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Responsive teacher agency in AI-enhanced writing instruction: an interpretative phenomenological study of EFL educators

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This interpretative phenomenological study explores how Indonesian EFL teachers enact responsive agency when integrating artificial intelligence (AI) tools into writing instruction. Drawing on Molla and Nolan's (2020) framework of responsive teacher agency, the study examines how four EFL teachers from diverse institutional contexts adapt AI tools to address student needs, navigate contextual constraints, engage in reflective collaboration, implement innovative practices, and promote equity. Using semi-structured interviews and a focus group discussion, the research reveals that responsive teacher agency manifests through AI-driven personalization of writing tasks, culturally responsive tool adaptation, reflective practice, creative integration of AI across writing stages, and efforts to ensure equitable access. While AI integration empowers teachers to enhance instructional personalization, facilitate reflective teaching, and deepen teacher-student interactions, challenges emerge related to professional autonomy, standardization tensions, digital divides, and resource constraints. The findings suggest that meaningful AI integration in writing instruction depends not merely on technological availability but on teachers' contextually sensitive decision-making and adaptive expertise. The study contributes to theoretical understandings of teacher agency in technologically enhanced environments and offers practical insights for EFL educators navigating the evolving landscape of AI-integrated writing instruction.

Introduction

The evolving landscape of education, characterized by technological advancements and diverse student needs, has made responsive teacher agency a central concept in understanding how educators adapt their teaching practices. Responsive teacher agency refers to a teacher's capacity to make informed and adaptive decisions in response to the specific challenges and opportunities presented within their educational context (Molla & Nolan, 2020). It underscores the importance of teachers being able to exercise their autonomy in ways that are both flexible and contextually aware, which allows them to meet the varied needs of their students. In essence, responsive teacher agency involves not just reacting to external pressures but actively navigating and shaping the learning environment to foster student success.

For English as a Foreign Language (EFL) educators, particularly in teaching writing, responsive teacher agency is crucial. Writing instruction in EFL classrooms involves more than just grammar and syntax; it requires a comprehensive understanding of students' diverse linguistic, cognitive, and cultural backgrounds (Anaktototy et al., 2023; Yu & Zhou, 2022). In a typical EFL classroom, teachers often encounter learners with varying levels of proficiency, learning styles, and motivational factors. The ability to respond to these differences effectively is central to achieving equitable educational outcomes (Yang & Wang, 2022; Chen & Abdullah, 2022). For example, a teacher's ability to adapt instructional strategies to address common challenges such as lack of vocabulary, difficulties in text organization, or issues with fluency can significantly influence learners' progress. In this sense, responsive teacher agency becomes a key determinant in the quality and inclusivity of writing instruction, as it enables teachers to align their methods with the evolving needs of their students.

In the context of this study, writing instruction refers to the classroom-based pedagogical practices employed by EFL teachers to facilitate students' development of writing skills. This includes the planning, delivery, and adaptation of writing lessons, the use of instructional strategies to support various stages of the writing process (such as brainstorming, drafting, revising, and editing), and the integration of AI tools to enhance the teaching and learning of writing (Hyland, 2022). Writing instruction in this study specifically focuses on how AI technologies are used within classroom activities to scaffold writing tasks, provide feedback, support language accuracy, and promote learner engagement and autonomy.

Furthermore, in the digital age, the integration of Artificial Intelligence (AI) has become a pivotal factor in transforming educational practices, including EFL writing instruction. AI offers unprecedented opportunities to personalize learning, provide immediate feedback, and support differentiated instruction (Brod, 2024; Pesovski et al., 2024; Kuleto et al., 2021). Tools such as AI-powered

grammar checkers, writing assistants, and personalized writing prompts enable EFL teachers to augment their instructional practices with resources that not only enhance the learning experience but also streamline assessment and feedback. For EFL educators, particularly those teaching writing, AI tools can assist in diagnosing individual student needs and providing tailored support (Demartini et al., 2024; Jokhan et al., 2022), thus fostering an environment where each learner can develop their writing skills at their own pace.

The importance of AI in supporting writing instruction becomes especially evident when considering the growing pressure on teachers to manage larger class sizes, handle diverse learning needs, and keep pace with technological advancements. While AI cannot replace the contextual judgments and pedagogical insights that teachers bring to the classroom, it serves as a powerful tool that can enhance their agency, enabling them to respond more effectively to the challenges of writing instruction (Tseng & Warschauer, 2023). The combination of responsive teacher agency and AI integration can lead to more adaptive, personalized, and effective writing instruction, thus creating an environment where both teachers and students benefit from technology that enhances learning outcomes.

Despite the promising potential of AI in enhancing EFL writing instruction, there remains a significant gap in research concerning how EFL teachers themselves enact responsive teacher agency when integrating these technological tools into their instructional practices. Interpretative Phenomenological Analysis (IPA) offers a valuable methodology for investigating this process. IPA focuses on exploring how individuals make sense of their lived experiences, which makes it particularly suitable for understanding the subjective realities of EFL educators as they navigate the integration of AI tools in writing instruction (Emery & Anderman, 2020). By using IPA, this study aims to elucidate the mechanisms through which educators manifest responsive agency when AI technologies are incorporated into educational settings. The research will illuminate the complex dimensions in which these professionals formulate decisions, modify their instructional approaches, and navigate the concurrent obstacles and affordances that these digital instruments present.

This study will also examine the benefits and challenges that EFL teachers experience as they exercise responsive teacher agency during the integration of AI tools into their writing instruction. The choice of IPA as a methodological approach is deliberate, as it prioritizes the voices of EFL educators and their personal experiences with AI. IPA provides a framework for understanding not only how teachers adapt to and incorporate AI into their practices but also the motivations, challenges, and beliefs that inform these decisions (Smith et al., 2009). Teachers' agency in the face of technological advancements is shaped by a range of factors, including their professional identity, prior experiences, institutional support, and access to resources (Leijen, 2023). By focusing on the personal, subjective experiences of educators, IPA allows this study to explore how teachers enact responsive agency when faced with the demands and affordances of AI in writing instruction.

This research contributes to the growing body of literature on teacher agency

by focusing specifically on the intersection of responsive teacher agency and AI integration in EFL writing instruction. The study has two primary objectives: (1) To explore how EFL teachers enact responsive teacher agency in the integration of AI tools within their writing instruction practices, and (2) To examine the benefits and challenges that EFL teachers encounter in exercising responsive teacher agency while integrating AI tools into their writing instruction. By addressing these objectives, the study aims to provide insights into the enactment of responsive teacher agency in AI integration and how this shapes effective and contextually grounded teaching practices. The significance of the research lies in its dual contribution to theory and practice. Theoretically, it enriches our understanding of how EFL teachers navigate emerging technologies, offering a framework for supporting adaptive instructional decisions. Practically, it provides actionable recommendations for educators and policymakers to implement AI in ways that empower, rather than marginalize, teacher expertise and responsiveness in the classroom.

Literature review

Responsive teacher agency

Teacher agency is the capacity of educators to act purposefully and constructively, shaping curriculum and reform. Viewed through an ecological lens (Priestley et al., 2015), it arises from the interplay between individual actions and contextual factors, encompassing three dimensions: iterative (past experiences), projective (future goals), and practical-evaluative (current structural, cultural, and material contexts). Despite its potential, teacher agency can be constrained by policies that simultaneously promote and restrict autonomy (Manninen et al., 2022; Tinn & Ümarik, 2022). Understanding agency is crucial for fostering innovation, professional judgment, and adaptive curriculum development.

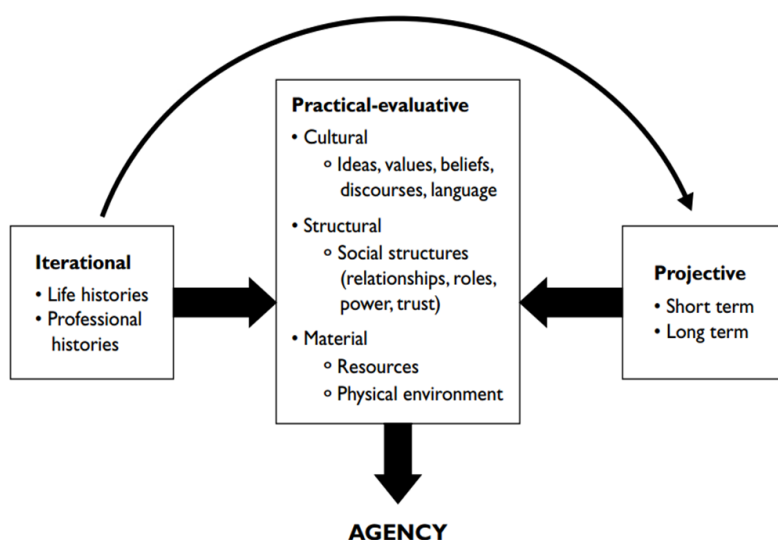


Figure 1. Teacher agency model by Priestley et al (2015)

Responsive teacher agency is a specific aspect of teacher agency that emphasizes how educators adapt and respond to the diverse needs and challenges of their students, particularly in contexts where educational disadvantages are prevalent (Molla & Nolan, 2020). While teacher agency broadly refers to teachers' ability to act purposefully within their roles and influence educational practices, responsive teacher agency focuses on how teachers actively adjust their practices to ensure equitable learning opportunities, especially in dynamic and challenging environments. It is a more relational and adaptive form of agency that considers not only individual capacities but also the contextual and situational factors that shape teachers' decisions and actions in response to student needs and technological advancements.

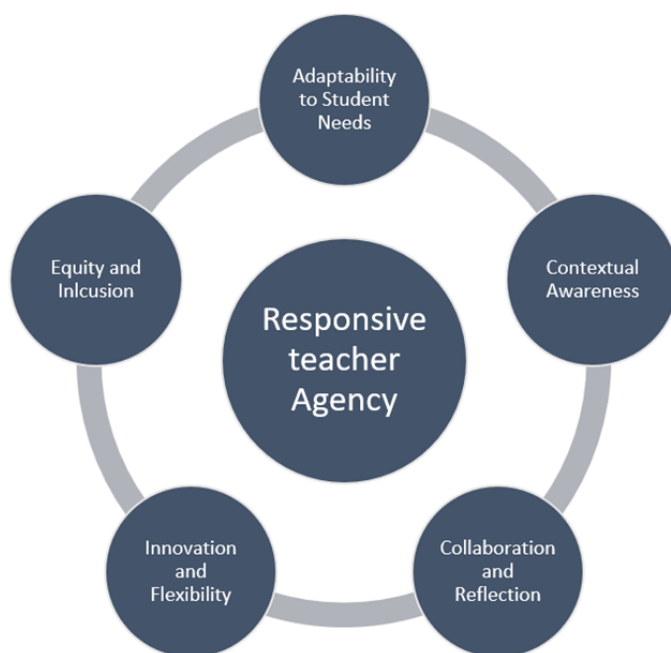


Figure 2. Responsive teacher agency model adapted from Molla and Nolan (2020)

Responsive teacher agency involves several key components that reflect how teachers adapt to and respond to their students' needs and the broader teaching context, as seen in Figure 2 above (Molla & Nolan, 2020). It includes adaptability to student needs, where teachers modify their practices to ensure equitable learning opportunities, especially for those facing educational disadvantages. Teachers with responsive agency are also contextually aware; they consider the sociocultural and institutional elements that influence their pedagogical milieu (Kettle et al., 2022; Leijen et al., 2020). They engage in collaboration and reflection to continuously refine their practices through feedback and shared insights with colleagues. Moreover, they exhibit innovation and flexibility, integrating new tools and strategies, such as technology, to enhance learning. Finally, responsive agency emphasizes equity and inclusion, with teachers committed to addressing disparities and ensuring all students have

opportunities to succeed (Halliday, 2024; Walker, 2023). Altogether, responsive teacher agency enables educators to effectively meet the diverse and evolving needs of their students in a dynamic learning environment.

Interpretative Phenomenological Analysis (IPA)

Interpretative Phenomenology, as outlined by Smith (2017), is a qualitative research approach that centers on understanding how individuals make sense of their lived experiences. Rooted in phenomenology and hermeneutics, this methodology emphasizes the subjective interpretation of personal experiences, aiming to capture the essence of these experiences as understood by the individuals themselves (Duffy & Ní Mhuirthile, 2024; Lindseth & Norberg, 2022). One of the defining features of Interpretative Phenomenology Analysis (IPA) is its focus on lived experience, exploring how individuals perceive and interpret significant events in their lives. This method uses a double hermeneutic approach, where the researcher interprets the participant’s interpretation of their experiences, recognizing the collaborative sense-making process between both parties (Smith et al., 2009). The idiographic nature of IPA allows for a deep dive into individual cases, with an emphasis on the nuances of each participant’s unique experience, rather than seeking to generalize findings across larger populations. Data collection in IPA typically involves semi-structured interviews, providing flexibility for participants to articulate their thoughts while guiding them with specific questions.

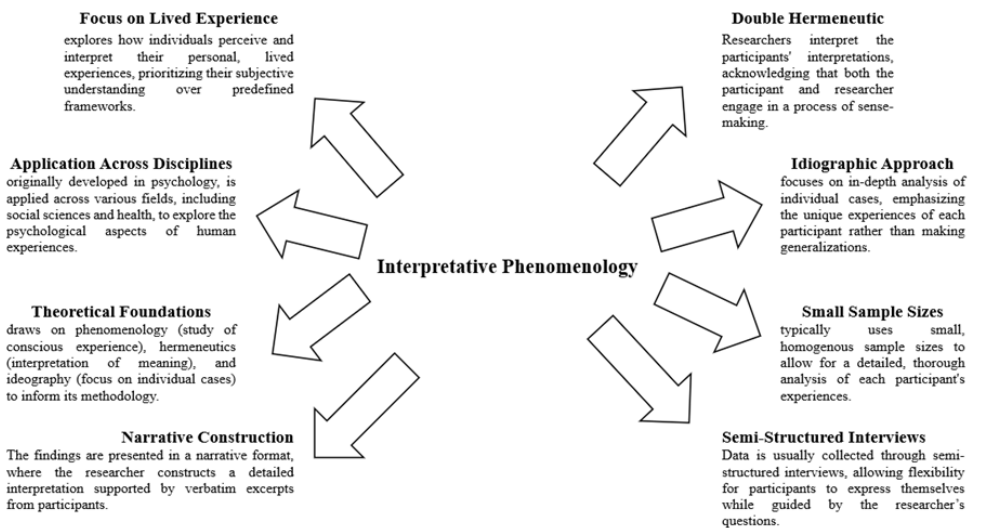


Figure 3. The characteristics of interpretative phenomenology adapted from Smith et al (2009)

IPA is underpinned by key theoretical perspectives, including phenomenology, which focuses on first-person experiences, and hermeneutics, which is concerned with the interpretation of meaning through language and context (Creswell & Poth, 2018). The process culminates in a narrative account, where researchers construct a detailed interpretation of the participants’ experiences,

supported by verbatim extracts from interviews. The theoretical and methodological foundations of IPA allow for its application across various disciplines, including psychology, social sciences, and health sciences, making it a versatile approach to exploring the psychological aspects of human experiences (Smith et al., 2009). IPA's emphasis on small sample sizes ensures that each participant's experience is thoroughly examined, revealing both converging and diverging themes. This approach provides a rich, detailed exploration of individual experiences, making it particularly valuable for researchers seeking to understand the complexities of human life from an interpretative perspective.

Selected studies on teacher agency in diverse instructional contexts (2020–2024)

The ten studies included in this literature review were selected through a purposive search of peer-reviewed journal articles published between 2020 and 2024. The literature retrieval process utilized repositories including Scopus, Google Scholar, and ScienceDirect, through the application of precise search terms. Studies were chosen based on their relevance to the conceptualization and enactment of teacher agency, especially in contexts involving pedagogical adaptation, instructional equity, and technology use. Priority was given to research that reflects diverse educational settings and provides insights applicable to EFL or language education. While not exhaustive, this selection offers a representative overview of recent developments and theoretical perspectives on teacher agency relevant to the focus of this study. Table 1 provides a structured overview of these studies, summarizing their key focus, and key findings.

Table 1. Selected studies on teacher agency in diverse instructional contexts (2020–2024)

Study	Focus	Key findings
(Nguyen & Huynh, 2023)	Teacher agency in Culturally Responsive Teaching (CRT) for ethnic minority students in Vietnam	Teachers lacked prior education for teaching ethnic minorities but developed CRT practices through engagement with local communities and cultural awareness.
(Chang, 2024)	Transformative agency in preservice bilingual teachers	Identified four types of warping actions: amplifying bilingual instruction, supporting bilingual learning, generating new knowledge, and professional growth.
(Trojan & Auger, 2022)	Teacher agency and constraints in a diverse French elementary classroom	Teacher agency was constrained by class size, curriculum, and training, but moments of agency emerged through bricolage with students.
(Jaber et al., 2024)	Role of epistemic empathy in responsive teaching	Epistemic empathy enhances teachers' responsiveness to students' intellectual and emotional experiences, fostering engagement and equity.
(Cherbow, 2023)	Teacher responsiveness in instructional design for students' epistemic agency	Teachers engaged in principled improvisation, balancing planned instruction with students' emergent science work, fostering shared epistemic agency.
(Kang, 2022)	Teacher responsiveness and equity in secondary science classrooms	Responsive teachers expanded opportunities for marginalized students by addressing identities, histories, and relational challenges.
(Ebby et al., 2023)	Learning responsive teaching through video-based asynchronous discourse	Asynchronous feedback enabled novice teachers to develop adaptive expertise and deliberative responses to student thinking.
(Damşa et al., 2021)	Teacher agency in online education during the COVID-19 crisis	Teachers exhibited varying levels of agency in adapting to online teaching, with some resisting and others transforming their practices.
(Sherman & Teemant, 2022)	Agentive triad model: agency, identity, and power in teacher action	Teacher agency emerges from the interaction of beliefs, institutional roles, and power, influencing authentic action.
(Hildén et al., 2023)	Teacher agency in preschool education in Sweden	Preschool teachers developed agency by negotiating tensions using professional core values and collective problem-solving.

While AI integration in language learning has been widely explored, research on its application in EFL writing instruction remains limited. Most studies focus on AI's role in enhancing learner autonomy, automated assessment, and feedback mechanisms, yet little attention has been given to how EFL teachers actively integrate AI tools into their writing instruction. The process of teacher decision-making and adaptation of AI in writing lessons is underexplored, leaving a gap in understanding how educators navigate AI-supported instruction in response to pedagogical needs and classroom challenges. Additionally, existing studies often depict AI as a fixed tool rather than examining how teachers dynamically adapt and modify AI's role to suit diverse instructional contexts. Given these gaps, this study addresses two guiding research questions:

1. How do Indonesian EFL teachers enact responsive teacher agency in integrating AI tools into their writing instruction methodologies?

2. What are the benefits and challenges of implementing responsive teacher agency in the incorporation of AI tools into writing instruction?



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This study explores how EFL teachers' agency is enacted in their instructional decisions and adaptations within AI-enhanced writing instruction. It offers a novel contribution by being among the first to examine responsive teacher agency in this context, shifting the focus from AI's technical capabilities to how teachers actively adapt these tools to align with pedagogical goals and classroom realities. By connecting AI integration with teacher decision-making, the study challenges the notion of AI as a passive aid and highlights the teacher's critical role in shaping its pedagogical use. Through a phenomenological lens, it provides rich insights into how educators navigate ethical, pedagogical, and institutional considerations, offering valuable implications for both research and practice.

Methodology

Study context and participants

This research was conducted within the context of English as a Foreign Language (EFL) instruction in Indonesian educational settings, utilizing an Interpretative Phenomenological Analysis (IPA) approach, as outlined by Smith et al. (2009). The study involved four EFL instructors, referred to as P1, P2, P3, and P4, who were selected based on specific criteria aligned with the research objectives and methodological requirements. The participants represented a balanced mix of educational levels and institution types. Two instructors taught at the secondary level: one at a public senior high school and one at a private senior high school. The other two taught at the tertiary level: one at a public university and one at a private university. This diversity of teaching contexts allowed the study to explore how responsive teacher agency in AI-enhanced writing instruction is enacted across different institutional environments, each with its own pedagogical, administrative, and technological affordances and constraints.

The participant selection criteria were developed in alignment with the study's research focus and the interpretative goals of IPA. IPA prioritizes depth of insight and experiential richness, requiring participants who are meaningfully engaged with the phenomenon under investigation (Smith, 2017). Since this study explores how teachers enact responsive agency in integrating AI tools into writing instruction, it was essential to include instructors who not only teach writing but also have practical experience using AI technologies in their instructional practices. The criterion related to AI integration experience ensured that participants could reflect on actual classroom practices rather than hypothetical use.

The inclusion of responsive agency awareness was grounded in the theoretical framework of Molla and Nolan (2020), which defines agency as a reflective, context-sensitive process. Lastly, diversity of perspectives – in terms of

teaching level, institutional type, and classroom experience – was intentionally prioritized to capture a range of educational realities that might influence how teacher agency is enacted. These criteria were designed to ensure both relevance to the research questions and richness of data.

Table 2. Participant selection parameters

Criteria	Description
Professional Role	Participants must be active EFL instructors teaching writing to students at the secondary or tertiary level.
Experience with AI Integration	Participants should have experience using AI tools in their writing instruction, either formally or informally.
Responsive Agency Awareness	Participants must reflect on how they respond to integrating AI tools in their writing practices, including adaptation and decision-making.
Willingness to Participate	Participants must voluntarily agree to participate and provide informed consent for ethical data collection.
Diversity of Perspectives	A range of teaching backgrounds was considered, including both public and private institutions at the secondary and tertiary levels, to ensure varied insights into AI integration and responsive teacher agency.

To enhance transparency and help readers understand how contextual factors might shape participant experiences, detailed background information for each participant is provided in Table 3. This includes their teaching level, institutional affiliation, years of teaching experience, subject focus, and familiarity with AI tools. Presenting this information supports a more comprehensive interpretation of the data and reinforces the credibility of the study’s findings.

Table 3. Participant profiles

Participant	Institution type	Level	Years of teaching experience	Subject focus	Familiarity with AI tools
P1	Public senior high school	Secondary	12 years	EFL writing and grammar	Moderate (uses Grammarly and ChatGPT)
P2	Private senior high school	Secondary	7 years	EFL writing and speaking	High (uses multiple AI tools regularly)
P3	Public university	Tertiary	15 years	Academic writing, ESP	High (designs lessons with AI-assisted tools)
P4	Private university	Tertiary	9 years	Writing, TOEFL preparation	Moderate (uses AI mostly for feedback)

While this study includes a small number of participants – consistent with the idiographic focus of Interpretative Phenomenological Analysis (IPA) – diversity in teaching level and institutional type was intentionally incorporated to

provide a range of experiential contexts, not for comparative generalization. IPA emphasizes depth over breadth (Creswell & Poth, 2018), and the aim was not to exhaustively represent all possible teaching settings, but to explore how responsive teacher agency is experienced and enacted across distinct, meaningful contexts. Each participant's narrative is treated as a detailed case, offering insight into the individual-context interaction rather than attempting broad claims across the education system.

The diversity in this small sample thus serves a heuristic function, allowing the study to illuminate how responsive teacher agency may manifest differently in varied settings. At the same time, the sample size is intentionally limited to ensure deep, idiographic analysis consistent with IPA's epistemological stance (Smith et al., 2009). Future research with larger or more homogeneous groups could build on these insights to explore patterns across settings more systematically.

Methods of data collection and analysis

This interpretative phenomenological study employed a structured, sequential approach to data collection and analysis. Drawing from the frameworks of Smith et al. (2009), Creswell and Poth (2018) and Braun and Clarke (2021), the research process unfolded in two distinct yet interconnected phases, each designed to address one of the study's two research questions. The main procedural steps are presented in the figure below.

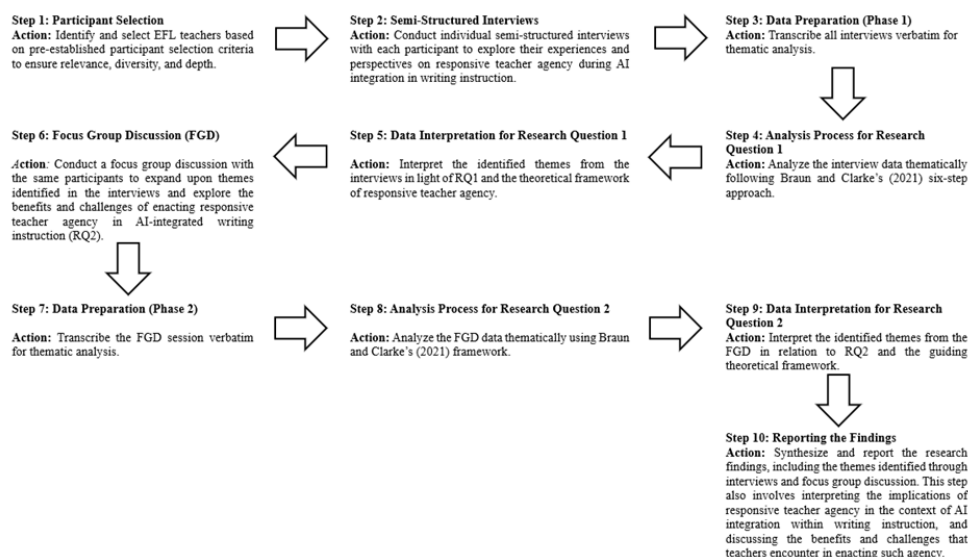


Figure 4. Procedural steps of the study

The data collecting procedure, as seen in Figure 4, consists of two phases: semi-structured interviews and Focus Group Discussions (FGD), modified from Molla and Nolan (2020). The preliminary stage entailed executing semi-structured interviews with four participants, aimed at eliciting in-depth insights into their experiences, perspectives, and expertise relevant to the research subject. The semi-structured format of the interviews facilitated a flexible methodology,

permitting the interviewer to explore critical topics more thoroughly while maintaining uniformity among all participants. The interview protocol is detailed in Table 4.

Table 4. Interview protocol

Component	Description
Purpose	To explore participants’ experiences and perceptions regarding the integration of AI tools into writing instruction, focusing on their responsive teacher agency.
Participants	Four EFL instructors with varied experiences in adapting to and utilizing AI tools for writing instruction.
Interview format	Semi-structured format, allowing flexibility to delve into participants’ responses and explore their adaptive strategies and responsiveness.
Duration	Each interview lasted approximately 45–60 minutes to allow comprehensive discussion on responsive agency and AI integration.
Location	Conducted in a comfortable and quiet setting, either in person or online, to facilitate candid and reflective conversations.
Interview guide	A set of prepared questions focusing on themes deductively derived from Molla and Nolan’s (2020) conceptualization of moral and responsive teacher agency. These themes included: Adaptability to Students’ Needs, Contextual Awareness, Collaboration and Reflection, Innovation and Flexibility, and Equity and Inclusion. Questions were designed to explore how teachers enacted these dimensions in the integration of AI tools into writing instruction. The semi-structured format also allowed opportunities for additional themes to emerge inductively during the interviews.
Recording and transcription	Interviews were audio-recorded with participants’ consent and subsequently transcribed verbatim to ensure accurate data analysis.

In the second phase, the findings from the interviews directly informed the development of prompts for the Focus Group Discussion (FGD). The themes identified from the interviews served as the foundation for the FGD, allowing for further exploration of the perceived benefits and challenges of implementing responsive teacher agency in AI-enhanced writing instruction (RQ2). The FGD was conducted with the same four participants who were involved in the initial interviews. This decision was both methodologically appropriate and strategically beneficial. These participants possess first-hand, contextual experience with both the enactment of responsive teacher agency and its practical outcomes, making them uniquely qualified to reflect meaningfully on both phases of the study.

Using the same participants for both the semi-structured interviews and the FGD supports continuity, depth, and trust, all of which are crucial in interpretative research. It enhances the richness of the data by building on previously established rapport, and it allows the study to engage in methodological triangulation – cross-validating and refining emerging themes through both individual and collective lenses. This approach also serves as a form of member checking, improving the credibility and coherence of the findings across the two research questions. The FGD protocol is outlined in Table 5.

Table 5. FGD protocol

Component	Description
Purpose	To explore the benefits and challenges of responsive teacher agency in AI-integrated writing instruction by building on interview findings through collaborative reflection and group dialogue.
Participants	Four EFL instructors participated in semi-structured interviews, engaging in group discussions to compare and reflect on their experiences of responsive teacher agency.
Format	Focus group discussion utilizing open-ended questions aimed at fostering dialogue around responsiveness, flexibility, and decision-making within the framework of AI integration in writing education.
Duration	Approximately 60 to 90 minutes to make sure that all of the different and common points of view on responsive teacher agency are fully explored.
Location	Executed in a serene, comfortable environment, whether in-person or online, to promote active engagement and transparent dialogue.
Discussion guide	A list of open-ended questions based on the first interviews, covering topics like making decisions that are adaptable, ways to deal with problems, thoughts on how responsive people are to AI integration, and working together to solve problems. Follow-up questions were included to deepen the discussion.
Recording and transcription	The FGD session was audio-recorded with participants' consent and transcribed to capture detailed insights and group dynamics for analysis.
Data analysis	Thematic analysis was utilized to understand the debate, concentrating on detecting patterns and themes concerning participants' reactivity, flexibility, and decision-making processes in the context of AI integration in writing instruction.

Following Braun and Clarke (2021), thematic analysis was used to examine data from semi-structured interviews and focus group discussions. The process began with familiarization through detailed transcript review, followed by coding key segments related to responsive teacher agency and AI integration. Similar codes were grouped into themes, which were then refined to align with study objectives and accurately reflect participant experiences. The primary researcher conducted all coding, while the second and third researchers independently reviewed a subset of transcripts. Any discrepancies were resolved through discussion to ensure consistency, credibility, and alignment with the study's conceptual framework.

Findings

Research qquestion 1: Enacting responsive teacher agency in AI-integrated writing instruction

Thematic analysis was conducted using a hybrid approach to explore how Indonesian EFL teachers enact responsive teacher agency in integrating AI tools into writing instruction. Guided primarily by the five dimensions of Molla and Nolan's (2020) framework, the data were first organized deductively into these pre-defined themes. An inductive process then followed to identify emerging sub-themes within each dimension. Initial coding combined

theoretical categorization with exploration of specific patterns in the data. To enrich the analysis, illustrative quotes from participants are provided to show how each theme was enacted in practice. Table 6 (below) presents the main themes, inductively derived sub-themes, descriptions, codes, and supporting quotes.

The findings under the theme of Adaptability to Student Needs revealed how Indonesian EFL teachers demonstrated responsive teacher agency by using AI tools to personalize and differentiate writing instruction. Through AI-driven personalization of writing tasks, teachers actively tailored instructional content to match students' interests, proficiency levels, and learning preferences. This adaptive use of AI – such as generating prompts through ChatGPT that aligned with students' hobbies or cultural interests – not only fostered engagement but also showed the teachers' awareness of learners as individuals. Such responsiveness illustrated an intentional pedagogical shift, where technology became a means to deepen student-centered learning and address diverse classroom needs, thereby extending teacher agency into new, tech-mediated forms of personalization.

The use of AI for targeted feedback and error correction reflected teachers' commitment to addressing individual learning gaps in writing. Teachers facilitated greater learner autonomy and language awareness when they incorporated tools such as Grammarly or QuillBot, which enabled students to identify and rectify typical linguistic errors. This strategy underscored how responsive agency was enacted through the thoughtful selection and application of technology to scaffold students' writing development rather than replace teacher guidance. It also suggested that teachers were actively negotiating the balance between leveraging AI affordances and maintaining their pedagogical judgment, thereby positioning themselves as adaptive agents who mediated between students' needs and technological innovation within writing instruction.

The findings related to Contextual Awareness demonstrated how responsive teacher agency was enacted through culturally and linguistically sensitive integration of AI tools. EFL teachers adapted AI-generated content to reflect students' cultural identities, linguistic norms, and local realities, ensuring that examples and language used in AI-supported writing instruction resonated with learners' lived experiences. By modifying tools like ChatGPT to include culturally relevant prompts – such as references to Indonesian traditions – teachers displayed an acute awareness of how cultural dissonance could affect comprehension and engagement. This practice reflected a commitment to equity and inclusivity, where AI was not employed with a generalized framework, but rather customized to maintain cultural relevance in the writing classroom.

Table 6. Themes and sub-themes reflecting EFL teachers' responsive agency in AI-integrated writing instruction

Main theme	Sub-theme	Description	Code(s)	Quotes (participant 1-4)
Adaptability to Student Needs	AI-Driven Personalization of Writing Tasks	Tailoring AI-supported writing activities based on students' levels, interests, and preferences.	Personalizing prompts, Adaptive task design	"I use ChatGPT to generate prompts based on topics they enjoy, like K-pop or football." (P1)
	Targeted Feedback and Error Correction through AI	Using AI to offer feedback aligned with individual language challenges in writing.	Grammar focus, Tailored feedback, AI correction	"Grammarly helps them notice their usual grammar mistakes without me always correcting." (P2)
Contextual Awareness	Culturally and Linguistically Responsive AI Use	Aligning AI-generated examples or language with students' cultural and linguistic backgrounds.	Localized examples, Cultural match	"Sometimes I change ChatGPT's examples to match local contexts like Indonesian traditions." (P3)
	Managing Access and Digital Readiness	Adapting the use of AI tools based on students' access and familiarity with technology.	Tool accessibility, Digital gap support	"Some students didn't know how to use QuillBot, so I guided them step-by-step." (P4)
Collaboration and Reflection	Peer and Collegial Exchange on AI Practices	Teachers collaborate and share strategies for integrating AI into writing lessons.	Teacher discussions, Idea sharing	"I learned about using AI for feedback from a colleague in our teacher forum." (P1)
	Reflective Adjustment of AI-Integrated Lessons	Teachers reflect on students' experiences with AI tools to improve instructional practices.	Lesson improvement, Student response reflection	"After seeing students rely too much on AI, I asked them to first write without it." (P2)
Innovation and Flexibility	Creative Integration of AI in the Writing Process	Embedding AI tools into various writing stages (drafting, revising, etc.) to foster creativity and autonomy.	AI for brainstorming, Revising with AI	"They use ChatGPT to explore ideas before drafting – it really helps them start writing." (P3)
	Flexible Instructional Shifts in Response to AI	Adjusting pacing, feedback, or lesson format based on how students interact with AI tools.	Adapting methods, Pacing flexibility	"When I saw AI feedback confused them, I paused and explained it together in class." (P4)
Equity and Inclusion	Ensuring Fair AI Access and Literacy	Supporting students with limited digital skills or access to AI tools.	Digital equity, Inclusion strategies	"I allow smartphone use in class because some don't have laptops to run AI tools." (P1)
	Using AI to Scaffold Writing for Marginalized Learners	Employing AI tools to support students with additional learning needs or lower proficiency.	Language support, Confidence building	"ChatGPT helps my low-level students build basic sentences – they feel more confident now." (P2)

The sub-theme of managing access and digital readiness revealed teachers' responsiveness to structural and technological inequalities among students. Some learners had limited experience with digital tools or inconsistent access to devices and internet connectivity. In response, teachers acted as facilitators by scaffolding the use of AI, offering step-by-step guidance, and ensuring that no student was excluded from learning opportunities due to digital unfamiliarity. This proactive support indicated a strong sense of contextual sensitivity and a willingness to adjust instructional strategies to bridge digital divides. Such enactment of responsive agency affirmed that effective AI integration in writing instruction was not only about using advanced tools, but also about ensuring equitable access and meaningful participation for all learners.

The findings within the theme of Collaboration and Reflection illustrated how responsive teacher agency was enacted through shared professional learning and critical self-evaluation in the integration of AI tools. Teachers actively engaged in collegial dialogue – such as participating in teacher forums or informal peer discussions – to exchange strategies and insights on effective AI use in writing instruction. This peer collaboration fostered a culture of collective growth, where educators co-constructed knowledge and refined their practices in response to emerging technologies. The willingness to learn from others and share practical AI applications underscored the dynamic and social nature of teacher agency, highlighting that responsiveness was not developed in isolation but nurtured within supportive professional communities.

The sub-theme of reflective adjustment demonstrated how teachers continually assessed the impact of AI use on student learning and made informed changes to their instructional approaches. For instance, when noticing students' overdependence on AI tools, teachers adapted their lessons to encourage more balanced and independent writing practices. This type of pedagogical reflection was central to responsive agency, as it showed a teacher's capacity to critically evaluate the outcomes of AI integration and adjust practices to maintain instructional integrity and learning effectiveness. Through this cycle of reflection and revision, teachers demonstrated a commitment to responsive, student-centered instruction that prioritized meaningful engagement with both content and technology.

The theme of Innovation and Flexibility reflected how responsive teacher agency was enacted through the creative and strategic integration of AI tools into various stages of the writing process. Teachers empowered students by embedding AI-supported activities such as brainstorming with ChatGPT or revising drafts using grammar-checking tools. These practices not only promoted learner autonomy and confidence but also encouraged experimentation and idea development in ways that might not have been achievable through traditional instruction alone. By introducing AI as a collaborative writing partner rather than a passive tool, teachers reimagined conventional approaches and positioned themselves as adaptive facilitators who embraced innovation to enrich the writing experience.

Moreover, the sub-theme of flexible instructional shifts highlighted how teachers responded in real-time to students' interactions with AI, adjusting

their lesson pacing, structure, or mode of feedback to ensure meaningful learning. When AI-generated feedback overwhelmed or confused students, teachers intervened thoughtfully, clarifying misunderstandings and scaffolding their students' use of the tool. This responsiveness to learners' cognitive and emotional reactions to technology exemplified a flexible pedagogical stance, where instructional choices were constantly refined based on classroom realities. Such adaptability illustrated a key aspect of responsive agency: the ability to navigate evolving teaching contexts while maintaining a focus on supporting students' individual learning journeys in an AI-enhanced environment.

The findings under Equity and Inclusion underscored how responsive teacher agency was enacted through deliberate efforts to address disparities in access to AI tools and digital literacy. Teachers demonstrated sensitivity to students' varying technological circumstances by adapting classroom policies – such as allowing smartphone use – to ensure all learners could engage with AI-supported writing tasks regardless of their device availability. These actions reflected a commitment to digital equity, where technological innovation was not seen as inherently inclusive but had to be supported by thoughtful instructional choices that bridged access gaps. This enactment of agency highlighted the teacher's role in mitigating systemic barriers and ensuring that all students benefited from AI-enhanced instruction.

Additionally, using AI tools as scaffolds for marginalized or lower-proficiency learners illustrated how responsive educators leveraged technology to promote inclusive learning. Teachers used AI to support foundational writing skills, helping students construct basic sentence structures and gradually build confidence in their writing abilities. This use of AI as a personalized support mechanism empowered students who might otherwise have struggled to participate meaningfully in writing tasks. It reflected a responsive pedagogical approach grounded in fairness, where technology became a tool for leveling the learning field rather than exacerbating existing inequalities. Through these inclusive strategies, teachers demonstrated a refined awareness of learner diversity and took proactive steps to ensure that AI integration served all students – not just the digitally fluent or academically strong.

Research question 2: Benefits and challenges of exercising responsive teacher agency in AI-integrated writing instruction

To address the second research question, data were gathered through a focus group discussion (FGD) developed from themes identified in the earlier semi-structured interviews. This phase enabled a deeper, collaborative exploration of how teachers enacted responsive agency in the integration of AI tools within writing instruction. The findings, presented in Table 7, highlight three key benefits: personalized instruction, reflective teaching, and enhanced teacher-student interaction. Each theme is supported by codes and direct participant quotations that illustrate how these benefits were realized in classroom practice.

Table 7. Benefits of responsive teacher agency in AI-integrated writing instruction

Theme	Code	Description	Supporting quotes (with participants)
Empowering Teachers to Personalize Instruction	Adaptation of AI to student needs	Teachers adapted AI tools to address individual students' specific writing needs through tailored activities and feedback.	"Using AI tools like Grammarly gives me the flexibility to focus on higher-level issues like structure and argumentation, while the AI handles basic grammar correction." (P2)
Facilitating Reflective Teaching Practices	Data-informed reflection	Teachers used real-time AI feedback to dynamically reflect and adapt their teaching strategies during instruction.	"AI tools let me see patterns in student mistakes quickly, which gives me the chance to address common errors during the next lesson." (P1)
Enhancing Teacher-Student Interaction through AI Integration	Focusing on higher-order teaching	Automating routine tasks with AI enabled teachers to focus more on individual support and critical writing instruction.	- "AI helps me handle mechanical aspects of writing, which frees up time to engage students in discussions about their ideas, voice, and organization." (P4)

These insights suggest that when teachers are given space to exercise professional judgment, adapt AI tools to local classroom realities, and reflect critically on their instructional approaches, AI integration becomes a dynamic and empowering process. Responsive teacher agency thus serves as a catalyst for maximizing the pedagogical value of AI technologies in writing instruction. To further address the second research question, the focus group discussion (FGD) revealed several challenges teachers encountered in enacting responsive agency during AI integration in writing instruction. Building on themes from the interviews, the FGD allowed participants to express shared concerns and contextual complexities. The discussion underscored the gap between AI's potential and the practical limitations surrounding its responsive use. These challenges extended beyond technology, involving pedagogical autonomy, access disparities, and institutional constraints. Table 8 outlines four key challenges: navigating autonomy in AI-driven settings, balancing flexibility with standardization, digital access gaps, and time/resource limitations – each supported by relevant codes and participant quotes.

Table 8. Challenges of responsive teacher agency in AI-integrated writing instruction

Theme	Code	Description	Supporting quotes (participants)
Navigating Teacher Autonomy in AI-Driven Environments	Perceived loss of autonomy	Some teachers felt AI tools constrained their professional judgment and instructional flexibility.	"Sometimes, I feel like the AI tools are doing too much of the work for me. It's hard to maintain my teaching autonomy when the AI is suggesting exactly how to structure everything." (P3)
Balancing Flexibility with Standardization	Mismatch with classroom dynamics	AI tools often follow rigid frameworks, limiting their adaptability to the nuances of classroom contexts.	"AI tools are great for certain tasks, but I still need to adjust my approach based on classroom context, which isn't always captured by the AI." (P4)
The Digital Divide and Access Issues	Inequitable access and digital literacy	Unequal access to devices and varying digital skills hindered equitable AI tool integration.	"There are significant disparities in digital literacy among my students, and that means I have to adjust my teaching to make sure everyone can access the AI tools properly." (P4)
Time and Resource Constraints	Lack of time and support for integration	Teachers struggled with the time and effort required to meaningfully integrate AI into their instruction.	"Incorporating AI into my lessons takes time – I have to learn how to use the tools, set them up, and then adapt them to fit the needs of the students. That's a lot of extra work." (P2)

While AI tools hold promises for enhancing writing instruction, these findings underscore that responsive teacher agency is not automatically enabled by their presence. Instead, meaningful and equitable integration depends on institutional support, thoughtful design, and continuous teacher adaptation. Addressing these challenges is critical to ensuring that AI integration complements rather than compromises the refined, context-sensitive judgment that defines effective teaching.

Discussion

This interpretative phenomenological study explored how Indonesian EFL teachers enact responsive teacher agency when integrating AI tools into their writing instruction, as well as the benefits and challenges they encounter in this process. The findings revealed multifaceted dimensions of responsive teacher agency across five key domains adapted from Molla and Nolan’s (2020) framework. The findings demonstrated that responsive teacher agency in AI-enhanced writing instruction is not a singular phenomenon but a complex, multidimensional construct that manifests in various pedagogical decisions and adaptations. When integrating AI tools into writing instruction, teachers exhibited agency through multiple, interconnected pathways, including personalization of tasks, culturally responsive tool adaptation, reflective practice,

creative integration of AI across writing stages, and efforts to ensure equitable access. The findings highlight how technological integration creates unique spaces for agency expression. As Willliyan et al. (2025) observed in their study of teacher agency, teachers often find moments of agency through creatively combining available resources to meet student needs. Similarly, participants in this study combined AI tools with traditional methods, adapting AI-generated content to local contexts, and creating hybrid approaches that leveraged both technological affordances and human expertise.

The participants' enactment of responsive agency through AI personalization echoes Jaber et al.'s (2024) findings on epistemic empathy, where teachers' responsiveness is enhanced through understanding students' intellectual and emotional experiences. In the current study, teachers used AI tools like ChatGPT to generate culturally relevant prompts or Grammarly to provide targeted feedback, demonstrating how technology can extend teachers' epistemic empathy by enabling more personalized engagement with students' writing needs. This suggests that when integrated thoughtfully, AI can amplify rather than diminish teachers' responsive agency by expanding their capacity to address individual learning needs.

A significant finding of this study concerns how contextual factors mediate teachers' responsive agency when integrating AI tools into writing instruction. Participants demonstrated acute awareness of how technological, cultural, and institutional factors shaped their ability to enact agency. Their efforts to adapt AI-generated content to reflect local cultural contexts and to address digital access disparities highlighted the situated nature of teacher agency, reinforcing Montgomery and De Costa's (2024) observation that teacher agency in technological contexts is fundamentally relational and contextually embedded. The participants' navigation of contextual constraints resonates with Li (2023) which emphasizes the interplay between agency, identity, and power. In adjusting AI tools to accommodate local cultural references or managing digital equity issues, teachers were negotiating complex power dynamics related to technology access and cultural representation. This supports findings by Pasternak et al. (2023) that responsive teachers expand opportunities for marginalized students by addressing identities, histories, and relational challenges. In the context of AI integration, this expanded to include awareness of technological marginalization and digital literacy disparities.

The current study extends these understandings by demonstrating how contextual mediation in AI-enhanced environments creates unique frictions between global technological affordances and local educational realities. Participants struggled to reconcile the standardized, often Western-centric nature of AI tools with their students' specific cultural and linguistic backgrounds, revealing a challenge not fully captured in existing models of teacher agency. This tension echoes what Markey et al. (2023) found regarding teachers' development of culturally responsive teaching practices for diverse higher education students, where teachers needed to adapt general pedagogical approaches to specific cultural contexts. Similarly, EFL teachers in this study

had to localize AI tools – often designed for global, standardized use – to ensure cultural relevance and accessibility.

The findings revealed that teachers' enactment of responsive agency in AI integration was fundamentally collaborative, involving peer exchanges, collective problem-solving, and shared reflective practices. This collaborative dimension of agency aligns with Cong-Lem and Nguyen (2024), who emphasized the development of agency through collective problem-solving as a means of navigating challenges. Similarly, participants in the current study shared AI integration strategies through teacher forums and informal peer discussions, collectively navigating the challenges and opportunities presented by these new tools. This collaborative aspect of responsive agency represents a departure from individualistic conceptions of teacher agency and supports a more social, distributed understanding of how teachers navigate technological change. As Chang (2024) noted, agency can manifest through “warping actions” that generate new knowledge and support professional growth. The current study suggests that AI integration can serve as a catalyst for such transformative agency when embedded within collaborative professional communities that support experimentation, reflection, and knowledge sharing.

The focus group discussion revealed a complex interplay of benefits and challenges associated with exercising responsive teacher agency in AI-integrated writing instruction. The benefits – including enhanced personalization, data-informed reflection, and deeper teacher-student interaction – align with previous research on technology integration in language teaching (Hajira et al., 2024; Lee & Wu, 2024; Willliyan et al., 2024). However, the current study contributes a more comprehensive understanding of how these benefits are specifically mediated through teachers' responsive agency rather than emerging automatically from the technology itself. Participants' concerns about navigating autonomy in AI-driven environments raise important questions about the relationship between technological affordances and teacher agency. The perceived conflict between AI-driven efficiency and pedagogical judgment reflects the insights of Karataş et al. (2025) that teachers must balance planned instruction with responsive adaptation. In AI-enhanced writing instruction, this balancing act becomes more complex as teachers negotiate between technological efficiency and pedagogical authenticity, automated feedback and human insight, standardization and personalization.

The challenges related to digital equity and access underscore how technological integration can amplify existing educational disparities without careful, agency-driven mediation by teachers. This finding extends Nagel et al.'s (2023) emphasis on equity and inclusion in teacher agency by highlighting how digital technologies introduce new dimensions of potential exclusion that responsive teachers must actively address. The participants' strategies for managing these disparities – such as allowing smartphone use for AI access or providing stepped guidance for digitally less-fluent students – demonstrate how responsive agency can mitigate, though not eliminate, structural inequalities in educational technology access. Time and resource constraints emerged as significant barriers to fully realized responsive agency in AI integration, reflecting

what Manninen et al. (2022) identified as conflicting educational policies that simultaneously promote empowerment while limiting autonomy. When teachers lack adequate time, training, or institutional support for thoughtful AI integration, their responsive agency is constrained, potentially reducing AI tools to superficial add-ons rather than transformative pedagogical resources. This suggests that institutional structures and policies play a crucial role in either enabling or restricting teachers' responsive agency in technological contexts.

Conclusion

This study highlights the importance of responsive teacher agency in leveraging AI tools within writing instruction. The ability of teachers to make informed, context-specific decisions regarding the integration of AI – while considering both the potential benefits and challenges – plays a critical role in ensuring that AI enhances, rather than hinders, the learning experience. While this study provides valuable insights into how EFL teachers enact responsive agency in AI-integrated writing instruction, the focus on Indonesian EFL settings means that findings may not fully translate to contexts with different educational policies, cultural values, or technological infrastructures. Future research could expand on this study by exploring responsive teacher agency in AI integration across diverse educational settings and subject areas. Longitudinal studies could examine how teachers' responsive agency evolves over time as they gain experience with AI tools and as these technologies continue to develop. Comparative studies might investigate differences in responsive agency enactment across educational levels, institutional types, or cultural contexts.

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Appendix A

Semi structured interview question adapted from Molla and Nolan (2020)

1. Adaptability to Students' Needs

Focus: personalization, differentiation, and responsiveness through AI tools

- In what ways do you tailor your teaching methods using AI tools to accommodate the individual learning styles of EFL learners in writing instruction?
- How do AI tools help you identify and address students' strengths and weaknesses in writing to provide personalized support?
- Can you provide examples of how you use AI-based feedback or writing assistants to personalize instruction for diverse learners?
- How do AI tools support your efforts to get to know your students?

learning needs on a deeper level, and how does this inform your writing instruction?

- How do you incorporate students' interests, gathered via AI-assisted tools (e.g., personalized prompts), into writing lessons to increase engagement?

2. Contextual Awareness

Focus: recognizing students' backgrounds and contexts using AI insights

- How do you use AI tools to gain insights into your students' backgrounds, interests, or writing habits to foster an inclusive writing environment?
- In what ways do AI tools help you communicate or collaborate with students' families regarding their writing progress?
- How do you support students personally and academically using AI tools designed for writing development?
- How do your AI-integrated writing activities prepare students not only for academic success but also for real-world communication and expression?
- How do AI tools support social and emotional aspects of writing learning in your classroom?

3. Collaboration and Reflection

Focus: reflective and shared AI practices

- How do you collaborate with colleagues in exploring and sharing effective ways to integrate AI tools in writing instruction?
- Have you involved students in collaborative AI-based writing projects, and how has this influenced their learning outcomes?
- How do you partner with local educational institutions or communities to explore AI-enhanced writing practices?

4. Innovation and Flexibility

Focus: using AI tools creatively and responsively

- How do you integrate AI tools (e.g., Grammarly, ChatGPT, QuillBot) to make your writing instruction more innovative and effective?
- How do you adjust your teaching methods to flexibly respond to the challenges and opportunities presented by AI integration in writing?

5. Equity and Inclusion

Focus: using AI to support fairness and inclusion

- Can you describe instances where AI tools helped you promote inclusive writing practices or challenge bias in writing instruction?
- How do you ensure that AI tools are used equitably and do not disadvantage certain groups of learners in your writing classes?
- Could you share examples of how you advocate for equitable access to AI resources in your institution's writing programs?

6. Closing Questions

- In your opinion, how does the use of AI tools enhance your responsiveness to students' writing needs in EFL contexts?
- Is there anything else you'd like to share about your experiences or challenges related to AI integration in teaching writing?

1. Adaptability to Student Needs

Focus: Personalization and responsiveness through AI tools.

- In the interviews, we discussed how AI tools were used to personalize writing tasks and feedback. Can you share additional examples or strategies that have worked for you in adapting AI tools to meet diverse student needs in writing instruction?
- How do you collectively approach challenges related to tailoring AI-supported activities to different student proficiency levels or learning styles in your writing classes? How can we further improve these practices?
- How do you ensure that students are benefiting from AI-based feedback without losing the personal touch in your instruction?

2. Contextual Awareness

Focus: Culturally and contextually relevant use of AI tools.

- Some teachers mentioned adapting AI-generated examples to align with local cultural contexts (e.g., Indonesian traditions). How do you balance the use of AI tools while ensuring they align with students' cultural backgrounds and personal experiences?
- What challenges do you face in using AI tools to reflect your students' cultural and linguistic realities in writing instruction? How can we overcome these challenges?
- How do you address digital equity when some students have limited access to the necessary tools and resources for AI-based writing tasks?

3. Collaboration and Reflection

Focus: Shared professional learning and reflective practice.

- In the interviews, teachers highlighted collaboration with colleagues in sharing strategies and reflections on AI integration in writing instruction. What are some ways we can foster more meaningful collaboration around AI integration across our teaching teams or institutions?
- How do you involve students in reflecting on their own use of AI tools? Can you provide an example of how student feedback has helped you adjust your AI-integrated lessons?
- How can we collectively build a reflective culture that helps us adjust our teaching methods in response to AI's role in our classrooms?

4. Innovation and Flexibility

Focus: Creative use of AI tools and flexible teaching methods.

- Some of you mentioned using AI tools creatively, such as incorporating ChatGPT for brainstorming or revising. What new, innovative ways can we explore AI's potential in the writing process? Are there other tools we can integrate in unique ways?
- When things don't go as planned with AI tools in writing instruction (e.g., students feeling overwhelmed by AI-generated feedback), how do we adjust our teaching methods flexibly to maintain effective learning?
- Can you think of any areas where we might need to be more flexible

or innovative in adapting AI-based activities to suit different learning contexts?

5. Equity and Inclusion

Focus: Ensuring equitable AI access and supporting diverse learners.

- We've talked about using AI to support students with diverse learning needs, such as those with lower proficiency. How can we ensure that AI tools are being used to support all students, especially those with additional learning needs or who are digitally disadvantaged?
- How do you approach the issue of digital equity in your classrooms? What strategies can we implement to ensure that all students have fair access to AI tools and are not excluded due to their socio-economic background or lack of digital skills?
- How do you see the role of AI tools in promoting inclusivity in writing classrooms? Are there specific AI features or strategies that can help marginalized students succeed?

6. Closing Reflections and Forward-Looking Questions

- Reflecting on our collective discussion today, what are the most significant benefits and challenges you see in incorporating AI tools into writing instruction? How can we collectively overcome some of these challenges?
- Looking ahead, how do you envision the future of AI in your writing pedagogy? What do you hope will change in the way we use AI tools in our classrooms, and what support do you need to make this happen?
- How can we as a community of educators advocate for more equitable access to AI resources in our schools or institutions?

