSTRACT**

This study examines the impact of generative AI on the development of postgraduate EFL learners' academic writing skills. As artificial intelligence becomes increasingly integrated into language education, generative AI is believed to support writing processes and enhance learner engagement. This study aims to explore how generative AI influences academic writing development among postgraduate EFL learners. A qualitative library research design was employed, analyzing 30 peer-reviewed journal articles published between 2024 and 2025. The data were examined using thematic analysis following Braun and Clarke's framework, with open coding applied to ensure analytical rigor. The findings suggest that generative AI positively impacts learners' analytical and critical writing abilities, particularly in improving coherence, idea organization, and error identification. It also contributes to the development of positive learning behaviors, including increased confidence, autonomy, and persistence in overcoming writing challenges. These findings indicate that the integration of generative AI can support more strategic and adaptive academic writing practices, offering valuable implications for language educators.

*Keywords:* Academic writing, Postgraduate EFL learners, Generative AI, Library study, Thematic analysis

**A. INTRODUCTION**

Academic writing enterprises require university EFL learners to effectively integrate the proper use of cohesive language expressions, terminology, grammar, and diction in their designated texts. Gupta et al. (2022) highlight the crucial role of embedding university EFL writers with the decent incorporation of compatible linguistic devices and other essential academic writing aspects, such as conventions, coherence, and cohesion, to generate qualified writing products for the targeted readers' contexts. Thus, second language educationalists should be more mindful, innovative, and critical before devising their specifically made academic writing learning materials. By doing so, they are more likely to promote more convivial, interactive, and meaningful academic writing classroom climates to the entire university learning community. The above-suggested recommendation aligns

with Aldabbus and Almansouri (2022) advocating that university second language teachers ensure the harmonious interplay between their particularly-designed academic writing learning materials with learners' particular writing needs, preferences, and levels, by which they maximize their academic writing proficiency to the greatest potential.

One of the inevitable pedagogical breakthroughs that can be incorporated to actualize these meritorious academic writing learning rewards is through the dissemination of effective, technologically-driven tools. With the supportive accompaniment of efficient technologically-based learning platforms, university EFL learners are more willing to showcase more proactive and productive academic writing learning participations. The entrenchment of these two laudable characteristics is attributed to the dissemination of sound and emotionally supportive academic writing activities. This advantageous benefit concurs with Xiao et al. (2025) theorizing that it is of key importance for target language educators to immerse university EFL learners into an intensive series of digital-based academic writing learning dynamics, with which they begin experiencing a higher degree of writing enjoyment. Pertaining to such contention, the utilization of generative AI can potentially pave a rewarding pathway for university EFL learners aspiring to transform into more competent academic writers. This probability is more likely to occur since the specified academic writing models habituate university EFL learners to ensure the progressive advancement of their writing knowledge, skills, and experiences. This conception is in agreement with Choudhury and Shamszare (2023), articulating that in the support of generative AI, university EFL academicians are assisted while conveying their particular thoughts to the scope of larger readers' contexts, through which they will be more aware of newly-acquired writing conceptions to be further implemented in their academic writing compositions.

When applied accordingly, generative AI served as a major driving force for university EFL learners to shift into more fluent, efficient, and accurate academic writers. Oulamine et al. (2025) have likewise emphasized the paramount role of generative AI responding to these ever-changing academic writing learning dynamics, by which university EFL learners take their utmost efforts to hone their fluency, efficiency, and preciseness to the fullest growth. In postgraduate EFL learners' academic writing contexts, generative AI stands as a powerful solution for assisting university EFL academicians to produce widely accepted academic writing products. This promising assurance does not happen incidentally since generative AI acts as a mutual companion while assisting university EFL learners' proofreading process. This proofreading process plays a pivotal role in generating qualified academic writing compositions, in which university EFL learners habituate themselves to be more critical and analytical while spotting varied errors forming in their already-made texts. Barasa (2024) postulates that generative AI serves an indispensable role in reducing extensive academic writing mistakes among university EFL learners, through which they are acclimated to discover the so-called errors accurately.

The aforesaid benefit is tightly interwoven with Ho (2024), asserting that generative-oriented AI feedback plays a crucial role in establishing more conscientious, mindful, and thoughtful learning characters among postgraduate EFL learners since they have gained an exhaustive awareness of not repeating their previously pinpointed academic writing errors. In a similar vein, generative AI plays an indispensable role in cultivating robust academic writing confidence, motivation, and accountability within postgraduate EFL learners. Walid et al. (2025) suggest that second language university educationalists arm postgraduate EFL

learners with a comprehensive understanding of generative AI, by which they are eager to enforce more profound discovery toward their specifically-assigned academic writing topics.

Despite its rewarding benefits, the use of generative AI in today's academic writing learning enterprises also suffers from ample challenges. Due to the overreliance on generative AI, postgraduate EFL learners gradually diminish their critical, analytical, problem-solving, and decision-making skills. This main hindrance is tightly interwoven with Dhimolea et al. (2022) uncovering that the predominant number of postgraduate EFL learners started to dwindle their intensive practices toward their higher-order thinking skills development, resulting in the generation of superficial and inauthentic academic writing compositions. This serious academic writing learning obstacle is further compounded by the instant nature of digital feedback imparted by generative AI. The downside of acquiring this immediate input is that postgraduate EFL learners insistently degrade their academic writing confidence as they fully entrust all these conceptions shared by the generative AI tools without questioning their credibility, authenticity, and relevancy in their divergent academic writing tasks. Gloria and Mbato (2023) prompt Indonesian university EFL lecturers to encourage their learners not to rigorously rely on generative AI integration in every academic writing aspect they are dealing with to maintain their self-confidence, resilience, and persistence while being bombarded with unpredictable academic writing hurdles.

To cultivate the optimal internalization of generative AI in these ever-changing academic writing learning enterprises, second language educators should design clearer, more comprehensible, and more contextualized digital-based learning guidelines at the commencement of their regular classroom environments. The above-elaborated standpoint is parallel with Mitchell et al. (2023) adducing that it is becoming incessantly paramount for target language educationalists to acclimate university EFL learners with the judicious utilization of generative AI before commissioning them in a vast variety of complex academic writing text composition process, by which they will be granted with precious opportunities to elevate their higher-order thinking skills to more advanced growth. It is worth keeping in mind that target language educationalists still need to address supportive academic writing learning assistance to postgraduate EFL learners, irrespective of the constant application of generative AI. Jiang and Kalyuga (2022) recommend that second language university educators continuously impart mutual, solid, relevant, and supportive academic writing learning assistance amidst generative AI internalization, through which postgraduate EFL learners begin to be more profoundly aware of their specific writing strengths and weaknesses.

Liu et al. (2022) underscore the paramount role of devising more innovative, interactive, and relevant academic writing learning enterprises amid the activation of generative AI, through which university EFL learners are more vibrant at honing their academic writing skills. This scaffolded academic writing learning instruction is an important catalyst for magnifying Postgraduate EFL learners' lifelong writing character. It can be stated that way since postgraduate EFL learners start embracing a wide variety of academic writing task complexities, with which they believe to attain more highly-achieving learning outcomes. Fleckenstein et al. (2023) state that generative AI serves as a supportive assistance for university EFL learners wishing to become more resourceful, competent, and well-rounded academic writers since they are willing to handle the designated writing barriers with robust confidence. With an enlightenment of this supportive academic writing learning assistance, postgraduate EFL learners will loosely detach from their university teachers' writing support. Meaning to say, postgraduate EFL learners no longer depend intensively on their

academic writing instructors' help as they have been skillful at orchestrating a vast range of efficient writing strategies harmonious with their writing tasks. Moussa and Belhiah (2024) assert that generative AI is a propelling force for university EFL learners to make the progressive transformation toward their self-reliant writing learning attribute as they decisively stipulate prudent decision-making outcomes and effective problem-solving strategies while confronting some unprecedented writing impediments.

Although a growing body of research (Gupta et al., 2022; Aldabbus & Almansouri, 2022; Xiao et al., 2025; Choudhury & Shamszare, 2023; Oulamine et al., 2025; Ho, 2024) has documented the pedagogical potential of generative AI in enhancing EFL learners' academic writing, most existing studies have primarily examined undergraduate learners and general academic writing contexts. Consequently, empirical evidence that systematically synthesizes how generative AI contributes to academic writing development among postgraduate EFL learners remains limited. Addressing this gap, the present qualitative library-based study aims to investigate the impacts of generative AI on postgraduate EFL learners' academic writing development by synthesizing findings from recent empirical research. Accordingly, this study seeks to answer the following research question: What impacts does generative AI have on the academic writing development of postgraduate EFL learners?

## **B. METHOD**

This study employed a qualitative library analysis to examine how generative AI contributes to the development of postgraduate EFL learners' academic writing skills. With the help of a library analysis approach, the researcher can potentially generate more believable, dependable, and relevant results as profound data checking is constantly conducted. Klassen et al. (2012) avouch that a library analysis method plays an essential role in promoting more trustworthy, reliable, and relatable findings, by which the researchers are obliged to incorporate exhaustive data evaluation. To strengthen the analytical process, the study also adopted thematic analysis as the primary data analysis technique. This approach facilitated the identification, organization, and interpretation of recurring patterns across the selected studies. Following Braun and Clarke's (2022) framework, the reviewed literature was systematically coded and grouped into thematically related categories, allowing for a coherent synthesis of findings relevant to generative AI use in postgraduate EFL academic writing contexts. In addition, open coding was applied during the initial stage of analysis to reduce potential data inconsistencies and to ensure that salient concepts emerging from the literature were accurately captured. As emphasized by Nowell et al. (2017), open coding is essential for maintaining analytical rigor and transparency in qualitative synthesis.

There are three consecutive data selection processes employed in the thematic analysis. Firstly, the researcher selected relevant scientific works depicting empirical evidence concerning the impacts promoted by generative AI in developing postgraduate EFL learners' academic writing skills. All these selected articles were taken from reputable journal article platforms such as Research Gate, Taylor & Francis, Elsevier, and Frontiers in Education. Upon choosing these published works, the researcher typed the following keywords in Google Scholar: EFL writing learning processes, writing development, and automated writing evaluation. Secondly, the researcher conducted repetitive, deep, and critical data analysis regarding the prior findings. In this phase, the researcher immediately categorized some identical findings into several themes as recurring data patterns have been noticed. This data analysis stage is beneficial for addressing understandable, accurate, and relevant research outcomes to the targeted research stakeholders since emerging key sentences,

phrases, and words are explained explicitly in accord with the previously-organized data. Finally, the researcher synthesized his descriptive data description with sound theoretical frameworks and supportive prior findings. By doing so, the designated research stakeholders can precisely identify the mutual connectivity among the thematically-explained findings, resulting in the significant enhancement of reliability, transparency, and replicability of attained outcomes.

The study applied specific inclusion and exclusion criteria in selecting the reviewed articles. For inclusion, 30 peer-reviewed journal articles published between 2024 and 2025 were selected from reputable national and international databases. These studies were chosen to ensure the relevance and recency of findings related to the use of generative AI in postgraduate EFL academic writing contexts. For exclusion, conference papers, dissertations, and non-peer-reviewed studies were omitted, along with articles published before 2024. These criteria were applied to maintain the quality, consistency, and reliability of the data. As a result, the selected studies provided a focused and evidence-based foundation for analyzing the impact of generative AI on postgraduate EFL learners' academic writing development.

Ultimately speaking, the researcher refrained from expounding the thematically-oriented findings based on his personal contentions, viewpoints, arguments, and ideas. For this reason, the researcher employed a descriptive data delineation procedure while explicating the thematically-subsumed research results. With the supportive endorsement of a descriptive data approach, the researcher is more prone to preserve the validity, authenticity, and originality of each finding as he only reported all the factual findings based on the research outcomes addressed by the previous researchers.

### **C. FINDINGS AND DISCUSSION**

The researcher came up with two specific research themes after accomplishing the thematic analysis process alluded to in the previous section: (1) Generative AI as a catalyst for cultivating proficient academic writing skills among postgraduate EFL learners, and (2) Generative AI is an enabler for reinforcing postgraduate EFL learners' positive academic writing behaviors. More in-depth findings can be spotted in these subsequent lines. In the first research theme, the researcher expounded the indispensable role of generative AI in embedding more proficient academic writing skills among postgraduate EFL learners. The attainment of this invaluable academic writing learning outcome took place since generative AI insistently habituated postgraduate EFL learners to be more analytical and critical writers in their text composition processes. It can be clearly discerned from their ability to create a mutual interplay between the shared ideas and the particular terminologies being utilized. With this critical academic writing practice, postgraduate EFL learners are skilled at overcoming unpredictable obstacles happening during their complex text composition dynamics since they have been more strategic and mindful in determining the best strategies fitting most compatibly with their existing tasks.

Based on all findings formed in the second theme, the researcher demonstrated that with an appropriate implementation of generative AI, postgraduate EFL learners are more prone to inculcate positive academic writing behaviors. This is indicated by their willingness to produce longer sentences and paragraphs in the targeted academic writing texts. With this robust academic writing motivation, postgraduate EFL learners no longer feel perturbed

while being impeded with varied writing blocks. It can be asserted so because generative AI has equipped them with a richer repertoire of suitable language expressions, vocabulary, and writing conventions useful for completing the given academic writing tasks. In this second theme, the researcher also emphasized on the paramount role of supportive academic writing facilitators amidst the integration of generative AI. To maximize the fullest utilities of this technological learning tool, second language educationalists should acclimate postgraduate EFL learners to enact more attainable, sustainable, and applicable academic writing learning objectives before commencing the real-time text composition process. Through this trajectory, postgraduate EFL learners are more committed to staying on their right writing tracks since they internalize persistent endeavors to achieve the pre-determined academic writing goals.

### **1. Generative AI as a Catalyst for Cultivating Proficient Academic Writing Skills among Postgraduate EFL Learners**

To provide a clearer overview of the empirical basis underpinning this theme, the following table presents a selection of studies that substantiate the role of generative AI as a catalyst for developing postgraduate EFL learners' academic writing skills. These studies were systematically identified and categorized based on their relevance to the enhancement of writing proficiency, particularly in terms of analytical thinking, coherence, idea organization, and error identification. By mapping these contributions, the table serves to demonstrate the consistency of findings across diverse research contexts and highlights the growing body of evidence supporting the integration of generative AI in academic writing development.

**Table 1.** Empirical Studies on the Role of Generative AI in Enhancing Postgraduate EFL Learners' Academic Writing Skills

<b>Theme 1</b>	<b>Studies</b>
Generative AI as a catalyst for cultivating proficient academic writing skills among postgraduate EFL learners	Arif and Naeem (2025); Alzubi (2024); Soge and Mbato (2025); Chanpradit (2025); Nawi et al. (2025); Chyne et al. (2024); Mekheimer (2025); Kim et al. (2025); Zamorano (2025); Aljuaid (2024); Ghafouri et al. (2024); Xiao et al. (2025); Huang and Mizumoto (2024); Suglo et al. (2024).

Theme 1 uncovered that generative AI can be a catalyst for cultivating academic writing skills among postgraduate EFL learners. One of the notable enhancements of highly developed academic writing competencies entrenched among postgraduate EFL learners is their analytical ability to spot various kinds of inconsistencies forming in their text compositions. By accurately discovering a specific array of academic writing shortcomings, postgraduate EFL learners will have broader opportunities to produce high-quality texts, as there is a lower occurrence of unintended writing drawbacks. This finding is in conformity with Arif and Naeem (2025), averring that generative AI has importance in the process of diminishing unwanted academic writing shortfalls, enabling postgraduate EFL learners to yield more qualified compositions. It is interesting to note that generative AI is a stepping stone for postgraduate EFL learners to showcase satisfying academic writing performances.

The inculcation of this commendable academic writing learning outcome is ascribed to their decent ability to conduct smoother idea transitions in their text composition enterprises. As a result, they do not feel discouraged while being impeded by unpleasant academic writing

blocks. Soge and Mbato (2025) discovered that in the light of generative AI, most postgraduate EFL learners could enforce a more seamless ideation process, impacting the generation of high-quality thoughts in their academic writing products. Generative AI is also supportive for cultivating strategic, adaptable, and mature academic writing behaviors in the presence of diverse postgraduate EFL learners. This is attributed to the constant impartation of positive, constructive, meaningful, and relevant feedback. With the supportive endorsement of these feedback types, postgraduate EFL learners obtain unwavering support while undergoing complex text composition dynamics in the long run. It can be asserted that way since they are adept at tailoring that specific feedback to their existing academic writing task situations. Nawi et al. (2025) encouraged Malaysian second-language university lecturers to provide comprehensive digital learning guidelines while introducing the maximum utilities of generative AI tools in their daily academic writing activities, enabling postgraduate EFL learners to revise the particularly pinpointed writing errors accordingly.

Generative AI is useful for enabling postgraduate EFL learners to integrate proper language expressions in their academic writing tasks. This writing learning outcome not only leads postgraduate EFL learners to attain more fruitful academic achievements, but also makes them skillful at generating more purposeful and well-structured ideas in their designated writing compositions. This advantageous value is in accord with Chyne et al. (2024), unravelling that the vast majority of Iranian postgraduate EFL learners ceaselessly transformed into more well-organized academic writers amidst the incorporation of generative AI learning platforms, by which they are accustomed to structuring their writing conceptions in corresponding ways. Additionally, generative AI serves as an expedient pathway for postgraduate EFL learners to ensure the coherence and logic among their shared ideas. This coveted academic writing learning event can potentially take place since they have gained an exhaustive understanding of their specific writing strengths and weaknesses. Mekheimer (2025) emphasized the crucial role of generative AI at the beginning of academic writing learning enterprises, with which Saudi Arabian postgraduate EFL learners have been more mindful of some academic writing areas requiring constant improvements.

## **2. Generative AI is an Enabler for Reinforcing Postgraduate EFL Learners' Positive Academic Writing Behaviors**

While the first theme emphasizes the contribution of generative AI to the development of postgraduate EFL learners' academic writing skills, it is equally important to examine its influence on learners' behavioral engagement in the writing process. Beyond enhancing cognitive and linguistic aspects, generative AI also plays a crucial role in shaping learners' motivation, confidence, autonomy, and persistence in dealing with writing challenges. Therefore, to provide an empirical foundation for this theme, the following table presents a selection of studies that highlight the role of generative AI in fostering productive and adaptive writing behaviors across various research contexts.

**Table 2.** Empirical Studies on the Role of Generative AI in Reinforcing Postgraduate EFL Learners' Positive Academic Writing Behaviors

Theme 2	Studies
Generative AI is an enabler for reinforcing postgraduate EFL learners' positive academic writing behaviors	Tiandem-Adamou (2025); Qadeer (2025); Nelson et al. (2025); Deep and Chen (2025) Rodafinos (2025); Werdiningsih et al. (2024); Nguyen et al. (2024); Wang and Ren (2024); Mahapatra (2024); Pan and Xia (2025); Zhang et al. (2025); Suryanti and Ramadhanti (2024); Kim et al. (2025); Maphoto et al. (2024); Tran et al. (2025); Söğüt (2024).

Based on the findings from this theme, generative AI is deemed to solidify postgraduate EFL learners' exemplary academic writing behaviors. One of the salient indicators of this gratifying academic writing learning outcome attainment is the significant escalation of their proactive and productive writing characters. By infusing these two admirable writing attributes, postgraduate EFL learners unwittingly transform into more confident and responsible academic writers as they can produce longer and qualified sentences. Tiandem-Adamou (2025) suggested that Chinese second language university educators embark on their habitual academic writing learning journeys with the judicious internalization of generative AI, by which postgraduate EFL learners are committed to expending more effortful writing actions. Another external promising factor propelling postgraduate EFL learners to preserve their robust academic writing motivation amid the activation of generative AI is the stipulation of clear, feasible, and attainable academic writing learning objectives.

Resultantly, postgraduate EFL learners are desirous of proceeding into another challenging academic writing learning dynamic since they have clear end goals upon commencing the real-time text composition dynamics. This rewarding academic writing learning benefit is in harmony with Qadeer (2025), unearthing that with the meaningful support of generative AI, Pakistani postgraduate EFL learners are motivated to independently handle a vast array of formidable academic writing hurdles since they pay their profound attention to fulfill their pre-determined learning goals. In the same vein, generative AI can also empower postgraduate EFL learners' desire to conduct autonomous academic writing practices daily. The entrenchment of this commendable academic writing characteristic is an apparent result of postgraduate EFL learners' perspective, in that they believe in making progressive transformation of their academic writing knowledge, competencies, performances, and achievements. The attainment of this fruitful academic writing learning outcome can be obtained when they are committed to practicing their academic writing skills through a wide variety of text genres. Nelson et al. (2025) affirm that it is of great importance for worldwide second language university educationalists to arm postgraduate EFL learners with the precise employment of generative AI tools, by which they are keen on dealing with a vast array of arduous academic writing learning challenges.

With respect to the target language university lecturers' side, the prudent internalization of generative AI allowed a rewarding trajectory for promoting more convivial, enjoyable, and less perturbed academic writing learning climates to postgraduate EFL learners. With the dissemination of this transformative academic writing learning atmosphere, postgraduate EFL learners no longer feel apprehensive while making varied mistakes in their compositions, as trials and errors are inseparable parts of advancing into more advanced

writing proficiency levels. Söğüt (2024) advocated that Turkish second language university educators deliberately grant postgraduate EFL learners with the extensive academic writing experimentation amid the presence of generative AI, with which they can effortlessly recall their prior memories concerning the specifically-marked mistakes that need to be averted in the impending academic writing learning enterprises. Owing to the significant escalation of academic writing readiness, postgraduate EFL learners will be more adept at conducting more flexible writing strategy adjustments while confronting multifarious writing obstacles. With the embodiment of this action, postgraduate EFL learners insistently turn into more highly-achieving and versatile academic writers since they do not coerce their commonly-utilized writing strategies, particularly when these approaches are not working compatibly with their text composition process. Nguyen et al. (2024) signified that through an efficient utilization of generative AI tools, Vietnamese postgraduate EFL learners begin shifting into more judicious decision-makers and effective problem-solvers, given the fact that they are capable of internalizing a vast array of academic writing strategies, corresponding with their situations, and the text composition process.

#### **D. CONCLUSION**

This study demonstrates that generative AI has a positive impact on postgraduate EFL learners' academic writing development, particularly in enhancing writing skills and fostering productive learning behaviors such as motivation, autonomy, and confidence. These findings indicate that generative AI can support more effective and adaptive academic writing practices when appropriately integrated into learning processes. However, this study is limited by its reliance on a qualitative library research design and a relatively small number of reviewed articles, which may restrict the generalizability of the findings. In light of these results, educational institutions are encouraged to provide continuous professional development opportunities, such as training and workshops, to enhance teachers' competence in utilizing generative AI tools. Language educators should also actively explore diverse AI platforms to create more engaging, innovative, and meaningful writing instruction. At the learner level, generative AI should be used as a supportive tool to assist, rather than replace, critical thinking and independent writing processes. Thus, for future research, it is recommended to include a broader range of studies and to further examine the potential limitations and challenges of generative AI in academic writing contexts to provide a more balanced understanding of its implementation.

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