Trends Of Learning Models Integrated With AI-Driven Technology to Enhance Students' Academic Writing in Higher Education: A Systematic Review

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Abstract

Academic writing is essential for students in higher education, while the integration of learning model with AI-based technologies remains to be explored. This systematic review synthesizes evidence on trends learning models can be integrated with AI-driven technology to enhance students' academic writing skills in a various learning models. This research used a PRISMA framework, to search a relevant article in the databases of Scopus, Springer Nature, and BRILL in year 2020 to April, 2026 using keywords including "AI-driven technology," "learning models," and "academic writing." which found 5.605 initial records, 21 empirical studies met the inclusion criteria after screening for peer-reviewed English-language articles focused on learning models integrated with AI-driven technology to enhance students' academic writing in higher education. The findings indicate that blended learning mostly dominant trends of learning models in 2020-2026 for enhancing students' academic writing in higher education. While, GenAI applications mainly ChatGPT (n=17) presented the most impactful application, followed by other applications. GenAI served four primary function such specialized academic writing assistants (n=9), literature synthesis (n=5), drafting and ideas generation (n=4), and as a paraphrasing application (n=2). Challenges include the digital equity gap and over-reliance on technology that may overcoming critical thinking. This review offers implications for curriculum designers in selecting learning models which appropriate for students in enhancing student academic writing. Future research should involve studies on learning models such as collaborative learning, PjBL, and PBL, through AI in a broader context and scope for developing new innovation in learning processes.

Keywords – learning model, AI-based technology, academic writing, systematic review, English language education.

Introduction

Writing skills is one of the competencies that English language education students should master it. Research indicates that writing has valuable for students to enhance their critical thinking (Suryani et al., 2025; Mujiono et al., 2024). Furthermore, academic writing is essential for undergraduate students in higher education to write the paper or research, professional and study needed, and to enhance high critical thinking. Based on the study of Wikanengsih et al. (2025), stated that students in making academic writing can affect their critical thinking. However, students face a various obstacle to make an academic writing, for example they have a problem for developing the structure of the text, making a correct citation using bank references, using the tools for making framework, etc.

Using AI-based technology in teaching and learning process for improving students academic writing has become important nowadays. One of the reasons to use AI-based technology is helping students to make easy in writing manuscript. According to Suryani et al. (2025), the technology impactful for students in learning processes and giving the positive motivation due to the student's skills. Even the AI-based technology also can make students complacent because of their dependence on using of it. But, in this systemic review just focuses on how AI-based technology can be integrating with various learning model to enhance students academic writing without

any excessive dependences. It just for making the students develop their critical thinking and giving the insightful for writing the manuscript. AI-based technology from various previous study have valuable to know the trends of what tools that can make writing easy to do the research. Furthermore, AI tools is growing faster in the education context, various tools of AI-based can used free for students (Cheung et al. 2025; Almasri, 2024; Asaldi & Baiz, 2023; Baidoo & Ansah, 2023; Erduran & Levrini, 2024). This is one of chalenges in education because in diferent way AI make students low critical thinking, in order hand AI make easy ang engage for students.

Realizing the Systemic Literature Review (SLR) in the topic of an analysis of learning model with AI-based technology to enhance students' academic writing has becoming interesting in the current era. In the evolving technology such AI-driven has changes the landscape of the study in higher education, specifically in developing students writing skills. In the other hand, the tools like generative AI to assist students writing, web-based application to check grammar and language style, and bank references for helping students in collect the references for making the academic writing can help students developing their academic writing. Meanwhile, this integration strengthening students in writing the academic paper. A various study shows that learning an English language in higher education with AI-based technology not only enhance the quality of the writing academic, but also making high digital literary studies, self-study, and students' motivation (Zakiyah, Fatnah, & Amelia, 2024; Suryani et al., 2024; Mujiono et al., 2024).

Although previous study has various finding of the research regarding the topic of AI-driven for teaching and learning processes to enhance students writing skills (Suryani et al., 2024; Wikanengsih et al., 2025), also some research that study about the effectiveness of learning model such Project-Based Learning (PjBL), Problem Based Learning (PBL), Blended Learning, or Collaborative Learning in the context of students' academic writing (Andargie, Amogne, & Tefera., 2025; Zakiyah, Fatnah, & Amelia, 2024). Mostly, previous research just found the empirical context and limited to the specific disciplines. There are not providing a comprehensive discussion which found what tools which trends for students' academic writing and how various learning model integrating through tools of AI-driven that can be generalized to enhance the quality of academic writing across various literature in the context of higher education.

Meanwhile, previous study just focuses on the impact of the technique for utilizing AI in the quality of the writing skills, without being aware of the features technology that mostly impactful for students' academic writing. Furthermore, Mangubat and Saedi (2026), in the research just shown the trends of of the application of AI in higher education without integration with learning model even the research uses bibliometric as same as SLR. Literatures regarding the strategy and the obstacle of the utilizations AI-driven tools are often as generalize and do not specifically explore how larning model can be systematically operationalized with the technology of AI-driven in the academic writing teaching and learning. So, this research useful to give the insight which can be adapt by policy developing, curriculum design, and guiding for the lecturers to designing teaching models in academic writing that can be integrated AI-driven technology.

For understanding the dynamic of the analysis laerning model through AI-driven technology in the context of improving students' academic writing in higher education. This study uses Systematic Literature Review (SLR) method to know how the effect of the integration of lerning model and which AI that trends to help student in academic writing. The research questions posed as the focus of the study:

1. **RQ1:** What are the trends of learning model that integrating with AI-based technology in research study to enhance students' academic writing on the Scopus, BRILL, and Springer Nature databases from 2020 till 2026?
2. **RQ2:** What are the AI-driven technology applications is the most impact on students' academic writing in higher education?

To answer the research questions, this study used a Systematic Literature Review (SLR) and Meta Analysis for analyse the data. This research method is suitable for synthesizing existing research and helps to identify the gaps, trends, and future research directions even provide the evidence insight that can be insight for lecturers, researchers, and policy maker. This study not only for explaining the latest empirical conditions, but also provides a theoretical and pedagogical basics for the students and the lecturers, also for the curriculum in teaching and learning for academic writing that project-based and AI-assisted which is commonly holding the responsibly and ethically in education.

Methodology

This review used systemic literture review and Meta-Analysis (PRISMA) which combine with bibliometric analysis that was appropriate method for analysis the study (Moher et al., 2015). PRISMA framework was conducted in this research to make review process comprehensively and can be replicated, providing a clear and transparent understanding of the research issue being examined.

The combination of bibliometric analysis with systemic literature review provides a foundation to the research for sythesizing empirical findings while mapping the landscape of scientific activity, including identifying influential authors and emerging trends. This integration results in a more comprehensive perspective and enriches of the understanding in developing the studies in the field of learning model through AI-driven Technology to Enhance students' academic writing. Here is the PRISMA figure for identify the study:

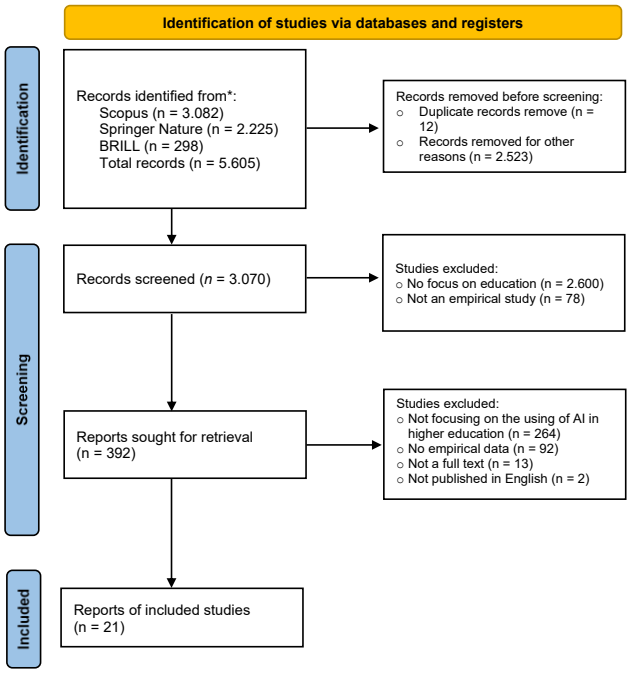


Figure 1. PRIMSA flow diagram

Phase 1: literature search and screening

This study used three databases, including Scopus, BRILL, and Springer Nature. Scopus is a multidisciplinary database, while BRILL and Springer Nature are the database that focuses on broad academic, particularly in areas education, like higher education, educational research, teaching and learning processess. In line, Scopus, Springer Nature, and BRILL database used as the sources to support the scientific investigation process. The various databases to make sure that the study in this field published on the reputable journal that can be access easily.

As the objective of this review was to site an exclusive focus on learning model and AI-based technology applications used. This review examined the keywords firstly of learning model, included learning model in English language education (Alkathiri et al., 2018), and general education (Irvaniyah, Parno, & Nawi, 2025), thus were the first step for set keywords on learning model. Second keyword was AI-driven technology

in general (Yuxuan & Hussain, 2025), and focused on AI-driven technology in education (Hashim et al., 2022), the last keyword was an Academic Writing (Nadhifah, Khafshoh, & Suryati, 2023) for searching in the colomn search that focused found the Title-Abstract-Keywords (Table 1). The inclusion criteeria determined as follows: (1) articles published in year 2020 to April 30th, 2026, (2) English language publication, and (3) the study focuses on keywords including "AI-driven technology," and "academic writing" as stated before. Bibliometris analysis conducted by using a VOSviewer software, which visuallizes bibliographic data to examine citation network, author collaboration patterns, and keyword relationships. This method allowed for unveilling of the intellectual structure and the dynamics of research development in the field of the study. The total of 5.605 records were downloaded from each databases and combined in WPS sheets file. The researcher detected duplicate records. The duplicate records removed manually from the data sheets.

Table 1. Search items in the databases and the number of the data taken

Search	Search terms	Number of hits		
		Scopus	BRILL	Springer Nature
S1	"AI-driven technology"; "learning model"; AND "academic writing" *with specific published on 2020-2026*	3.082	298	2.225
S2	"AI-driven technology"; "learning model"; AND "academic writing" with sort filters "focus on education"; "language education"; AND "open access"	1.707	54	1.321
S3	AI-driven technology; "learning model"; AND "academic writing" with sort filters "focus on education"; "language education"; "open access"; AND "empirical study"	1.362	40	1.198
S4	"AI-driven technology"; "learning model"; AND "academic writing" with sort filters "focus on education"; "language education"; "open access"; AND "empirical study" with sort filter focuses on "the use of AI in higher education"; "empirical data"; "a full text"; AND "published in English language"	267	14	123

The articles were removed before screening stage, the first removed records on the articles that doubled account 12 articles removed; 2.523 records removed because the articles closed access. The abstract of the study were screened on the empirical studies with focus on the educational context; 2.600 articles records were excluded as they did not focus on education; 78 articles records were excluded as they did not colect the empirical data. The researcher conducted the screening more than 10% of the abstarct in articles to achive an intercoder reliability of Cohen's k=0.9 (Cohen, 1960).

After that, a total of 392 full texts articles were examined. At this stage, 264 articles records were excluded because they didn't focus on the students perception in using AI-driven technology to enhance students academic writing students in higher education. Based on the study of Cheung et al. (2025), the excluded studies could be removed as appropriate as the focuses of the research. Appart from the excluding the studies including; 92 records with no empirical data involved in the articles; 13 articles records with not a full text articles; 2 articles records with not published in English. Furthermore, a total of 21 articles were reteined for an in-depth analysis.

Phase 2: developing a coding scheme
After the screening stages, the researcher developed a coding scheme. The coding scheme applied to address research questions, (1) What are the trends of learning model that integrating with AI-based technology in research study to enhance students' academic writing on the Scopus, BRILL, and Springer Nature databases from 2020 till 2026? and (2) What are the AI-based technology applications is the most impact on students' academic writing in higher education? The researcher analyzed three variables by including trends in AI learning models (2020-2026) to answer first research questions; and the most impactful AI applications to answer the second research questions.

Furtheremore, ten per cent of empirical studies were double coded in this study. To ensure that the coding realibility, Cheung et al. (2025), argued that the readers didn't have understanding the distincion in coding to know how distinction can be resolved. After confirming the consistency in coding, the studies were coded to make sure that the study in line of the SLR paterns.

Finding
This section, the researcher presented an overview of the demographic information conducted the study. The researcher analysed included articles record (n = 21) showed that synergized between AI-driven technology in education in enhancing academic writing with various learning model. Here is the table of demographic informaftion:

Table 2. Demographic information of the articles record

Categories	Codes	Number (Percentages)
Continent of the first author	**Asia**	**9 (43%)**
	Europe	8 (38%)
	East and West Africa	3 (14%)
	North America	1 (5%)
Continent where the study takes place	**Asia**	**11 (52%)**
	North America	1 (5%)
	Europe	7 (33%)
	East and West Africa	2 (10%)
Sample size	1 to 20	1 (5%)
	21 to 40	4 (19%)
	41 to 60	3 (14%)
	61 to 80	1 (5%)
	over 80	**12 (57%)**
Intervention duration	a limited duration	1 (5%)
	60 minutes	2 (10%)
	< 2 weeks	5 (24&)
	over 2 weeks	**13 (61%)**

Adopted by Cheung et al. (2025)

Sample of demographic description
Empirical data on integrating learning model through AI-driven technology to enhance academic writing in higher education lead by authors Asia (n = 9), followed by authors from Europe (n = 8), East and West Africa (n = 3), and North America (n = 1) (See in Table 2).

Figure 2. Continent where the study takes place

Meanwhile, the geoghrapical location of the empirical data take place on integrating learning model through AI-driven technology to enhance academic writing lead by Asia (n = 11), followed by Europe (n = 7), East and West Africa (n = 2), and North Americ (n = 1). The finding of demographical place is interisting, because the continent where the study takes a place led by Asia but there is not originated or located in Indonesia. It means that Indonesian authors or the place sample potential restriction. It can be the database of Scopus, BRILL and Springer Nature did not find the Indonesia author. This observation might be interpreted as a different way such a keywords too a coonical.

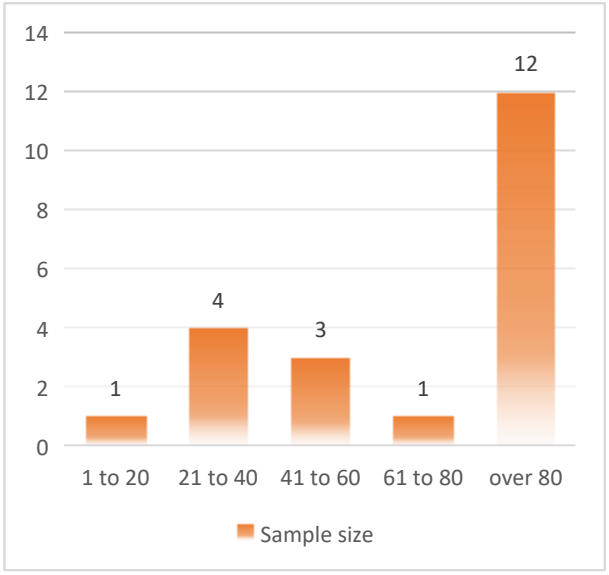


Figure 3. Sample size of article records

Research on integrating learning model through AI-driven technology to enhance academic writing in higher education mostly take the participants (n = 12) ranged over 80 students, the sample size 21 to 40 participants only (n = 4), followed by sample size 41 to 60 (n = 3), and each (n = 1) between sample size 1 to 20 and 61 to 80 students. It means that the study on integrating learning model through AI-driven technology to enhance academic writing in higher education need more sample size to the collecting the data rather than less sample size.

Figure 4. Intervention duration

While, the intervantion duration here mostly over the 2 weeks for getting the empirical study (n = 13), followed by less then 2 weeks intervention (n = 5), 60 minutes (n = 2), and a limited duration (n = 1). Particularly, future research need more time intervention duration to take the research on the integrating learning model through AI-driven technology in other skills of English language education.

Trends of learning model that integrating with AI-based technology in research study to enhance students' academic writing (2020 till 2026)

This finding is to answer the first research question regarding the trends of learning model that integrating with AI-based technology in research study to enhance students' academic writing (2020 till 2026). Here is the bibliography analysis of keyword relationship

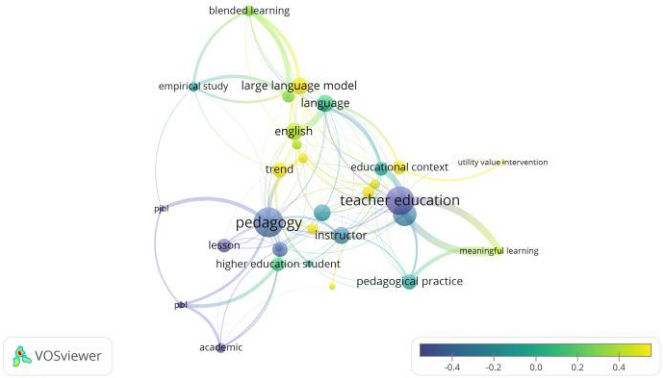


Figure 5. Network file of trends learning model in academic writing through AI

The data in figure 5 shown that the main themes and keyword relationship in learning model through AI-driven technology to enhance academic writing in higher education focused on the educational context specifically in English language learning. The figure presenting a closely connected network file of trends learning model in academic writing through AI-driven technology to enhance academic writing, centered on "pedagogy," and "teacher education" with the size of the nodes reflecting their frequency that important. Second terms like "instructor," "pedagogical practice," and "higher education students," indicated that primarily focused on the learning model in higher education, connecting with "educational context," "language learning model," and "English" means that learning model that related with the language learning model in educational context. The networks file also identifies trends of the learning model such "blended learning," "cooperative learning," "project-based learning," and "problem-based learning" which is blended learning is the bigger nodes rather than project-based learning and problem-based learning. It means that blended learning has been trends in research data from 2020 to 2026 regarding the learning model that can be integrated with the technology to enhance academic writing rather than other learning models.

Figure 6. learning model trends in 2020 to 2026 regarding academic writing

Based on the figure 6 shown that blended learning is the most trends in learning model to enhance academic writing through new technology. So that from this data the first research questions have been answered with the data in figure 5 strengthening figure 6.

AI-driven technology applications that mostly impact on students' academic writing in higher education

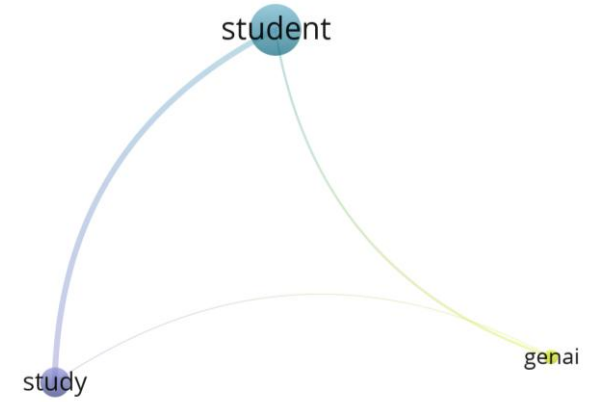
This finding is to answer the second research question regarding AI-driven technology applications that mostly impact on students' academic writing in higher education.

Table 3. Applications of AI that used by students to enhance academic writing

Tool/ Application	Usage of AI tool
Chat GPT	**Generative AI (GenAI)**
Gemini	
Jenni AI	
Perplexity	
Grammarly	**Translations / paraphrase /grammar checking**
QuillBot	
ProWritingAid	
Google Dic.	
DeepL Translate	
Elicit	**Literature research**
SciSpace	
Consesus	
Scite.ai	
Research Rabbit	
Trinka AI	**Proofreader**
ProofreaderProAI	
ClickUp	
Mendeley	**References bank**
Zotero	
VOSviewer	**Analyzing data**
Data Robot	

Evidently AI	
KNIME Analytics Platform	
Microsoft Fabric & Copilot AI	
NVivo	
Chat2DB	
Plagiarism X-checker	**Checking AI & Plagiarism**
TurnitIn AI	
Phrasly AI	
Winston AI	
Originality AI	

The table 3 shown the application of AI usage for enhancing students academic writing in higher education. Various types of AI tools can be used by students to help them writing the academic paper. Meanwhile the data from articles that review shown that:



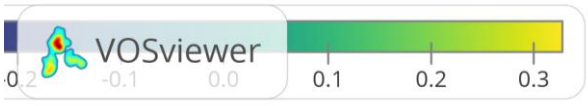


Figure 7. Network files on the using of AI

There are three nodes on the network files "student." "study," and "genai" which students bigger than other nodes. It means that students study the writing academic used genAI based on the keywords that shown in figure 7. Meanwhile, the data specific of the use of AI in writing academic shown in figure 8.

Figure 8. AI-driven technology applications

Generative AI in this review is the most used to help students in writing academic (n = 15), following by reference bank AI (n = 1), literature research (n = 2), and translations AI (n = 3). Generative AI used by students to be a critical friend that can be give also identified gaps and argument that students need as a real-time. In this case there are various applications in GenAI but based on the research review here is most used by the students:

Figure 9. Generative AI tools used

The data figure 9 shown that ChatGPT is the most frequently used by the students (n = 17), following by Gemini (n = 2), Jenni Ai (n = 1), and Perplexity (n = 1). Generative AI might help students because they have impact in:

Figure 10. GenAI impact to students' academic writing

The data from figure 10 closely answer the second research questions. The figure shown that GenAI has four impacts to the students' academic writing. Based on the articles record, GenAI might be specialized academic writing assistants (n = 9), following by literature synthesis and discover (n = 5), drafting and idea generation (n = 4), and paraphrasing tools (n = 2). Furthermore, the tools can enhance the productivity and self-confident for the students in writing academic processes, mainly for the students in English as foreign language (non-native speakers).

Discussions

The findings of this SLR study express critical insight into the trends of learning models which integrated with AI-driven technology to enhance students academic writing in higher education among 2020 to April, 2026. The integration of blended learning mostly dominant learning models, combined with excellence of generative AI (GenAI) applications, particularly ChatGPT that is evolving pedagogical demands in higher education context specifically English language education. This discussion synthesizes that the finding with existing literature which is addresses the implications for curriculum design and pedagogy. The finding also examines the challenges such as digital equity and over-reliance among students. The outlines of this study can be directly for future research for taking the research that related with this SLR.

Blended Learning as the predominant AI-driven technology integrated with learning model

The bibliometric of this research identified that blended learning is the most frequently studied learning model that integrated with AI-driven technology for students academic writing enhancement (see Figure 5 and Figure 6). The finding aligns with previous systemic literature reviews that emphasize blended learning as particularly effective for learning model that integrated with AI in higher education (Hoogers, Thuring, & Michels, 2026; McCarity, & Palmer, 2023; Molick, & Mollick, 2023). Blended learning combines face-to-face instruction with online learning which is creating flexible learning, personalized pathways that AI-driven technology applications may support through adaptive feedback and real-time assistance.

The dominance of blended learning is theoretically based on the capacity for scaffolding the academic writing with multiple modalities (Park & Doo, 2024). The learning environments in blended learning through AI-driven technology applications may provide immediate grammar checking, in-depth ideas generation, and structural feedback during online phases. The lecturers here just facilitate higher-order thinking through students' discussions on argumentation, critical analysis, and rhetorical strategies. The integration support system addresses both surface level writing features such grammar, coherence and deeper compositional skills, which is important for students' academic writing development (Sanz-Tejeda et al., 2026).

Furthermore, the reactively smaller presence of Project-Based Learning (PjBL), Problem-Based Learning (PBL), and Collaborative Learning in the reviewed literature suggests an underexplored opportunity. In this case, that learning models can be explored in future research, because they have valuable

for giving the critical thinking, and collaborative writing skills. So that, integrating those learning models with AI-driven technology could offer a powerful pedagogical framework. While, AI applications can support those learning model by providing real-time feedback during the study to draft the project, facilitate the literature synthesis, and enable peer collaboration with AI in writing platforms (Al-Raimi et al., 2024; Al-Zubaidi, Jafari, & Touzani, 2024). The integration those learning models with AI also may support merits further investigations, particularly in Indonesia where students study the English as EFL that may benefit from sustained, scaffolded writing practice.

Generative AI as the most impactful technology for academic writing

Based on the finding of this review identified that generative AI (GenAI) is the most impactful AI application for academic writing, through ChatGPT is being the most frequently used tool (See Figure 9). Moreover, GenAI is primary impacts include serving as a specialized academic writing assistant such to ideas generations, supporting literature synthesis and discovery, and can be functioning as a paraphrasing tool.

The findings are consistent with previous study that showing GenAI significantly enhances the text quality, mainly in coherence, discursive organization, lexical richness, and argumentation (Sanz-Tejeda et al., 2026; Anderson et al., 2025; Cordero, Torres-Zambrano, & Castillo, 2025; Al-zubaedi, Jaafari, & Touzani, 2024). According to the synthesis of recent evidence by Sanz-Tejeda (2026), stated that GenAI is role as a "critical thinking" that identifies gaps in arguments and provides real-time feedback align with the function as a formative assessment for user self that fosters student autonomy in self-editing.

In other hand, the use of reference management AI tools such Zotero and Mendeley, following by literature research AI such Elicit, SciSpace, Consensus indicated growing recognition of AI as role in the research processes beyond writing mechanism (See in Table 3). Thus, applications assisted students in collecting references, synthesizing literature, and ensuring proper citation that addressing common obstacle which is identified in the introduction. Meanwhile, the use of that application's lower frequency rather that Generative AI but can be suggested as limited exploration of AI as a potential in supporting the full research writing applications.

Implications for Curriculum Design and Pedagogical Practice

The finding of this literature review has significant implications for policy maker mainly in educational context, curriculum designer, and lecturers in higher education. Firstly, for policy maker and curriculum designer should intentionally integrate AI applications within the structures learning model which must be limited in which students can applied it rather than treating AI as an add-on. Specifically for policy maker that must be develop AI-aware assessment policies that can be evaluate students' ability to use AI responsibility and critically, rather than prohibiting AI. Thus, includes assessing students' capacity to critiques AI-generated content, integrate AI feedback meaningfully, and maintain academic integrity among students. Secondly, pedagogical practices must be evolving to address both the opportunities and risks of AI integration. The lecturers should be positioning AI as scaffold rather than a replacement for human writing instruction, emphasizing guidance, and reflective pedagogy. That includes:

Figure 11. flowchart five steps pedagogical strategy

Lastly, blended learning is one of the learning models that most popular that integration through AI (Alkhatiri et al, 2018). However, with project-based learning is potential to foster students critical thinking and collaboration, curriculum designer and policy makers should be considered that hybrid models also must be trying out to know how effective the integration of learning model itself.

An Obstacle of the digital equity and over reliance on AI technology

There are critical challenges emerged from this review. They are the digital equity and over reliance on the technology in this case AI. The digital equity gap refers to disparities in access the applications, internet connectivity, and the digital devices, that can be exacerbate existing inequalities in higher education (Gallego-Gomez, & Dittmar, 2025; Baidoo-Anu, & Ansah, 2023). Furthermore, students from areas lacking resources such low internet or far from the city may lack access the AI applications. So, the students will be lack ability to use the benefit of AI to enhance their writing skills support. Based on this case, the gap requires institutional policies that ensure equitable access to AI tools, such as providing free institutional licensees for AI platforms, giving free access internet in campus area, and designing AI-integrated curricula that are accessible across diverse digital contexts.

Over-reliance on AI-driven technology presented another significant risk, because may be less of critical thinking. Based on Baidoo-Anu, & Ansah (2023), stated that AI dependence is negatively associated with the critical thinking, concerning with excessive reliance on genAI may also reduce self-initiated writing and deep cognitive processing. Some students may become satisfied that using AI can be shortcut the writing processes rather than engaging in the iterative draft-revise-reflection cycle essential for writing development. So, to overcome the problem, lecturers should be:

1. Delaying AI introduction until the students grasp foundational concept of writing;
2. Requiring students' skills first for drafting before AI feedback in writing processes;
3. Embedding critical reflection on AI's role in writing assignments
4. Assessing process over output to value iterative writing development.

Geographical and methodological considerations

The demographic analysis revealed that mostly articles originated from Asia (See in Table 2), following by Europe, Africa, and North America. Notably, no studies were located in Indonesia, despite Indonesia's significantly presence in AI and transformative learning research (Henukh et al., 2025). This gap may reflect database limitations, keywords specifically, or under presentation of Indonesian scholarship in Scopus, BRILL, and Springer Nature. Future research should be prioritized Indonesian and global south context to ensure the differentiated perspective on AI-integrated writing pedagogy.

Additionally, most records articles used large sample sizes over eighty students (57%) and the intervention durations over two weeks (61%) (See in Table 2). However, predominance of quantitative methodologies limits understanding of students' live experiences with AI-integrated writing. Future research should incorporate

qualitative and mixed-method approaches to explore how students navigate AI tools, perceive their benefits and risk, and writing pedagogy that appropriate.

Conclusions

In conclusion, this systematic review demonstrates that Blended Learning combined with Generative AI applications represented the current trend for enhancing students' academic writing in higher education in abroad areas. While, this integration offers significant benefits including improved coherence, argumentation, revision skills, and students' self-confidence. It also presents obstacle related to digital equity and overreliance on technology when student using it. But curriculum designers and lecturers should adopt the technology integrated in pedagogy with the lecturers' instructions, critical reflection, and equitable access to make students engagement with the study itself. For future research, it should expand into PjBL, PBL, and collaborative learning models, prioritize longitudinal and cross-cultural studies, and address underrepresented geographical context to ensure that AI can enhance students' academic writing that integrated with the learning models.

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