

From feedback to dependency: the effects of generative AI assistance on revision quality and writer development among Indonesian EFL students

Tiurma Putri

STKIP PGRI Metro Lampung, Indonesia

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ABSTRACT

Background: Generative AI has rapidly entered EFL academic writing, yet its contribution remains contested because polished output may obscure limited revision reasoning, weakened authorship, and emerging dependence on automated feedback. **Objective:** This study examines how generative AI assistance shapes revision quality, feedback uptake, writer development, and dependency risk among Indonesian EFL students. **Method:** Using qualitative public-document corpus analysis, this study analysed 18 verified sources published between 2023 and 2026, comprising Indonesian empirical studies, international comparative research, and institutional or policy documents on AI-assisted writing. **Results:** Findings show that AI assistance is most frequently positioned as a revision and feedback mechanism, particularly for grammar, vocabulary, coherence, organization, and essay quality. Findings also indicate that AI feedback becomes pedagogically developmental only when students evaluate, modify, reject, or justify suggestions instead of accepting machine-generated revisions as finished text. **Implication:** Findings further reveal that teacher mediation, disclosure rules, assessment design, academic integrity guidance, and critical AI literacy are necessary to prevent AI-supported revision from becoming cognitive offloading. **Novelty:** This study offers a mediated model of AI-assisted EFL writing that links revision quality, writer agency, dependency risk, and pedagogical governance within Indonesian higher education.

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Corresponding Author:

Tiurma Putri

STKIP PGRI Metro Lampung, Indonesia

Jl. Ki Hajar Dewantara, Banjar Rejo, Kec. Batanghari, Lampung Timur, Lampung, 34381, Indonesia

Email: putritiurma3@gmail.com

1. INTRODUCTION

Generative AI has moved from peripheral writing aid to everyday infrastructure in university literacy practices, yet institutional and pedagogical readiness has not kept pace with student adoption. A UNESCO global survey of more than 450 schools and universities reported that fewer than 10% had formal institutional guidance on generative AI, indicating a governance gap precisely where students increasingly encounter automated feedback, paraphrasing support, and text-generation assistance. In Indonesian EFL higher education, this gap is pedagogically consequential because English academic writing is already shaped by unequal access to feedback, limited consultation time, and high pressure to produce linguistically polished texts. Local studies have begun to document AI use among Indonesian students, including 80 students in Makassar higher schools and 35 Indonesian EFL undergraduates in a ChatGPT writing-assistant design [1], [2]. These developments make AI-assisted revision a question of writer formation, not merely tool adoption.

Existing literature has established that AI feedback can support grammar correction, lexical refinement, motivation, and writing self-efficacy, while also raising concerns about accuracy, authorship, and feedback dependence. Studies on AI-generated feedback show mixed evidence: automated feedback may be efficient and preferred by some learners, but it does not consistently outperform human feedback in learning outcomes [3], [4], [5]. Research on EFL writing has further shown that students benefit when feedback is comprehensive, timely, and integrated into revision cycles rather than delivered as isolated correction [6], [7], [8]. However, much existing work still privileges final essay quality, perceptions, or self-reported usefulness. Less is known about how Indonesian EFL students transform AI suggestions into revision decisions, how such decisions affect writer agency, and when repeated assistance becomes cognitive offloading rather than learning.

This study examines how generative AI assistance shapes revision quality and writer development among Indonesian EFL students. It asks four interrelated questions: how AI-supported feedback affects revision across draft cycles; what kinds of AI suggestions students accept, modify, reject, or copy; how revision behaviours reveal productive scaffolding or dependency; and how students explain AI's role in their confidence, autonomy, and feedback literacy. This focus requires moving beyond a simple comparison between AI-assisted and non-AI texts. Revision quality is treated as a multidimensional construct involving surface accuracy, lexical precision, syntactic control, coherence, argument development, rhetorical stance, and task alignment. Writer development is examined through students' capacity to evaluate feedback, justify revision choices, regulate writing strategies, and transfer learning to subsequent tasks. This design responds to recent calls for critical AI literacy and more process-sensitive research on AI-mediated writing [9], [33], [11].

This study advances a cautious argument: generative AI improves EFL writing development only when students remain active evaluators of feedback rather than passive recipients of machine-generated revision. AI assistance may strengthen revision quality by making feedback immediate, specific, and iterative, especially in classrooms where teacher feedback is constrained by time. Yet these affordances can also narrow learning if students outsource judgement, accept fluent rewrites uncritically, or treat polished output as evidence of competence. Such risk is consistent with concerns about over-reliance on AI dialogue systems and with EFL teachers' observations that AI tools may affect both structure and substance of student writing [12], [13], [14]. This study therefore tests whether AI feedback functions as scaffold, shortcut, or dependency mechanism. Its implication is pedagogical: AI-assisted writing should be assessed through visible revision reasoning, not final textual polish alone.

2. LITERATURE REVIEW

2.1. Revision quality in EFL

Revision quality in EFL writing refers to more than correcting grammatical errors; it concerns how writers reshape meaning, argument, organization, and rhetorical control across drafts. Earlier feedback studies often positioned revision as a response to teacher correction, especially through written corrective feedback that supports accuracy and sustained performance [6], [10]. Recent AI-mediated writing research broadens this view by showing that automated feedback can influence both textual form and composing behaviour [7], [15]. However, revision is understood differently across studies: some equate it with improved scores, while others treat it as evidence of writer decision-making. This distinction matters for this study.

Indicators of revision quality can be grouped into surface, textual, and rhetorical dimensions. Surface revision includes grammar, vocabulary, punctuation, and sentence-level accuracy, which AI systems often address efficiently [16], [17], [13]. Textual revision involves coherence, cohesion, paragraphing, and organization, areas where AI feedback may assist but also risk imposing formulaic structures [12], [2]. Rhetorical revision concerns argument development, audience awareness, stance, and task alignment, which require student judgement rather than automated correction alone. Thus, revision quality must be assessed through layered changes across drafts, not final fluency alone.

2.2. AI-generated

AI-generated feedback is commonly defined as machine-produced evaluative input that identifies, explains, or proposes changes to student writing. In EFL contexts, it is valued for immediacy, accessibility, and individualized support, especially where teacher feedback is limited [3], [4], [18]. Yet definitions differ: some studies treat AI feedback as automated corrective feedback, while others conceptualize it as dialogic scaffolding that emerges through prompt-response interaction [19], [20]. This difference is crucial because generative AI does not simply mark errors; it can rewrite, explain, reorganize, and even redirect student intentions.

The use of AI feedback can be analysed through uptake, modification, rejection, and dependency. Productive uptake occurs when students evaluate suggestions, adapt them to their intended meaning, and revise with awareness [9], [11]. Partial or modified uptake indicates negotiation between machine advice and

writer agency. By contrast, dependency appears when students copy AI revisions, accept fluent but inaccurate suggestions, or lose control over argument and voice [14], [21]. Studies on AI feedback sequences also suggest that teacher-generated and AI-generated feedback may produce different revision behaviours depending on order, task, and learner proficiency [8], [22].

2.3. Writer development

Writer development refers to learners' growing capacity to plan, draft, revise, evaluate feedback, and transfer writing strategies beyond one assignment. In AI-assisted writing, development cannot be reduced to better-looking essays because polished output may conceal weak metacognitive control. Studies report that AI tools can increase motivation, confidence, self-efficacy, and writing engagement [23], [24], [25]. Indonesian research similarly suggests that AI tools are perceived as helpful for academic writing, vocabulary, grammar, and organization [26], [1], [27]. Still, perception-based evidence cannot fully explain developmental change.

Indicators of writer development include feedback literacy, self-regulated writing, critical AI literacy, and authorial agency. Feedback literacy involves understanding, judging, and using feedback responsibly, while self-regulated writing concerns goal-setting, monitoring, strategy use, and reflection [28], [29]. Critical AI literacy adds the ability to question AI output, detect limitations, and maintain ethical authorship [33], [30]. Studies on autonomy and critical thinking warn that AI may either support independence or weaken it when students outsource cognitive work [31], [32]. This study therefore positions AI-assisted revision as a contested developmental space where feedback becomes pedagogically valuable only when it strengthens, rather than replaces, student judgement.

3. METHOD

This study uses public-document corpus analysis as its material object, focusing on how generative AI assistance is represented in relation to revision quality, feedback uptake, writer autonomy, and dependency in Indonesian EFL writing contexts. Unit of analysis is document-level evidence, including peer-reviewed articles, official policy documents, institutional guidance, and university news relevant to AI-assisted writing. Corpus consists of 18 verified items published between 2023 and 2026: 10 primary Indonesian EFL sources, five international comparative sources, and three contextual policy sources. This composition enables this study to connect classroom-level writing concerns with wider debates on AI feedback, critical AI literacy, and academic integrity.

Research design follows qualitative corpus-based document analysis with a structured coding procedure. This design is appropriate because this study does not claim direct experimental measurement of students' writing development; instead, it examines how available empirical and institutional sources construct relations among AI feedback, revision, and dependency. Indonesian sources provide situated evidence on EFL students, teachers, and academic writing classrooms, while international sources supply comparative models for feedback sequencing, over-reliance, and critical AI literacy. This combination supports analytical depth without overstating causality. Therefore, this study treats published evidence as interpretive material for mapping methodological and pedagogical patterns

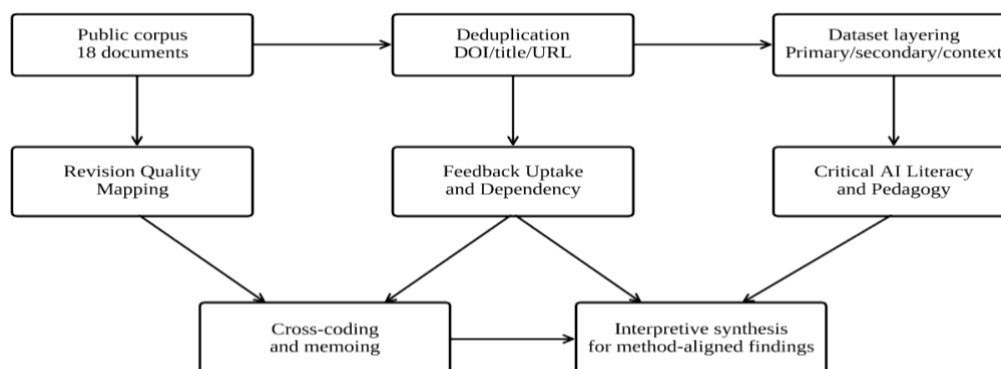


Figure 1. Operational matrix of analysis

Table 1. Dataset composition

Code	Data Type	Source	Location	Period	Amount	Characteristics
GENAI-EFL-ID-001	Primary	Journal of Language Teaching and Research	Makassar, Indonesia	2024	1	AI, feedback, Indonesian students' English writing
GENAI-EFL-ID-002	Primary	Indonesian Journal of Applied Linguistics	East Java, Indonesia	2026	1	ChatGPT, essay quality, Indonesian EFL students
GENAI-EFL-ID-003	Primary	Contemporary Educational Technology	Central Java, Indonesia	2023	1	AI use in academic writing class
GENAI-EFL-ID-004	Primary	Journal of Educational Computing Research	Indonesia	2023	1	AI recognition technology, EFL writing
GENAI-EFL-ID-005	Primary	Cogent Education	Indonesia	2023	1	EFL teachers' perspective on AI writing tools
GENAI-EFL-ID-006	Primary	Register Journal	Indonesia	2024	1	AI chatbots, vocabulary, grammar
GENAI-EFL-ID-007	Primary	Celtic	Indonesia	2025	1	AI-driven feedback in EFL writing
GENAI-EFL-ID-008	Primary	Prima Magistra	Indonesia	2025	1	GenAI and academic writing motivation
GENAI-EFL-ID-009	Primary	International Journal of Information and Education Technology	Indonesia	2025	1	Long-term AI writing tool use
GENAI-EFL-ID-010	Primary	AL-ISHLAH	Indonesia	2026	1	University EFL students' perceptions of GenAI
GENAI-EFL-INT-011	Secondary	International Journal of Educational Technology in Higher Education	International	2023	1	AI-generated writing feedback
GENAI-EFL-INT-012	Secondary	Education Sciences	Vietnam	2025	1	AI and teacher feedback sequence
GENAI-EFL-INT-013	Secondary	Journal of Educational Computing Research	Saudi Arabia	2025	1	ChatGPT feedback and EFL writing
GENAI-EFL-INT-014	Secondary	Smart Learning Environments	International	2024	1	Over-reliance on AI dialogue systems
GENAI-EFL-INT-015	Secondary	Journal of Second Language Writing	International	2025	1	Critical AI literacy in L2 writing
GENAI-EFL-CTX-016	Context	UNESCO	Global	2023	1	GenAI education and research guidance
GENAI-EFL-CTX-017	Context	PCD Journal, Universitas Gadjah Mada	Indonesia	2025	1	AI usage policy and authorship
GENAI-EFL-CTX-018	Context	Universitas Gadjah Mada official news	Indonesia	2026	1	Academic integrity, AI, plagiarism

Sources of information were divided into primary, secondary, and contextual data. Primary data included Indonesian empirical studies on AI-assisted EFL writing, student perceptions, teacher perspectives, and academic writing development [1], [2], [26], [12], [13]. Secondary data included international studies on AI-generated feedback, feedback sequencing, and cognitive risks of over-reliance [3], [8], [4], [14], [33]. Contextual data included UNESCO guidance and Indonesian university policy documents on AI governance and academic integrity.

Data collection proceeded through public database searching, DOI verification, journal-page inspection, institutional-page checking, and metadata extraction. Search terms included “generative AI feedback EFL writing,” “ChatGPT writing assistant Indonesian EFL,” “AI-driven feedback academic writing Indonesia,” “revision quality AI feedback,” “over-reliance AI dialogue systems,” and “critical AI literacy L2 writing.” Each item was recorded with title, author, year, source, DOI or URL, document type, region, inclusion reason, exclusion note, and deduplication key. Duplicates were removed through DOI, title, and URL matching. Text was stored as metadata-level summaries and short keyword excerpts to avoid reproducing copyrighted full texts.

4. RESULTS

Revision quality appears as a layered construct rather than a single measure of textual improvement. Document-level coding shows that most corpus items do not directly measure draft-to-draft revision, but they define conditions under which revision can be understood: student perception, teacher mediation, AI literacy, dependency risk, and institutional governance. This distribution matters because AI-assisted writing is often judged from polished output, whereas revision quality requires attention to how feedback is selected, interpreted, and transformed. Studies on Indonesian EFL writing and AI use similarly suggest that AI tools shape writing through grammar, vocabulary, organization, confidence, and classroom practice, but these dimensions cannot be collapsed into one indicator [1], [2], [12], [13].

The dominant pattern is contextual rather than purely textual: 10 of 18 documents, or 55.6%, provide indirect evidence for revision quality through issues such as learner autonomy, over-reliance, academic integrity, and critical AI literacy. Direct revision-oriented items are fewer but analytically important. Three documents, or 16.7%, address global-local revision involving content, organization, and language; two documents, or 11.1%, focus on surface accuracy; two documents, or 11.1%, examine corrective feedback efficacy and preference; and one document, or 5.6%, emphasizes personalized and contextualized support. This distribution indicates that AI-assisted revision in Indonesian EFL contexts is discussed more often as a pedagogical and developmental issue than as a narrowly textual phenomenon.

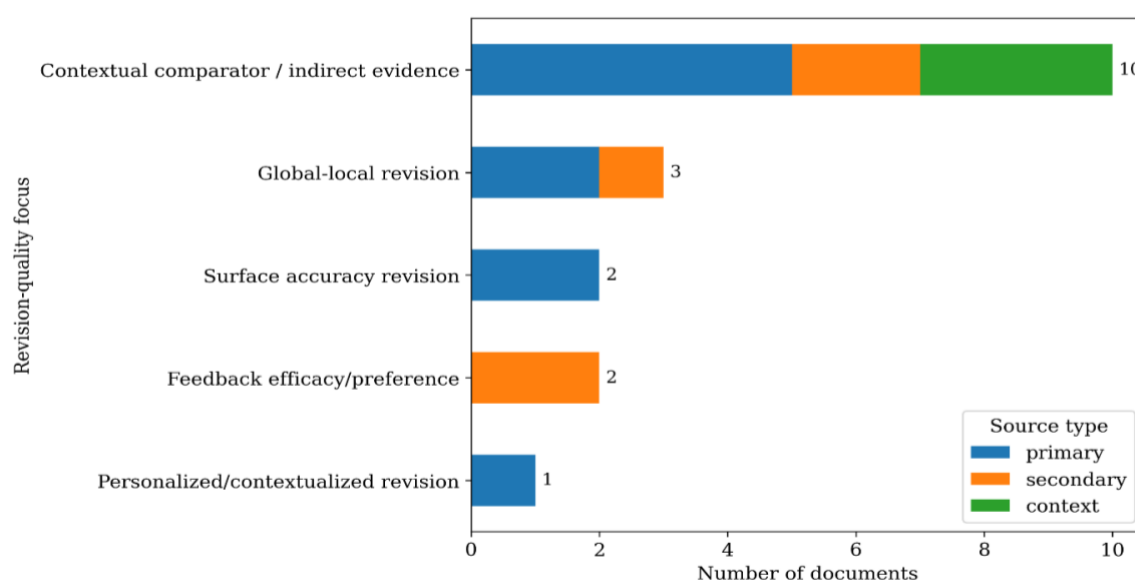


Figure 2. Revision-quality focus by source type

Table 2. Revision-quality coding across public corpus documents

Main Category	Subcategory	Indicator	Frequency	Percentage	Data Variation	Example Evidence Phrase	Data Code	Interpretation
Contextual framing of AI-assisted writing	Indirect evidence for revision quality	AI use, perception, motivation, autonomy, policy, and academic integrity are discussed without direct coding of draft-level revision	10	55.6%	Primary = 5; Secondary = 2; Context = 3	“AI writing tools,” “student perception,” “over-reliance,” “academic integrity,” “critical AI literacy”	GENAI-EFL-ID-001; ID-003; ID-008; ID-009; ID-010; INT-014; INT-015; CTX-016; CTX-017; CTX-018	Most corpus items frame revision quality through surrounding pedagogical, ethical, or developmental conditions rather than through direct textual comparison.
Textual-rhetorical revision	Global and local revision	Content development, organization, language control, coherence, and essay quality are treated as connected dimensions	3	16.7%	Primary = 2; Secondary = 1; Context = 0	“essay quality development,” “content and organization,” “teacher-generated and AI-generated feedback”	GENAI-EFL-ID-002; ID-005; INT-012	Revision quality is strongest when AI feedback is linked to both sentence-level correction and meaning-level restructuring.
Surface accuracy revision	Grammar, vocabulary, and accuracy	AI feedback is associated with vocabulary growth, grammatical correction, and language accuracy	2	11.1%	Primary = 2; Secondary = 0; Context = 0	“vocabulary and grammar,” “AI-driven feedback,” “EFL students’ writing”	GENAI-EFL-ID-006; ID-007	AI assistance is most visible in local correction, but this does not automatically indicate deeper writer development.
Feedback efficacy and learner preference	Corrective feedback comparison	AI-generated feedback is compared with human feedback, learner preference, or writing-skill improvement	2	11.1%	Primary = 0; Secondary = 2; Context = 0	“AI-generated feedback,” “ChatGPT-generated feedback,” “writing skills and perception”	GENAI-EFL-INT-011; INT-013	International evidence helps position AI feedback as efficient but pedagogically uneven, especially when compared with teacher mediation.
Personalized and contextualized revision	Adaptive writing support	AI or recognition technologies are linked to personalization, contextualization, and authentic writing support	1	5.6%	Primary = 1; Secondary = 0; Context = 0	“personalization,” “contextualization,” “authentic contexts”	GENAI-EFL-ID-004	Personalized feedback expands revision support beyond correction, but its developmental value depends on student interpretation.

Theoretically, this pattern supports a process-oriented view of AI-assisted revision. AI feedback may improve visible accuracy, but revision quality becomes pedagogically meaningful only when students use feedback to refine argument, reorganize meaning, and maintain authorial control. This interpretation aligns with studies showing that automated feedback can support writing performance while producing uneven learning outcomes when feedback is accepted passively [3], [4], [8]. It also resonates with concerns that over-reliance on AI dialogue systems may weaken independent reasoning if students outsource evaluative judgement [14], [33]. This study therefore treats revision quality as evidence of mediated writer agency, not merely corrected language.

4.1. Feedback uptake, writer agency, and dependency-risk coding

AI-assisted revision is most productively understood as a continuum of uptake, agency, and dependency rather than as a binary contrast between useful and harmful technology. Document-level coding across 18 corpus items shows that 7 documents, or 38.9%, foreground traceable AI feedback uptake, while 4 documents, or 22.2%, emphasize writer development and feedback literacy. Another 4 documents, or 22.2%, foreground dependency or cognitive offloading risk, and 3 documents, or 16.7%, frame AI use through pedagogical or governance concerns. This distribution extends previous revision-quality coding by showing that feedback does not become educationally meaningful simply because it is available; it becomes meaningful when students actively transform it into accountable writing decisions.

The most visible pattern is that uptake-oriented evidence is concentrated in revision-focused empirical sources, especially studies addressing ChatGPT, AI-driven feedback, automated correction, and feedback sequencing. By contrast, writer-agency evidence appears more strongly in studies concerned with student perception, motivation, self-efficacy, and critical AI literacy. Dependency-risk evidence is smaller in frequency but analytically important because it appears across Indonesian, international, and contextual sources, suggesting that over-reliance is not only a classroom issue but also a governance and integrity concern. Pedagogical mediation appears less frequently as a direct coding category, yet it anchors interpretation by connecting teacher judgement, policy clarity, and authorship responsibility to student AI use.

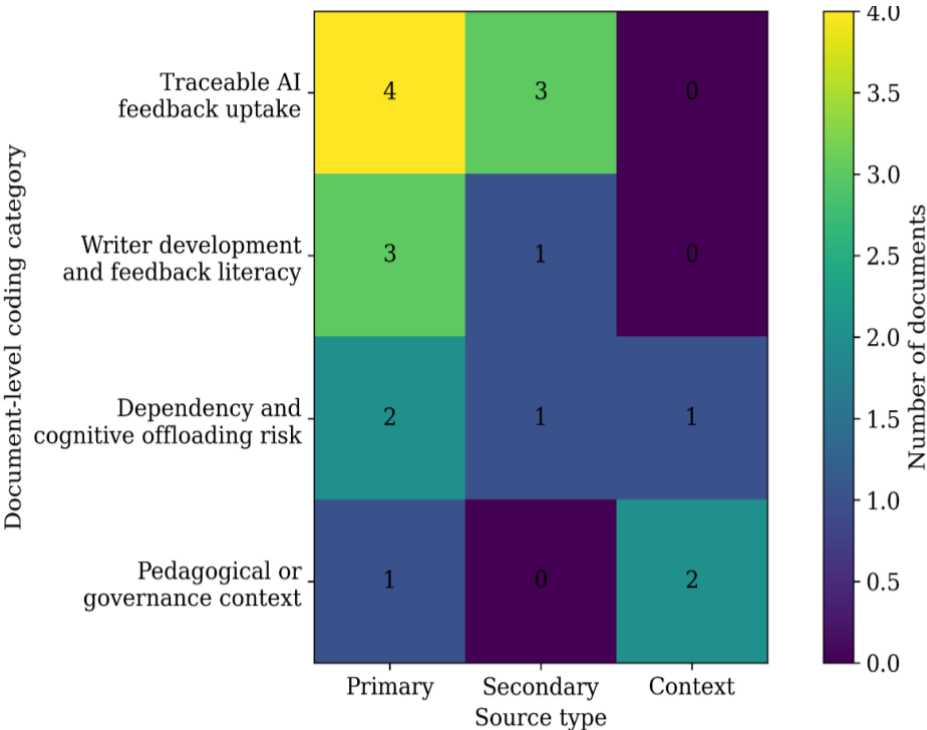


Figure 3. Feedback uptake, writer agency, and dependency-risk coding

Table 3. Feedback uptake, writer agency, and dependency-risk coding

Main Category	Subcategory	Indicator	Frequency	Percentage	Data Variation	Example Evidence Phrase	Data Code	Interpretation
AI feedback uptake	Traceable uptake in revision-oriented sources	AI feedback is positioned as input that students may accept, revise, compare, or use during draft improvement	7	38.9%	Primary = 4; Secondary = 3; Context = 0	“AI feedback uptake,” “teacher-generated and AI-generated feedback,” “ChatGPT-generated feedback”	GENAI-EFL-ID-002; ID-004; ID-006; ID-007; INT-011; INT-012; INT-013	AI feedback is most frequently represented as a revision resource, but uptake still requires evidence of student judgement rather than mere use.
Writer agency	Feedback literacy and autonomy	Students’ confidence, authorship, reflective use, self-efficacy, and critical AI literacy are foregrounded	4	22.2%	Primary = 3; Secondary = 1; Context = 0	“student attitude,” “confidence,” “authorship,” “critical AI literacy”	GENAI-EFL-ID-001; ID-003; ID-008; INT-015	AI assistance becomes developmental when students can interpret, evaluate, and justify feedback choices.
Dependency risk	Cognitive offloading and weakened independence	AI use is linked to over-reliance, shallow polish, inauthentic voice, or reduced independent judgement	4	22.2%	Primary = 2; Secondary = 1; Context = 1	“over-reliance,” “shallow polish,” “weakened independence,” “AI plagiarism concern”	GENAI-EFL-ID-009; ID-010; INT-014; CTX-018	Dependency is not identical with frequent AI use; it emerges when AI replaces evaluative decision-making.
Pedagogical mediation	Governance and teacher-facing framing	AI use is discussed through teacher perspective, institutional policy, authorship, disclosure, and assessment ethics	3	16.7%	Primary = 1; Secondary = 0; Context = 2	“teacher perspective,” “AI guidance,” “academic integrity,” “authorship responsibility”	GENAI-EFL-ID-005; CTX-016; CTX-017	Pedagogical mediation provides conditions for responsible AI use but does not itself prove writer development.

Theoretically, these patterns support a mediated-agency interpretation of generative AI in EFL writing. AI feedback can scaffold revision when students compare suggestions, adapt language to their intended meaning, and maintain control over argument and voice. This reading aligns with studies on AI-supported peer review, active engagement with GenAI, and feedback sequencing, which suggest that learning depends on how feedback is processed rather than whether it is machine-generated [9], [11], [8]. Conversely, dependency emerges when students outsource judgement, accept fluent revisions uncritically, or treat AI-polished text as equivalent to writing competence, echoing concerns about over-reliance and critical AI literacy [14], [33].

4.2. Pedagogical mediation emerges

Pedagogical mediation emerges as a decisive condition for whether generative AI supports writer development or normalizes dependence on machine-generated revision. Across 18 corpus documents, 11 items, or 61.1%, present AI-assisted writing as generally pedagogical, usually through student perception, motivation, revision support, vocabulary, grammar, autonomy, or dependency concerns. Five documents, or 27.8%, provide explicit teacher or policy mediation through oversight, disclosure, academic integrity, human-centred use, or sequencing between teacher-generated and AI-generated feedback. Two documents, or 11.1%, frame AI use through governance and ethics without specifying operational mechanisms. This distribution suggests that AI writing assistance is widely discussed, but systematic mediation remains less visible.

The dominant pattern shows a gap between recognizing AI as a classroom issue and translating that recognition into structured pedagogical governance. Primary Indonesian sources most often discuss student experience, teacher perception, writing improvement, or risk, while contextual sources are concentrated in explicit governance. Secondary sources bridge both sides by offering models of feedback sequencing, critical AI literacy, and over-reliance. This distribution is important because AI-assisted EFL writing cannot be managed only through general encouragement or prohibition. Without transparent rules for disclosure, revision logs, teacher intervention, and assessment criteria, students may treat AI output as an invisible shortcut rather than as feedback that must be evaluated, adapted, and justified.

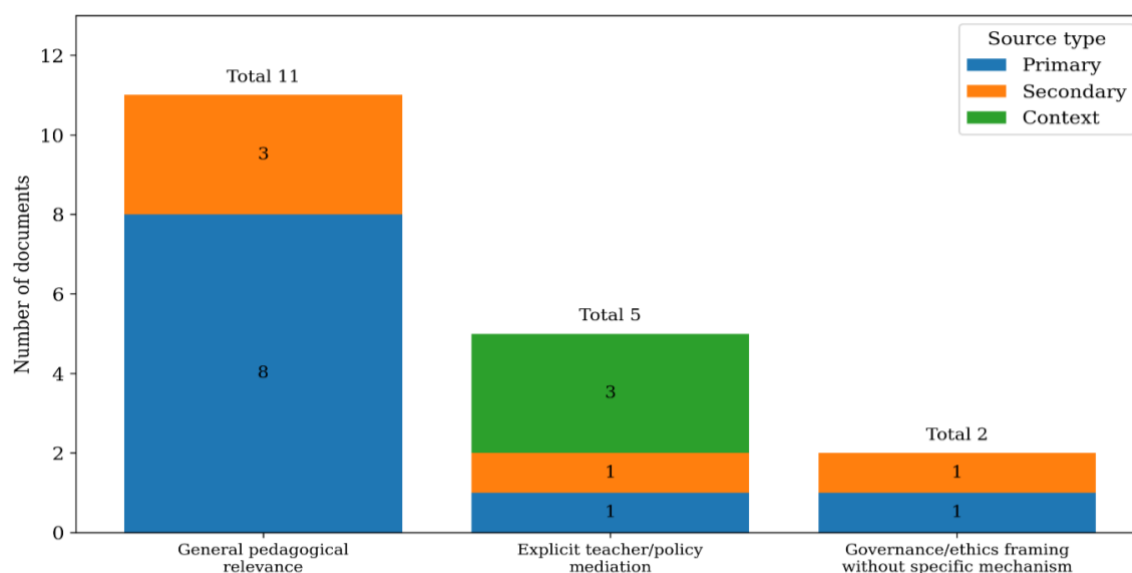


Figure 4. Pedagogical mediation and AI governance coding

Table 4. Pedagogical mediation, critical AI literacy, and governance conditions

Main Category	Subcategory	Indicator	Frequency	Percentage	Data Variation	Example Evidence Phrase	Data Code	Interpretation
General pedagogical relevance	AI use as classroom issue	AI-assisted writing is linked to perception, motivation, writing quality, vocabulary, grammar, autonomy, or dependency, but without explicit policy or teacher-mediation mechanism	11	61.1%	Primary = 8; Secondary = 3; Context = 0	“student perception,” “essay quality,” “vocabulary and grammar,” “AI feedback,” “over-reliance”	GENAI-EFL-ID-001; ID-002; ID-004; ID-006; ID-007; ID-008; ID-009; ID-010; INT-011; INT-013; INT-014	AI-assisted writing is most often framed as a pedagogical problem of use, benefit, perception, or risk rather than as a fully governed instructional practice.
Explicit teacher/policy mediation	Oversight, disclosure, integrity, and human-centred use	Teacher oversight, sequencing of feedback, AI disclosure, authorship responsibility, and institutional integrity guidance are explicitly foregrounded	5	27.8%	Primary = 1; Secondary = 1; Context = 3	“teacher perspective,” “AI-generated and teacher-generated feedback,” “human-centred policy,” “authorship responsibility”	GENAI-EFL-ID-005; INT-012; CTX-016; CTX-017; CTX-018	Responsible AI use depends on visible mediation structures that connect classroom feedback, ethical authorship, and institutional governance.
Governance and ethics framing without specific mechanism	Critical literacy and implementation concerns	AI is discussed through ethics, student perception, or critical AI literacy, but without detailed operational rules for feedback use	2	11.1%	Primary = 1; Secondary = 1; Context = 0	“academic writing perception,” “critical AI literacy,” “ethical use,” “student judgement”	GENAI-EFL-ID-003; INT-015	Ethical awareness is necessary but insufficient unless converted into assessment design, feedback protocol, and revision accountability.

Theoretically, this pattern positions critical AI literacy as an instructional practice, not merely a competence label. Students need more than access to feedback; they need criteria for deciding when AI suggestions are accurate, rhetorically appropriate, ethically acceptable, and aligned with their intended meaning. Studies on AI-assisted writing show that feedback can improve engagement and revision when learners remain active participants, while over-reliance emerges when judgement is delegated to AI systems [9], [8], [33], [14]. This study therefore interprets pedagogical mediation as the bridge between feedback availability and writer development: AI becomes educationally productive only when revision accountability is made visible.

4.3. A cross-corpus synthesis

A cross-corpus synthesis clarifies that generative AI assistance is not represented through one dominant pedagogical meaning. Instead, 18 documents cluster into four explanatory focuses: revision and feedback mechanism, writer development and AI literacy, dependency and integrity risk, and policy or teacher mediation. Seven documents, or 38.9%, position AI primarily as a mechanism for feedback and revision. Four documents, or 22.2%, foreground writer development and AI literacy, while another four documents, or 22.2%, emphasize dependency and integrity risk. Three documents, or 16.7%, focus on teacher or policy mediation. This distribution confirms that AI-assisted EFL writing must be interpreted across textual, cognitive, ethical, and institutional levels.

The dominant pattern is a productive imbalance: revision-oriented evidence is the largest category, yet developmental and governance-oriented evidence is substantial enough to prevent a purely technical reading of AI feedback. Indonesian primary sources tend to foreground classroom-level issues, including student perception, writing quality, vocabulary, grammar, teacher perspective, and long-term writing independence. International secondary sources strengthen methodological interpretation by clarifying feedback efficacy, feedback sequencing, over-reliance, and critical AI literacy. Contextual sources contribute policy logic, especially academic integrity and human responsibility. This layered pattern shows that the corpus does not support a simple claim that AI improves writing; it supports a more cautious claim that AI changes the conditions under which revision is produced and evaluated.

Theoretically, this synthesis positions AI-assisted revision as an ecology of feedback, agency, risk, and mediation. Revision quality represents the textual surface of this ecology, while writer development reveals whether students internalize feedback as strategy, judgement, and transferable competence. Dependency risk marks the point where assistance becomes substitution, particularly when students accept fluent AI output without evaluating content, argument, or voice. Pedagogical mediation then becomes the regulating force that connects AI use to feedback literacy, disclosure, teacher intervention, and assessment design. This interpretation is consistent with recent scholarship arguing that active engagement, feedback sequencing, and critical AI literacy are central to responsible AI-assisted writing [9], [8], [33], [11], [14].

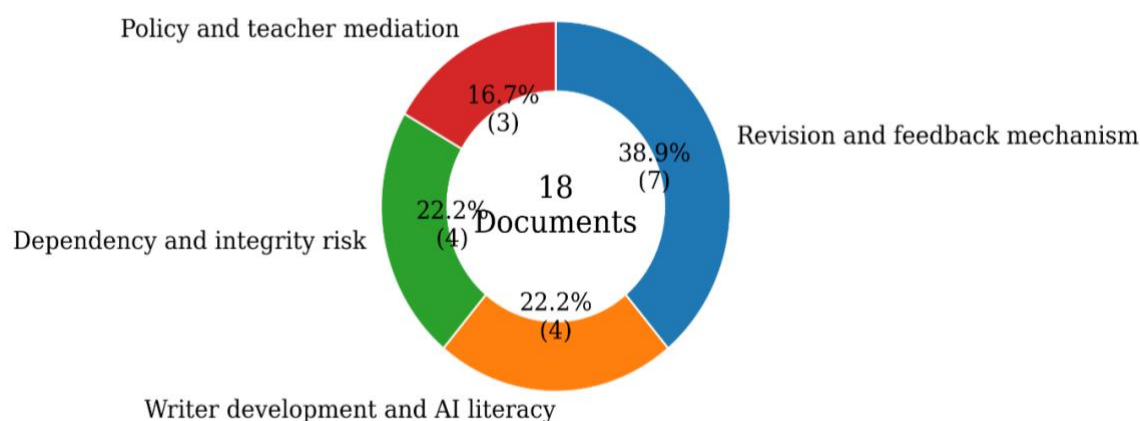


Figure 5. Integrated explanatory focus across the corpus

Table 5. Integrated explanatory focus across the corpus

Main Category	Subcategory	Indicator	Frequency	Percentage	Data Variation	Example Evidence Phrase	Data Code	Interpretation
revision and feedback mechanism	ai as revision input	documents foreground ai-generated feedback, draft improvement, corrective feedback, essay quality, or feedback sequencing	7	38.9%	primary = 4; secondary = 3; context = 0	“ai feedback uptake,” “essay quality,” “corrective feedback,” “teacher-generated and ai-generated feedback”	genai-efl-id-002; id-004; id-006; id-007; int-011; int-012; int-013	ai is most frequently positioned as a mechanism for improving or supporting revision, especially at surface and textual levels.
writer development and ai literacy	ai as learning condition	documents emphasize motivation, confidence, autonomy, authorship, feedback literacy, or critical ai literacy	4	22.2%	primary = 3; secondary = 1; context = 0	“student attitude,” “confidence,” “authorship,” “critical ai literacy”	genai-efl-id-001; id-003; id-008; int-015	developmental value depends on whether students can interpret ai feedback rather than merely receive it.
dependency and integrity risk	ai as cognitive and ethical risk	documents foreground over-reliance, cognitive offloading, weakened independence, shallow polish, or plagiarism concern	4	22.2%	primary = 2; secondary = 1; context = 1	“over-reliance,” “shallow polish,” “weakened independence,” “ai plagiarism concern”	genai-efl-id-009; id-010; int-014; ctx-018	dependency risk becomes visible when ai use replaces revision reasoning, self-monitoring, or authorship responsibility.
policy and teacher mediation	ai as governed classroom practice	documents foreground teacher oversight, institutional guidance, disclosure, academic integrity, or human-centred ai use	3	16.7%	primary = 1; secondary = 0; context = 2	“teacher perspective,” “human-centred policy,” “authorship responsibility,” “ai disclosure”	genai-efl-id-005; ctx-016; ctx-017	pedagogical and policy mediation provides necessary conditions for turning ai assistance into accountable writing practice.

5. DISCUSSION

Revision quality is pedagogically significant because it reveals whether generative AI is functioning as a language-correction device or as a deeper support for academic thinking. Corpus evidence shows that AI-assisted writing is discussed most visibly through revision and feedback mechanisms, yet much of this discussion still remains concentrated around grammar, vocabulary, coherence, and textual polish. This matters because improved surface accuracy can create an impression of writing development without necessarily demonstrating growth in argumentation, stance, or authorial decision-making. In EFL contexts, where linguistic accuracy often carries high assessment value, students may interpret fluent AI-assisted output as evidence of competence. Prior studies have similarly shown that AI and automated feedback can enhance writing performance, engagement, and revision efficiency, but learning gains remain uneven when feedback is not processed reflectively [3], [7], [15], [8]. Thus, this study argues that revision quality should be evaluated as a layered process: local accuracy is important, but it becomes educationally meaningful only when connected to meaning-level and rhetorical development.

This pattern can be explained by structural conditions within EFL writing pedagogy. Indonesian students often write under pressure to meet formal academic English norms while receiving limited individualized feedback from teachers, making AI feedback attractive because it is immediate, available, and linguistically confident. However, this availability also shapes what students notice. Because generative AI tools are especially effective at producing polished sentences, learners may prioritize visible correctness over epistemic control of ideas. This helps explain why corpus evidence links AI strongly to feedback and revision but less consistently to deeper writer development. Studies by Widiati et al. (2023) [12], Waziana et al. (2024) [13], and Puteri et al. (2025) [2] indicate that AI writing tools influence organization, vocabulary, grammar, and perceived essay quality, while international evidence warns that automated feedback does not automatically produce superior learning outcomes [3], [4]. This relation is therefore not causal in a strict experimental sense; rather, it indicates a pedagogical correlation between feedback immediacy and revision focus.

The second major implication concerns writer agency. Corpus evidence shows that AI feedback uptake is not inherently developmental; it becomes developmental when students evaluate, modify, reject, or strategically incorporate suggestions. This distinction matters because feedback is not learning by itself. Learning occurs when students transform feedback into accountable revision decisions and can explain why a change improves their text. When students use AI to compare alternatives, clarify meaning, or refine organization, AI may function as a scaffold for feedback literacy and self-regulated writing. However, when students accept suggestions because they are fluent or authoritative, feedback uptake becomes a mechanism of dependency. This finding aligns with Guo et al. (2024) [9], Yang et al. (2024) [11], and Tran (2025) [8], who emphasize active engagement, feedback revision, and sequencing as central to meaningful learning. It also resonates with Wang and Wang's (2025) [33] argument that L2 writers need critical AI literacy. Therefore, this study positions student agency as the boundary between assistance and substitution.

This agency-dependency boundary is produced by more than individual student behaviour; it is shaped by assessment cultures, task design, and expectations of textual quality. If classroom assessment rewards polished final products without requiring revision logs, feedback justification, or reflection, students have little incentive to make AI use visible. Under such conditions, AI can silently absorb cognitive work that should belong to learners: diagnosing weaknesses, choosing revision priorities, and deciding whether meaning has changed. Zhai et al. (2024) [14] describe over-reliance on AI dialogue systems as a risk to cognitive abilities, while Arif and Naeem (2025) [31] connect AI use with concerns about autonomy and critical thinking in EFL writing classrooms. Indonesian evidence on long-term AI writing-tool use and student perceptions similarly suggests that usefulness and risk coexist rather than cancel each other [34], [35], [21]. Hence, dependency should not be defined by frequency of AI use, but by loss of evaluative control.

The third implication is institutional and pedagogical: responsible AI-assisted writing requires mediation, not merely access. Corpus evidence indicates that many documents recognize AI as relevant to writing instruction, but fewer specify how teachers, policies, and assessment systems should regulate its use. This gap matters because students cannot be expected to develop ethical and critical AI literacy without explicit criteria for acceptable assistance, disclosure, feedback evaluation, and authorship responsibility. UNESCO guidance on generative AI emphasizes human-centred, ethical, and meaningful educational use, while institutional policy documents foreground accountability for argument, data, and citation. In classroom terms, this means AI should be integrated into staged writing tasks where students document prompts, compare AI feedback with teacher or peer feedback, and justify final revisions. Studies on teacher perspectives and feedback sequencing support this view by showing that AI feedback becomes more

pedagogically useful when mediated through human judgement [12], [8], [30]. Mediation is therefore not an administrative add-on but an instructional requirement.

This need for mediation arises because generative AI unsettles conventional boundaries between feedback, authorship, and assessment. In earlier feedback models, teachers, peers, or automated systems provided identifiable input, while students remained visible as revisers. Generative AI complicates this relation because it can simultaneously diagnose, rewrite, reorganize, and generate alternative formulations. Without pedagogical structure, students may struggle to distinguish receiving feedback from delegating authorship. Crompton et al. (2024) [36] describe AI in English language teaching as carrying both affordances and challenges, while Kim et al. (2024) [37] and Wang (2024) [20] show that students' interactions with GenAI are shaped by perceived usefulness, confidence, and writing context. This explains why this study does not frame AI as either emancipatory or harmful. Its effect depends on how writing classrooms convert AI use into visible revision reasoning. The central theoretical contribution is therefore a mediated model of AI-assisted EFL writing: feedback improves development only when revision quality, student agency, and pedagogical governance operate together.

6. CONCLUSION

This study concludes that generative AI assistance in Indonesian EFL writing is best understood not as a simple instrument of improvement, but as a contested revision ecology in which feedback, agency, dependency, and pedagogical mediation interact. Its central lesson is that AI can enhance revision quality when students actively evaluate, adapt, and justify machine-generated suggestions, yet the same assistance may weaken writer development when it replaces independent judgement. This study contributes by shifting attention from final textual polish to revision reasoning, feedback uptake, and writer agency, thereby renewing methodological perspectives on AI-assisted EFL writing through an integrated corpus-based analytic model.

This study is limited by its reliance on public-document corpus data rather than direct classroom observation, student draft histories, prompt logs, interviews, or longitudinal writing assessment. Consequently, this study cannot claim causal effects on individual learner development or measure actual changes in students' independent writing competence over time. Future research should examine AI-assisted revision through mixed-methods classroom designs that combine draft comparison, screen-recorded AI interactions, stimulated recall, teacher feedback, and delayed transfer tasks. Further studies should also compare proficiency levels, institutional contexts, and assessment models to determine when AI functions as scaffold, shortcut, or dependency mechanism in Indonesian EFL academic writing.

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Tiurma Putri: conceptualization, methodology, formal analysis, writing – original draft, writing – review and editing.

CONFLICT OF INTEREST STATEMENT

Author states no conflict of interest.

AI USE DECLARATION

The author used artificial intelligence tools to assist with the generation of illustrative figures and with the formatting and layout of this manuscript. AI was not used to generate the substantive content, conceptualization, data, analysis, or conclusions of the research, all of which remain the sole responsibility of the author.

INFORMED CONSENT

Not applicable – this study did not involve direct human participants. Data consisted solely of publicly accessible empirical studies, comparative research, and institutional or policy documents.

ETHICAL APPROVAL

This research did not involve human or animal subjects; it analyzed publicly accessible empirical studies, comparative research, and institutional or policy documents, and therefore no institutional review board approval was required. Where research does involve human subjects, the author affirms that such

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research would be conducted in full compliance with all relevant national regulations and institutional policies, in accordance with the tenets of the Declaration of Helsinki, and would be approved by the author's institutional review board or equivalent committee.

DATA AVAILABILITY

The corpus of documents analyzed in this study are publicly accessible and available from the corresponding author upon reasonable request.

REFERENCES

- [1] Kaharuddin, D. Ahmad, M. Latif, I. Arafah, and R. Suryadi, "Defining the role of artificial intelligence in improving English writing skills among Indonesian students," *Journal of Language Teaching and Research*, 2024, doi: 10.17507/jltr.1502.25.
- [2] C. G. Puteri, B. Cahyono, U. Widiati, and N. Suryati, "Using ChatGPT as a writing assistant: A study on essay quality development among Indonesian EFL university students," *Indonesian Journal of Applied Linguistics*, 2025, doi: 10.17509/3ebmy158.
- [3] J. Escalante, A. Pack, and A. Barrett, "AI-generated feedback on writing: Insights into efficacy and ENL student preference," *International Journal of Educational Technology in Higher Education*, vol. 20, pp. 1–20, 2023, doi: 10.1186/s41239-023-00425-2.
- [4] A. H. Alsofyani and A. M. Barzanji, "The effects of ChatGPT-generated feedback on Saudi EFL learners' writing skills and perception at the tertiary level: A mixed-methods study," *Journal of Educational Computing Research*, vol. 63, pp. 431–463, 2024, doi: 10.1177/07356331241307297.
- [5] Q. Chen, "Students' perceptions of AI-powered feedback in English writing: Benefits and challenges in higher education," *International Journal of Changes in Education*, 2025, doi: 10.47852/bonviewijce52025580.
- [6] X. Cheng and L. Zhang, "Sustaining university English as a foreign language learners' writing performance through provision of comprehensive written corrective feedback," *Sustainability*, 2021, doi: 10.3390/su13158192.
- [7] N. Fan, "Exploring the effects of automated written corrective feedback on EFL students' writing quality: A mixed-methods study," *SAGE Open*, vol. 13, 2023, doi: 10.1177/21582440231181296.
- [8] T. T. T. Tran, "Enhancing EFL writing revision practices: The impact of AI- and teacher-generated feedback and their sequences," *Education Sciences*, 2025, doi: 10.3390/educsci15020232.
- [9] K. Guo, E. D. Zhang, D. Li, and S. Yu, "Using AI-supported peer review to enhance feedback literacy: An investigation of students' revision of feedback on peers' essays," *British Journal of Educational Technology*, vol. 56, pp. 1612–1639, 2024, doi: 10.1111/bjet.13540.
- [10] Z. Wang and F. Han, "The effects of teacher feedback and automated feedback on cognitive and psychological aspects of foreign language writing: A mixed-methods research," *Frontiers in Psychology*, vol. 13, 2022, doi: 10.3389/fpsyg.2022.909802.
- [11] K. Yang, M. Raković, Z. Liang, L. Yan, Z. Zeng, Y. Fan, D. Gašević, and G. Chen, "Modifying AI, enhancing essays: How active engagement with generative AI boosts writing quality," *Proceedings of the 15th International Learning Analytics and Knowledge Conference*, 2024, doi: 10.1145/3706468.3706544.
- [12] U. Widiati, D. Rusdin, I. Indrawati, and N. Govender, "The impact of AI writing tools on the content and organization of students' writing: EFL teachers' perspective," *Cogent Education*, vol. 10, 2023, doi: 10.1080/2331186x.2023.2236469.
- [13] W. Waziana, W. Andewi, T. Hastomo, and M. Hasbi, "Students' perceptions about the impact of AI chatbots on their vocabulary and grammar in EFL writing," *Register Journal*, 2024, doi: 10.18326/register.v17i2.352-382.
- [14] C. Zhai, S. Wibowo, and L. D. Li, "The effects of over-reliance on AI dialogue systems on students' cognitive abilities: A systematic review," *Smart Learning Environments*, vol. 11, 2024, doi: 10.1186/s40561-024-00316-7.
- [15] C. Shen, P. Shi, J. Guo, S. Xu, and J. Tian, "From process to product: Writing engagement and performance of EFL learners under computer-generated feedback instruction," *Frontiers in Psychology*, vol. 14, 2023, doi: 10.3389/fpsyg.2023.1258286.
- [16] T. Fitria, "Grammarly as AI-powered English writing assistant: Students' alternative for writing English," *The Journal of English Language and Literature*, vol. 5, pp. 65–78, 2021, doi: 10.31002/metathesis.v5i1.3519.
- [17] X. Zhao, "Leveraging artificial intelligence (AI) technology for English writing: Introducing Wordtune as a digital writing assistant for EFL writers," *RELC Journal*, vol. 54, pp. 890–894, 2022, doi: 10.1177/00336882221094089.
- [18] A. Evmenova, K. Regan, R. L. Mergen, and R. Hrisseh, "Improving writing feedback for struggling writers: Generative AI to the rescue?," *TechTrends*, vol. 68, pp. 790–802, 2024, doi: 10.1007/s11528-024-00965-y.
- [19] Y.-C. Tseng and Y.-H. Lin, "Enhancing English as a foreign language (EFL) learners' writing with ChatGPT: A university-level course design," *Electronic Journal of e-Learning*, 2024, doi: 10.34190/ejel.21.5.3329.
- [20] C. Wang, "Exploring students' generative AI-assisted writing processes: Perceptions and experiences from native and nonnative English speakers," *Technology, Knowledge and Learning*, vol. 30, pp. 1825–1846, 2024, doi: 10.1007/s10758-024-09744-3.
- [21] M. Zahra and R. Fithriani, "Teachers' and students' views on AI writing tools' adverse effects in EFL writings," *Jurnal Onoma: Pendidikan, Bahasa, dan Sastra*, 2025, doi: 10.30605/onoma.v11i3.6554.
- [22] M. Mekheimer, "Generative AI-assisted feedback and EFL writing: A study on proficiency, revision frequency and writing quality," *Discover Education*, vol. 4, 2025, doi: 10.1007/s44217-025-00602-7.
- [23] C. Song and Y. Song, "Enhancing academic writing skills and motivation: Assessing the efficacy of ChatGPT in AI-assisted language learning for EFL students," *Frontiers in Psychology*, vol. 14, 2023, doi: 10.3389/fpsyg.2023.1260843.
- [24] J. Huang and A. Mizumoto, "Examining the effect of generative AI on students' motivation and writing self-efficacy," *Digital Applied Linguistics*, 2024, doi: 10.29140/dal.v1.102324.
- [25] A. Almusharraf, D. Bailey, N. Almusharraf, and T. Alotaibi, "Students' perceptions of generative AI in EFL writing: Strategies, self-efficacy, satisfaction and behavioural intention," *Australasian Journal of Educational Technology*, 2025, doi: 10.14742/ajet.10045.
- [26] S. Utami, Andayani, R. Winarni, and Sumarwati, "Utilization of artificial intelligence technology in an academic writing class: How do Indonesian students perceive?," *Contemporary Educational Technology*, 2023, doi: 10.30935/cedtech/13419.
- [27] E. Soge and C. Mbato, "The perceived impacts of generative AI on Indonesian EFL master's students' motivation in academic writing," *Prima Magistra: Jurnal Ilmiah Kependidikan*, 2025, doi: 10.37478/jpm.v6i4.6120.

- [28] L. Yang, Y. Liu, and Z. Xu, "Examining the effects of self-regulated learning-based teacher feedback on English-as-a-foreign-language learners' self-regulated writing strategies and writing performance," *Frontiers in Psychology*, vol. 13, 2022, doi: 10.3389/fpsyg.2022.1027266.
- [29] D. Trinovita, E. Nurchurifiani, T. Hastomo, W. Andewi, and M. Hasbi, "Exploring the influence of generative AI on self-regulated learning: A mixed-methods study in the EFL context," *Jurnal Iqra': Kajian Ilmu Pendidikan*, 2025, doi: 10.25217/ji.v10i2.6389.
- [30] M. Eleftheriou, M. Ahmer, and D. R. Fredrick, "Balancing ethics and support: Peer tutors' experiences with AI tools in student writing," *Contemporary Educational Technology*, 2025, doi: 10.30935/cedtech/16554.
- [31] H. Arif and J. Naem, "The impact of generative AI on learner autonomy and critical thinking in English as a foreign language (EFL) writing classrooms," *Journal of Applied Linguistics and TESOL*, 2025, doi: 10.63878/jalt1249.
- [32] H. Hong, P. Vate-U-Lan, and C. Viriyavejakul, "Generative AI-mediated scaffolds for enhanced critical thinking in EFL writing," *Edelweiss Applied Science and Technology*, 2025, doi: 10.55214/25768484.v9i6.7751.
- [33] C. Wang and Z. Wang, "Investigating L2 writers' critical AI literacy in AI-assisted writing: An APSE model," *Journal of Second Language Writing*, 2025, doi: 10.1016/j.jslw.2025.101187.
- [34] H. Budiyo, "Exploring long-term impact of AI writing tools on independent writing skills: A case study of Indonesian language education students," *International Journal of Information and Education Technology*, 2025, doi: 10.18178/ijiet.2025.15.5.2306.
- [35] M. Aminah and A. H. Aly, "University EFL students' perceptions of generative AI in academic writing: A qualitative case study in Indonesia," *AL-ISHLAH: Jurnal Pendidikan*, 2026, doi: 10.35445/alishlah.v18i1.9461.
- [36] H. Crompton, A. Edmett, N. Ichaporia, and D. Burke, "AI and English language teaching: Affordances and challenges," *British Journal of Educational Technology*, vol. 55, pp. 2503–2529, 2024, doi: 10.1111/bjet.13460.
- [37] J. Kim, S. Yu, R. Detrick, and N. Li, "Exploring students' perspectives on generative AI-assisted academic writing," *Education and Information Technologies*, vol. 30, pp. 1265–1300, 2024, doi: 10.1007/s10639-024-12878-7.

BIOGRAPHY OF AUTHOR



Tiurma Putri     is affiliated with STKIP PGRI Metro Lampung, Indonesia. Her academic concerns are language education, applied linguistics, and educational technology. Her research interests include generative AI in academic writing, revision quality, feedback literacy, and the pedagogical governance of AI-assisted EFL instruction. She can be contacted at email: putritiurma3@gmail.com