New Trends in Qualitative Research

(cc) BY-NC-ND

VOLUME **22** | Nº **4**

DOI:
https://doi.org/10.36367/ntqr.22.4.2026.e1384

Bachtiar Bachtiar

Maya Puspitasari

Effendi Mantang

Hilman Qudratuddarsi

Submission date: January, 2026
Review date: July, 2026
Publication date: November, 2026

REFLEXIVE THEMATIC ANALYSIS ACROSS UNEQUAL EDUCATIONAL CONTEXTS: METHODOLOGICAL LESSONS

ABSTRACT

Recent scholarship on the integration of artificial intelligence (AI) in education has increasingly emphasized its potential to transform teaching and learning. However, less attention has been given to how AI use is interpreted, mediated, and adapted across unequal educational contexts. This study examines how English as a Foreign Language (EFL) teachers mediate AI integration across three Indonesian districts representing relatively higher-, intermediate-, and lower-resource literacy contexts, and reflects on the methodological implications of conducting qualitative inquiry in such diverse settings. Employing a multi-site qualitative design, the study drew on three complementary data sources: a background questionnaire containing open-ended responses, Professional Learning Community (PLC) observations, and semi-structured interviews with 18 teachers. Data were analysed through Reflexive Thematic Analysis (RTA) and context-sensitive cross-site comparison. Consistent with an interpretive orientation, themes were constructed through iterative engagement with the data, researcher reflexivity, and comparison across sites rather than being treated as objectively discovered patterns. The analysis generated three interrelated themes: teacher-driven and purpose-oriented AI use, negotiation of pedagogical and ethical risks, and contextually differentiated pathways of AI integration. Teachers in the relatively higher-resource literacy context described more integrated and student-facing uses of AI; those in the intermediate-resource literacy context reported more selective and supplementary use; while those in the relatively lower-resource literacy context primarily used AI for lesson preparation and offline adaptation. These differences indicate that AI integration is shaped by teacher agency, as well as by infrastructure, digital culture, and institutional support. Methodologically, the study demonstrates the value of combining multi-source qualitative data, Reflexive Thematic Analysis, researcher reflexivity, and cross-site comparison to examine educational technology practices across unequal settings. It also shows how contextual asymmetries can be treated as analytical resources rather than methodological limitations, offering transferable insights for multi-site qualitative research in diverse educational environments.

Keywords
Teacher mediation; Professional learning communities; Artificial intelligence; Language teaching; Digital inequalities.

1. Introduction

The development of artificial intelligence (AI) in recent years has brought significant changes in educational practices, including in the teaching of English as a foreign language (EFL) in Indonesia (Bachtiar et al., 2026). Various AI-based technologies, such as large language models, automated feedback systems, and adaptive learning platforms, are increasingly being used to support lesson planning, classroom interactions, and assessment processes (Chehimi & Hejase, 2025; Choi et al., 2025). AI is frequently presented in educational discourse as an innovative tool that can improve efficiency, support personalized learning, and respond to diverse student needs (Kovalenko & Baranivska, 2024; Yunus & Bachtiar, 2025b). However, its increasing adoption also raises important questions about how these technologies are interpreted, adapted, and negotiated in everyday teaching practices.

In the context of EFL, AI can support the development of learning materials and language exercises and facilitate formative assessment. Features such as automated writing feedback, speech recognition for pronunciation practice, and AI-generated learning materials can provide students with more immediate feedback and opportunities to practice independently outside the classroom (Al-Bogami & Alahmadi, 2025; Peña-Acuña & Durão, 2024). However, a number of studies have shown that AI outputs are not always aligned with curriculum goals, students' language proficiency levels, or the socio-cultural contexts in which learning takes place (Amouri et al., 2025; Wuttikamonchai, 2025). When AI use is not critically evaluated, it may result in oversimplified language, inaccurate content, or assessments that are poorly aligned with intended learning outcomes (Kovalenko & Baranivska, 2024). This indicates that AI integration should not be understood solely as a technological issue, but as a complex and context-dependent pedagogical practice.

This complexity becomes particularly evident when attention shifts to the role of teachers in mediating AI use. Teachers' role extends beyond operating AI tools: they need to critically evaluate and adapt GenAI-generated teaching materials before using them in the classroom (Choi et al., 2025). This process involves pedagogical judgment, contextual awareness, and professional responsibility. It also involves maintaining academic integrity and ensuring that AI supports rather than replaces students' cognitive engagement (de Sousa et al., 2025; Vetter et al., 2024). AI integration in EFL classrooms, therefore, does not follow a uniform process; instead, it is shaped by situational and reflective decisions grounded in local teaching conditions.

Teachers' understandings of AI are shaped not only by individual experience but also by social and professional interaction. In this context, PLCs provide important spaces in which teachers can share experiences, discuss challenges, and develop shared understandings of AI use in teaching (Kankpog et al., 2024). Through these collective discussions, teachers share instructional strategies and negotiate the ethical and pedagogical boundaries of AI use (Jin et al., 2025; Rice et al., 2025). PLCs can therefore contribute to the development of more context-sensitive and responsible approaches to AI integration.

However, studying how teachers mediate AI across diverse educational settings presents particular methodological challenges, especially in Indonesia, where substantial regional differences exist in literacy levels, access to educational technology, and professional support (Bachtiar et al., 2024; Juhana et al., 2026; Pratiwi et al., 2024). Under these conditions, AI use may vary considerably in both intensity and form, as well as in how teachers interpret and integrate the technology into their teaching (Bachtiar, 2025; Yunus & Bachtiar, 2025a). Such variation poses challenges for qualitative inquiry because teachers' practices are contextual, layered, and not necessarily enacted in the same way across settings.

A number of previous studies have tended to focus on teachers' perceptions or attitudes towards the use of AI (e.g., Choi et al., 2025; Ruiz Viruel et al., 2025), leaving less attention to how AI integration is enacted within classroom practices and professional interactions. Moreover, relatively few studies have explicitly reflected on how qualitative research can capture practices that are collaborative, context-dependent, and shaped by unequal educational conditions. Thus, the gap is both substantive and methodological: there remains a need to understand how teachers mediate AI across diverse contexts and how qualitative designs can adequately capture and interpret such contextual variation.

Against this background, this study aims not only to explore how junior high school EFL teachers in Indonesia interpret and mediate AI integration across different literacy contexts, but also to reflect on the methodological implications of conducting such research. In particular, the study examines how a multi-site qualitative design can capture complex and context-dependent pedagogical practices. It also considers how researchers navigate contextual differences during data generation and analysis, and how the interaction among data, context, and researcher reflexivity shapes the interpretation of the phenomenon.

Accordingly, this study employs a multi-site qualitative approach to examine teachers' situated practices, pedagogical reasoning, and collective meaning-making around AI integration. It also seeks to contribute methodological insights for qualitative educational research involving emerging technologies and diverse social, linguistic, and infrastructural conditions. The study was guided by the following research questions:

1) How do Indonesian junior high school EFL teachers interpret the pedagogical benefits and risks of AI use?
2) How do teachers mediate AI use through classroom practices and participation in professional learning communities?
3) How do differences in literacy contexts shape teachers' practices and strategies for AI integration?

2. Theoretical - Methodological Framework

2.1 Philosophical Positioning

This study is grounded in an interpretive paradigm, which assumes that reality is socially constructed and that knowledge emerges through participants' meanings and interactions rather than through objective observation (Denzin & Lincoln, 2005). From this perspective, teachers' use of AI is understood as a situated practice shaped by classroom experience, institutional expectations, and collaborative professional learning. The study, therefore, seeks to interpret how teachers make sense of AI in their instructional contexts rather than to determine whether AI integration is objectively effective.

An interpretive perspective was selected because the study focuses on teachers' meaning-making and professional mediation. Alternative perspectives, such as sociomaterial approaches, emphasize the distributed agency of humans and technologies, whereas critical realism seeks to explain the causal mechanisms underlying observable practices. Although both perspectives offer valuable insights, they are less suited to the present inquiry, which aims to understand how teachers interpret, negotiate, and justify AI use within specific educational contexts. An interpretive paradigm, therefore, provides the most coherent philosophical foundation for examining AI integration as a socially mediated pedagogical practice (Maxwell, 2013; Merriam & Tisdell, 2016).

2.2 Multi-Site Qualitative Inquiry as a Methodological Strategy

The study adopts a multi-site qualitative design to explore AI integration across districts representing different literacy contexts. Rather than treating the districts as units for statistical comparison, they were conceptualized as contrasting interpretive contexts that illuminate how AI integration is enacted under different structural conditions (Pokharel et al., 2024).

From a methodological perspective, multi-site inquiry strengthens qualitative research by enabling analytical comparison while preserving contextual depth (Miles et al., 2020). In the present study, cross-site comparison was not intended to identify universal patterns, but to examine how teachers constructed different meanings and practices in response to distinct educational environments. This approach allowed common patterns and contextual variations to be interpreted together, supporting analytical transferability without overlooking local complexity (Maxwell, 2013).

2.3 Teacher Mediation as an Interpretive Lens

Teacher mediation served as the interpretive lens guiding both data generation and analysis. AI integration was viewed not simply as interaction between teachers and technology, but as a professional practice continuously negotiated through pedagogical judgment, ethical reflection, and collaborative learning.

This lens directed attention to how teachers interpreted AI-generated resources, justified instructional decisions, and negotiated appropriate classroom practices within Professional Learning Communities (PLCs). Rather than treating AI tools as the primary unit of analysis, the study focused on the meaning's teachers constructed around their use. This perspective also informed the integration of interviews, PLC observations, and open-ended questionnaire responses by connecting individual experiences with collective professional sense-making (Denzin & Lincoln, 2005).

2.4 Reflexive Thematic Analysis

The study employed Reflexive Thematic Analysis (RTA) following Braun and Clarke (2022). RTA was selected because it is philosophically aligned with interpretivism and recognizes that themes are actively constructed through researchers' engagement with the data rather than being objectively discovered.

Analysis followed six iterative phases: familiarization with the data, initial coding, construction of candidate themes, review and refinement of themes, definition and naming of themes, and production of the analytical narrative (Braun & Clarke, 2022). Interview transcripts, PLC observation field notes, and open-ended questionnaire responses were analysed recursively through an iterative process of moving between individual datasets and cross-site comparisons. Analytic memos were maintained throughout the process to document emerging interpretations, methodological decisions, and reflexive insights, thereby supporting transparency in theme development (Miles et al., 2020).

Within RTA, researcher subjectivity was treated as an analytical resource rather than a source of bias to be eliminated (Braun & Clarke, 2022). Methodological rigour was enhanced through triangulation across qualitative data sources, iterative comparison across research sites, systematic memo writing, and transparent documentation of analytical decisions. Together, these strategies strengthened the credibility, coherence, and interpretive richness of the findings while remaining consistent with the study's philosophical positioning.

3. Methodology

3.1 Research Design

This study employed a multi-site qualitative design to explore how EFL teachers mediate AI use in junior high school classrooms across districts with different literacy levels. A qualitative approach was chosen because the study focuses on understanding teachers' interpretations, pedagogical reasoning, and the process of collective meaning-making. These processes are situated in practice and are not intended to measure the frequency or effectiveness of AI use quantitatively.

This study is grounded in an interpretive paradigm that views teachers' practices and decisions as social constructs formed through contextual, institutional, and professional interactions. Within this framework, teacher mediation of AI is understood as a dynamic practice that evolves through teaching experience and participation in PLCs.

The multi-site design was selected to capture variation in practices across different educational contexts. These contextual differences were expected not only to produce variation in the data but also to shape how AI practices were observed and articulated by participants. Therefore, this study does not treat differences between districts solely as comparative variables; rather, it considers each district as a context that shapes teachers' opportunities, constraints, and professional considerations. This approach allows for in-depth analysis while enabling more context-sensitive cross-site interpretation.

3.2 Research Site and Participants

This study was conducted across multiple research sites in Indonesia that were purposively selected to represent contrasting educational and literacy contexts. Site selection followed a maximum-variation logic and was informed by the 2018 Reading Literacy Activity Index (Indeks Alibaca) reported by Solihin et al. (2019, pp. 48–49), together with contextual considerations related to educational facilities, digital infrastructure, institutional support, and the availability of relevant field data. The Alibaca index is reported at the provincial level, rather than the district level, and was therefore used as a contextual reference rather than as a direct measure of literacy conditions within individual districts. Solihin et al. (2019, p. 58, Figure 4.4) classify index scores of 0–20.00 as very low, 20.01–40.00 as low, 40.01–60.00 as moderate, 60.01–80.00 as high, and 80.01–100 as very high.

For the purposes of the present multi-site comparison, three broader contextual positions were identified among the selected research settings. The corresponding provincial literacy scores were 58.16, 46.01, and 32.92, representing relatively higher-, intermediate-, and lower-scoring literacy environments within the study sample. These labels are comparative descriptors used within this study and should not be interpreted as official high-, middle-, and low-literacy categories established by Solihin et al. (2019). Rather, they were used to capture meaningful contextual variation across the research sites. The provincial index values were considered together with differences in educational resources, digital infrastructure, institutional conditions, and access to professional learning opportunities. These contextual characteristics were also kept conceptually distinct from individual teachers' digital literacy, which in this study refers to participants' confidence and competence in using digital technologies for professional and instructional purposes.

Preparatory activities, including institutional coordination, participant identification, and scheduling, were conducted from February to March 2026. No research data were collected during this preparatory period.

Formal data collection commenced only after ethical approval was granted by the Research Ethics Committee of Universitas Terbuka on 26 March 2026 and continued until June 2026. Across the research sites, the researchers conducted PLC observations and semi-structured interviews to capture both participants' individual accounts and collective professional interactions.

Participants were selected through purposive, criterion-based sampling. The inclusion criteria were: (a) being an active English teacher at the junior high school level, (b) having at least one year of teaching experience, and (c) being actively involved in PLC activities, which serve as an important forum for teacher collaboration in the Indonesian context. These criteria were intended to ensure that participants had direct experience relevant to the practices under investigation.

A total of 18 EFL teachers participated in the study. Participant selection also considered variation in teaching experience, familiarity with AI tools, and level of participation in PLC activities. PLC observations were conducted across the research settings to examine collective professional discussions, pedagogical negotiations, and ethical considerations related to AI use. All participants took part voluntarily and provided informed consent after receiving a clear explanation of the study. Their identities were kept confidential, and they were informed that they could withdraw from the study at any time without penalty.

3.3 Research Instruments

To develop a comprehensive understanding of how teachers mediate the use of AI, this study employed three complementary qualitative data sources: a background questionnaire, PLC observations, and semi-structured interviews. This combination was not only intended to support data triangulation but also to capture both individual and collective dimensions of teachers' practices.

3.3.1 Questionnaire

The background questionnaire was used as a descriptive instrument to obtain an initial overview of the participants' teaching contexts (i.e., teaching experience, access to digital technology, types of AI used, and purposes for using AI in teaching and learning). The questionnaire was not designed as a quantitative measurement tool but as a contextual source that supported qualitative exploration and provided additional perspectives on participants' experiences.

The questionnaire included several open-ended questions to capture participants' initial experiences, concerns, and responses related to AI use in EFL teaching. Two examples of these questions were: (1) *"Can you describe a specific experience of using AI in planning or teaching an EFL lesson, including how you selected the tool, evaluated or adapted its output, and responded to the conditions in your teaching context?"* and (2) *"What concerns or dilemmas, if any, have you encountered when using AI in EFL teaching, and how have you addressed them individually or through collaboration with colleagues or professional learning communities?"*

These questions allowed participants to describe their experiences in their own words and provided contextual information that informed subsequent inquiry. Although the depth of responses varied across participants, the questionnaire helped identify issues that were explored more fully during the semi-structured interviews and interpreted alongside the PLC observation data.

3.3.2 PLC Observations

PLC observations were conducted to understand how AI use was discussed, negotiated, and collectively regulated among teachers. The observations focused on naturally occurring interactions during PLC meetings, including professional discussions, reflections, and materials related to AI-supported teaching. A flexible observation protocol was used to maintain consistency across the research sites while allowing the researchers to remain responsive to issues that emerged during the meetings. The protocol focused on: (a) how AI tools or outputs were introduced and evaluated, (b) teachers' responses to AI-generated materials, (c) moments of pedagogical or ethical negotiation, and (d) patterns of participation and collaborative decision-making.

Given the dynamic and sometimes unstructured nature of PLC interactions, decisions about what to record were guided by the study's focus on teacher mediation of AI. Particular attention was therefore given to AI-related instructional decisions, moments of agreement or disagreement, pedagogical and ethical negotiation, contextual constraints, and interactions that illustrated how teachers collectively interpreted or adapted AI use. Detailed field notes were taken during and immediately after each meeting.

3.3.3 Interviews

Semi-structured interviews served as the primary data source for exploring teachers' pedagogical reasoning and mediation strategies in integrating AI into English language teaching. Interviews were conducted with 18 teachers and focused on three broad areas: (1) perceived pedagogical affordances and risks of AI, (2) classroom practices and decision-making related to AI use, and (3) the role of PLCs and institutional contexts in shaping these practices. Open-ended questions encouraged participants to provide detailed accounts and concrete examples, allowing relevant issues to be explored in greater depth.

Because participants differed in their familiarity with AI terminology and applications, the interviewer adapted the wording and sequencing of questions when necessary, without introducing prompts that might shape participants' responses. All interviews were audio-recorded with participants' consent and transcribed verbatim in Indonesian. The English translations were undertaken by members of the research team with academic backgrounds and expertise in English language education. The translated data were then independently double-checked by two professors in English language education with extensive experience and expertise in translation.

Translation prioritized conceptual rather than literal equivalence, particularly for culturally and pedagogically specific expressions. Where such expressions required further clarification, the translated wording was returned to the relevant participants to confirm that it accurately reflected their intended meaning. This multi-stage process strengthened interpretive fidelity while preserving the contextual meaning of participants' accounts. Reflective notes were also written immediately after each interview to document contextual information, methodological decisions, and preliminary analytical insights that informed subsequent analysis.

3.4 Data Analysis

Data were analysed using Reflexive Thematic Analysis (RTA) following the six-phase approach proposed by Braun and Clarke (2022). This approach was selected because the study sought to construct interpretive themes that account for how teachers mediated AI integration across different literacy contexts, rather than to identify objective patterns assumed to exist independently of the researchers. Consistent with the study's interpretivist orientation, themes were understood as analytic constructions developed through sustained engagement among the researchers, the data, and the interpretive framework.

The first phase involved familiarisation with the dataset. Interview transcripts, PLC observation field notes, reflective memos, and open-ended questionnaire responses were read repeatedly to gain an in-depth understanding of participants' experiences. During this process, the researchers documented preliminary reflections, methodological questions, and emerging interpretations in analytic memos, which later informed theme development.

In the second phase, initial codes were generated inductively across all data sources. Coding focused on teachers' accounts of AI use, pedagogical decision-making, ethical concerns, collaborative interactions, and contextual influences. Rather than applying a predetermined coding framework, codes were developed iteratively as the researchers' understanding of the data evolved.

The third and fourth phases involved constructing and refining candidate themes through continuous comparison within and across districts. Comparisons were conducted not to rank districts, but to understand how different literacy contexts shaped teachers' mediation of AI. Throughout this process, themes were repeatedly reviewed against the complete dataset to ensure coherence, internal consistency, and adequate explanatory depth.

The fifth phase focused on defining and naming themes by clarifying their conceptual boundaries and their relationships to the study's research questions and interpretive framework. Themes were refined collaboratively among the researchers through iterative discussion until they provided a coherent account of teachers' experiences across the three research sites.

The final phase involved producing the analytic narrative presented in the findings. Rather than treating themes as objective discoveries, the analysis presents them as interpretive constructions developed through the researchers' engagement with multiple qualitative data sources.

Methodological rigour was enhanced through triangulation across interviews, PLC observations, and questionnaire responses, systematic memo writing, cross-site comparison, and ongoing reflexive dialogue among the research team about coding decisions, theme development, and emerging interpretations.

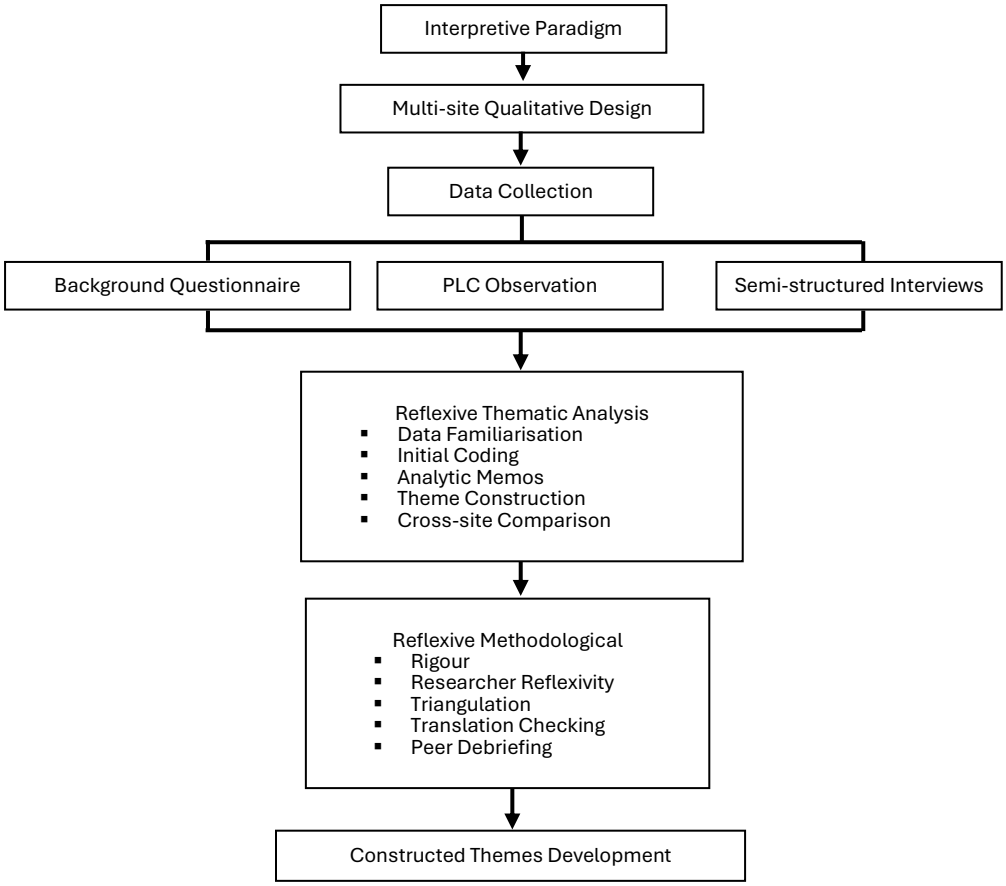


Figure 1. Methodological Process of the Multi-Site Reflexive Thematic Analysis

3.5 Researcher Reflexivity and Positionality

Consistent with the interpretivist paradigm adopted in this study, the researchers acknowledge that knowledge is co-constructed through interactions among researchers, participants, and the research context. From this perspective, researcher subjectivity is regarded as an analytical resource rather than a source of bias to be eliminated, provided that it is critically examined throughout the research process (Braun & Clarke, 2022).

Rather than assuming a detached or neutral position, the researchers recognize that their professional backgrounds, prior experiences, and familiarity with the Indonesian educational system inevitably shaped data generation, interpretation, and meaning-making.

This position also required continuous reflexive attention to the opportunities and challenges associated with insider research (Berger, 2015).

The researchers are actively engaged in English language education and teacher professional development in Indonesia. This insider position facilitated access to PLC meetings and supported the development of trust during interviews, allowing participants to discuss both successful and challenging experiences with AI integration in greater depth. At the same time, the researchers remained aware that this familiarity could influence participants' responses and the researchers' own interpretations of the data.

To address these challenges, reflexivity was embedded throughout the research process. Reflective memos were written after each interview and PLC observation to document initial interpretations, emerging assumptions, and methodological decisions. Reflexivity was treated as an ongoing process of critically examining how researchers' perspectives informed analytic choices rather than as a procedural step completed at the end of the study. During data analysis, interpretations were revisited through repeated engagement with the complete dataset and discussed among the research team to question individual assumptions and refine emerging themes.

The researchers also recognised the potential observer effect during PLC observations. To minimise disruption, the observations were conducted in naturally occurring meetings without altering the agenda or introducing additional activities. As participants became accustomed to the researchers' presence over successive meetings, interactions became increasingly spontaneous. During analysis, field notes and reflective memos were used to consider how the researchers' presence might have shaped observed interactions, ensuring that interpretations remained sensitive to this possibility rather than assuming that the observations reflected entirely unaffected practice.

4. Results and Discussion

This section presents an interpretive account of how the themes were constructed through the iterative integration of interview, questionnaire, and PLC observation data to examine how EFL teachers mediated AI use across literacy-diverse districts in Indonesia. The analysis drew on multiple data sources to construct patterns across contexts while preserving local variation. The discussion is organized around key thematic dimensions, including patterns of AI integration in classroom practice, teachers' pedagogical and ethical decision-making, and contextual variations interpreted in relation to provincial literacy references and local infrastructural conditions. By situating teachers' voices and collaborative practices at the centre of the analysis, this section highlights how AI use is negotiated, adapted, and enacted as a context-sensitive pedagogical practice rather than a uniform technological solution.

4.1 Contextualized Patterns of AI Use: Teacher-Driven and Purpose-Oriented Integration in EFL Classrooms

The analysis suggests that teachers across literacy-diverse districts described their AI integration as selective, purposeful, and closely connected to instructional goals. Questionnaire responses and in-depth interviews indicated that teachers reported using AI to simplify reading materials, generate comprehension questions, design grammar exercises, support speaking practice, and assist lesson planning. Rather than relying on a single tool, teachers described combined general-purpose AI (e.g., ChatGPT or Copilot) with more task-specific applications such as Grammarly, QuillBot, Twee, and Elsa Speak. Within the interpretive analysis, this pattern was understood as reflecting teachers' efforts to address instructional challenges rather than technological enthusiasm or external policy pressure.

This finding is consistent with prior research suggesting that teachers tend to position AI as a pedagogical assistant rather than an autonomous instructional authority. Studies by Arranz-García et al. (2025) and Choi et al. (2025), for instance, show that teachers commonly use AI to support material preparation and task design while maintaining control over instructional decisions. Similarly, in this study, participants described AI as a resource that could extend their instructional capacity without replacing their professional expertise. However, compared with findings from more resource-rich contexts where AI is often embedded in student-facing activities, teachers in this study described a more cautious and mediated approach shaped by local constraints.

Participants from different literacy contexts constructed distinct accounts of AI integration. Teachers working in a relatively higher-resource literacy context described more extensive use of AI for instructional differentiation, particularly when preparing multiple versions of texts and learning tasks for students with varying proficiency levels. This variation highlights the value of cross-context comparison as an analytical strategy, allowing AI use to be interpreted in relation to structural conditions rather than as a set of isolated practices. This interpretation supports Choi et al.'s (2025) argument that AI-enabled differentiation becomes pedagogically meaningful when teachers possess sufficient digital and instructional competence. Importantly, teachers' accounts also emphasized that AI-generated materials required careful evaluation and adaptation before classroom use. One participant illustrated this practice by explaining:

> *I usually use ChatGPT to simplify a reading text or generate several comprehension questions, but I never use the output directly. I check the language level, remove inappropriate items, and adjust the material to what my students can understand and their level of understanding (INT.HL.T3).*

This account illustrates how the participant positioned AI as a resource for instructional preparation while retaining professional responsibility for evaluating and adapting its outputs. These accounts also echo Kasneci et al.'s (2023) concerns regarding uncritical reliance on AI outputs and suggest that differentiation remained a teacher-mediated rather than automated practice.

Across participants' accounts, digital literacy was interpreted as an important factor shaping not only whether AI was used but also how extensively it became embedded in instructional practice. Teachers with higher levels of digital confidence described experimenting with prompt refinement, rubric generation, and adaptive task design. Several referred to AI as a "working partner" that stimulated instructional creativity and supported pedagogical experimentation. This interpretation resonates with Vetter et al. (2024), who argue that meaningful AI integration depends on the intersection of technological, pedagogical, and content knowledge. In contrast, teachers who reported lower digital confidence described limiting AI use to tools with predictable and limited functions, such as grammar checkers or paraphrasing applications, which they perceived as easier to control and less risky.

Another pattern constructed through the analysis concerned how participants described sequencing AI use across instructional stages. Some teachers described structured workflows in which AI was first used to generate or adapt texts, followed by the development of comprehension questions and formative assessments. These workflows were described by participants as helpful in managing time constraints and large class sizes. This interpretation is consistent with earlier studies highlighting AI's potential to reduce workload and assist with formative assessment design (Bachtiar, 2025; Bulathwela et al., 2024; Namaziandost & Rezai, 2024). However, such integrated use was less evident in intermediate- and relatively lower-resource literacy contexts, where participants more frequently described using AI for preparatory or corrective tasks. These differences were interpreted as being closely related to infrastructural constraints and concerns about students' foundational literacy.

PLC observations further illustrated that patterns of AI integration were socially negotiated rather than solely individually determined. During a PLC meeting in the intermediate-resource literacy context, one teacher presented a set of AI-generated grammar exercises to the group. Several teachers questioned whether some items were too difficult for their students and whether the examples reflected the language used in the local textbook. The group eventually agreed that the exercises should be revised before classroom use, particularly by simplifying several sentences and removing items considered unnecessarily complex (PLC-M2 observation notes). This observed interaction illustrates how teachers collectively evaluated AI-generated materials, negotiated their pedagogical suitability, and made decisions about necessary adaptations. The inclusion of PLC observations was therefore methodologically valuable because it provided direct evidence of collaborative professional sense-making, which would have been difficult to access through interviews alone.

Taken together, these interpretive themes suggest that participants understood AI integration as a context-dependent practice mediated by teacher agency. Rather than portraying AI adoption as following a uniform pathway, the analysis indicates that teachers constructed different approaches in relation to contrasting educational and literacy contexts, digital competence, and collaborative professional norms.

This interpretation contributes to AI-in-education research by showing that meaningful AI integration cannot be explained by tool availability alone but must also be understood through situated pedagogical decision-making within local educational ecosystems.

4.2 Navigating Risks and Ethical Boundaries: Teachers' Critical Stance toward the Use of AI in EFL Classrooms

This theme presents an interpretive account of how teachers articulated and negotiated the perceived risks associated with artificial intelligence in English language teaching. Across questionnaire responses, interviews, and PLC observations, participants consistently portrayed AI as both a valuable pedagogical resource and a source of ethical and instructional uncertainty. Rather than treating these concerns as objective barriers to AI adoption, the analysis interprets them as socially constructed understandings that shaped teachers' professional judgement and classroom decision-making. The convergence of these concerns across the three data sources strengthened the interpretation through methodological triangulation.

One interpretive theme constructed from the data concerned teachers' evaluations of the accuracy and instructional validity of AI-generated outputs. Participants frequently described AI responses as fluent and persuasive while also recognizing the possibility of factual inaccuracies, inappropriate language levels, or misalignment with curriculum objectives. These accounts echo earlier research showing that large language models can generate misleading or contextually inappropriate information, especially when prompts are vague or underspecified (Arranz-García et al., 2025; Cotton et al., 2024). Rather than interpreting this limitation as merely a technical flaw, teachers consistently framed verification, revision, and contextual adaptation as essential components of responsible pedagogical practice.

Another theme constructed through the analysis centred on teachers' interpretations of authenticity in AI-assisted student work. Participants' comments reflected uncertainty about whether AI-supported assignments accurately represented students' actual language competence. During interviews, teachers described difficulties distinguishing students' independent work from AI-generated text, particularly when submitted assignments differed markedly from students' usual performance. One participant explained:

> *Sometimes a student submits writing that is much better than what I usually see in class. In that situation, I do not immediately accuse the student of using AI. I ask the student to explain the ideas and revise part of the text in front of me, so I can see whether the work reflects the student's own understanding (INT.ML.T4).*

This account illustrates that concerns about AI-assisted work were not framed simply as problems of detection, but as pedagogical issues requiring professional judgment and closer attention to students' demonstrated understanding.

While similar concerns have been widely discussed in studies of academic integrity and AI-assisted learning (Cotton et al., 2024; Ya'u & Mohammed, 2025; Yousaf, 2025), participants rarely framed the issue solely as one of detecting AI use. Instead, they interpreted it as a pedagogical challenge requiring redesigned assessment practices, greater attention to learning processes, and clearer classroom expectations.

Participants also interpreted student dependence on AI as a potential challenge to meaningful language learning. Many teachers reported that students tended to rely on AI for immediate answers, particularly in writing and grammar tasks, without engaging in independent reasoning or reflection. These perceptions were consistent with questionnaire responses expressing concern about dependency and superficial learning. This interpretation aligns with previous studies suggesting that unstructured AI use may encourage surface-level engagement and reduce cognitive effort (Cotton et al., 2024; Rane et al., 2024). However, rather than advocating restrictions on AI, teachers consistently argued for scaffolded use in which AI supports idea generation and feedback while leaving the core cognitive work to students. Interview narratives further enriched this interpretation by revealing concerns that were only partially captured through questionnaire responses.

Ethical considerations were likewise interpreted as extending beyond classroom practice to issues of privacy, fairness, and professional accountability. Teachers expressed unease about how AI tools handle user data and about the limited transparency surrounding their operation. During PLC observations, teachers also discussed these concerns in relation to broader questions of institutional readiness and professional responsibility. Teachers consistently emphasized the need for clear ethical guidelines to regulate AI use in educational contexts. This reflects growing attention in the literature to ethical literacy and governance in AI integration (Sharma et al., 2024; Ya'u & Mohammed, 2025).

Despite these concerns, participants did not construct AI as a technology that should be rejected. Instead, they consistently interpreted its risks as manageable when mediated through informed pedagogical practice and collective professional reflection. Interview accounts and observed PLC interactions indicated that teachers regarded PLCs as important spaces for negotiating ethical boundaries, exchanging practical strategies, and developing shared expectations regarding AI use. These accounts suggest that responsible AI integration is understood not simply as an individual responsibility but as a socially negotiated professional practice.

Taken together, these interpretive themes portray Indonesian EFL teachers as critical yet constructive users of AI who balance awareness of potential risks with recognition of its pedagogical value. Rather than presenting AI as inherently beneficial or inherently problematic, participants constructed its educational value through ongoing professional judgement shaped by ethical awareness, contextual conditions, and collaborative reflection.

By foregrounding teachers' meaning-making processes, this study contributes not only to AI-in-education research but also to qualitative inquiry by demonstrating how an interpretive, multi-source analysis can reveal the socially negotiated nature of teachers' responses to educational technologies.

4.3 Literacy Contexts as Structural Conditions: Unequal Pathways of AI Integration in EFL Classrooms

This theme presents an interpretive account of how teachers understood local educational conditions as shaping opportunities and constraints for integrating artificial intelligence into English language teaching. Across the three research sites, participants described different experiences of infrastructure, institutional support, and digital readiness that influenced how AI became part of everyday pedagogical practice. Rather than treating literacy context as a fixed determinant, the analysis interprets these accounts as illustrating how teachers constructed AI integration in relation to the realities of their local educational environments. The cross-site comparison therefore enabled contextual variation to be interpreted as socially situated practice rather than as isolated differences between districts.

Teachers working in a relatively higher-resource literacy context consistently reported stable internet connectivity and supportive digital environments as enabling more integrated uses of AI. Participants explained that reliable infrastructure allowed them to combine multiple AI tools across reading, writing, listening, and speaking activities and to incorporate AI more fully into lesson design. This interpretation aligns with previous research suggesting that technology integration is strengthened by supportive digital infrastructure and institutional readiness (García-López et al., 2026; Pitychoutis & Rawahi, 2024). Rather than suggesting that infrastructure alone determined AI use, participants portrayed these conditions as expanding the pedagogical possibilities available to teachers.

By contrast, teachers in relatively lower-resource literacy contexts interpreted limited internet access as requiring different forms of pedagogical adaptation. Participants explained that AI was used mainly during lesson preparation, with outputs later transformed into printed worksheets or offline learning materials. Although students had fewer opportunities to interact directly with AI, teachers still regarded this approach as educationally meaningful because it improved lesson quality while accommodating local constraints. One participant described this adaptation as follows:

> *The internet connection is not stable enough for students to use AI during the lesson. I usually prepare the material at home, use AI to help simplify the text or create exercises, and then print the final version for the students. They may not use the AI directly, but it still helps me prepare the lesson (INT.LL.T2).*

This account illustrates how infrastructural limitations did not prevent AI use but reshaped it into a teacher-mediated and largely offline form of instructional support.

These accounts resonate with studies showing that educators in low-resource settings often adapt digital technologies creatively to fit contextual realities (Kouam & Muchowe, 2025; Yusra & Hanifa, 2025). The analysis therefore suggests that infrastructural limitations reshaped, rather than prevented, meaningful AI integration.

Teachers also associated differences in digital confidence with different ways of evaluating and managing AI. Participants from relatively higher-resource literacy contexts generally described themselves as more confident in experimenting with AI while maintaining critical oversight of AI-generated outputs. Conversely, teachers in relatively lower-resource literacy contexts more often reported limiting students' direct engagement with AI because they perceived greater risks of misunderstanding, misuse, or overreliance. These contrasting accounts suggest that teachers' digital literacy, as distinct from the provincial literacy indicators used as contextual references for the research sites, influenced not only teachers' use of AI but also how they interpreted its educational opportunities and potential risks. This interpretation is consistent with digital divide research emphasizing that inequalities increasingly reflect differences in digital competence and institutional support rather than access alone (Chiu et al., 2024; Irasuti & Bachtiar, 2024).

Participants further reported distinct patterns of classroom practice across the three literacy contexts. Teachers in relatively higher-resource literacy contexts described using AI to support interactive and collaborative learning activities, whereas those in intermediate-resource literacy contexts more often reported using AI as a supplementary instructional resource. In relatively lower-resource literacy contexts, participants described AI as remaining largely invisible to students and functioning primarily as a tool for lesson preparation. Rather than representing a hierarchy of innovation, these accounts illustrate how teachers adapted AI to the possibilities and constraints of their own educational settings. Across all three contexts, participants consistently described adaptation as an essential component of responsible AI integration.

Taken together, these interpretive themes suggest that teachers understood AI integration to emerge from the interaction among infrastructure, digital culture, institutional support, and professional agency. Rather than presenting literacy context as a deterministic explanation, the analysis shows how participants constructed different pathways for integrating AI according to the conditions they encountered in practice. This interpretation reinforces the need for context-sensitive AI policies and differentiated professional development while demonstrating the analytical value of multi-site qualitative comparison for understanding how educational technologies are mediated across diverse contexts.

5. Methodological Reflection

Conducting qualitative research across literacy-diverse research sites required balancing comparability with sensitivity to substantially different opportunities for AI use.

In the relatively higher-resource literacy contexts, stable connectivity enabled teachers to describe and discuss more integrated and student-facing uses of AI; in the intermediate-resource contexts, AI was more often used selectively as a supplementary resource; whereas in the relatively lower-resource contexts, limited connectivity meant that AI use was frequently confined to lesson preparation and the production of offline materials. These asymmetries created a methodological challenge because applying identical expectations of observable AI practice across all sites would have privileged practices that were more visible in better-resourced settings. The researchers therefore maintained a common analytical focus on teacher decision-making, evaluation of AI outputs, pedagogical and ethical negotiation, and contextual constraints, while allowing these processes to manifest differently across sites. This approach enabled meaningful cross-site comparison without treating the relative absence of direct student-facing AI use in lower-resource contexts as missing or inferior data.

An additional methodological limitation concerns the contextual classification of the research sites. The national Reading Literacy Activity Index used to inform site contextualisation was available at the provincial rather than district level. Provincial scores were therefore treated as contextual proxies and considered alongside district-level educational conditions, rather than as direct measures of district-specific literacy. Accordingly, the labels relatively higher-, intermediate-, and lower-resource literacy contexts were used as comparative descriptors within this study and should not be interpreted as official literacy classifications. Recognising this limitation was important for avoiding overgeneralization from provincial indicators while still enabling systematic comparison across differently resourced educational settings.

The integration of interviews, PLC observations, and open-ended questionnaire responses also proved methodologically valuable. Rather than serving as mutual verification, each data source contributed a distinct perspective on teachers' mediation of AI. Interviews explored pedagogical reasoning, PLC observations captured collective sense-making, and questionnaires provided contextual information that informed subsequent inquiry and interpretation. Together, these sources generated a richer understanding than any single method could achieve.

The study offers two methodological lessons that may be transferable to other qualitative researchers. First, cross-context comparison is strengthened when contextual differences are treated as analytical resources rather than variables to be controlled. Second, combining individual interviews with observations of naturally occurring professional interactions enables researchers to examine both personal reasoning and collaborative meaning-making, particularly in studies of educational innovation.

Reflexivity remained central throughout the research process. The researchers' familiarity with the Indonesian educational context facilitated access and participant engagement while requiring continuous reflection on how insider positioning and the researchers' presence during PLC observations might shape interpretation. These influences were addressed through reflective memo writing, collaborative discussions during analysis, and sustained engagement with the data.

Overall, the study contributes methodologically by illustrating how a multi-site interpretive design, reflexive thematic analysis, and context-sensitive triangulation can support qualitative inquiry into emerging educational technologies across unequal and contextually diverse educational settings.

6. Conclusion

This study examined how Indonesian English language teachers mediated the integration of AI across literacy-diverse educational contexts through a multi-site qualitative inquiry. The findings suggest that AI integration is not determined solely by technological availability but is interpreted and enacted through teachers' professional judgment, collaborative learning, and the structural conditions of their educational settings. Across the research sites, AI emerged as a context-dependent pedagogical resource rather than a uniform instructional solution.

Beyond these empirical findings, the study contributes to qualitative methodology by demonstrating the value of combining a multi-site interpretive design with multi-source qualitative data to examine educational innovation across unequal contexts. The integration of interviews, PLC observations, and open-ended questionnaire responses enabled the construction of themes that captured both individual perspectives and collective professional meaning-making. Cross-context comparison further showed that contextual differences can be treated as analytical resources rather than methodological constraints, leading to richer and more nuanced interpretations.

The study also highlights the methodological importance of reflexive thematic analysis, researcher reflexivity, and transparent cross-site comparison in strengthening interpretive rigour. These methodological decisions offer transferable lessons for qualitative researchers investigating educational change in socially and institutionally diverse settings. By foregrounding methodological learning alongside empirical interpretation, this study shows how qualitative inquiry can generate context-sensitive methodological insights for research on educational innovation across diverse and unequal settings.

7. Final Considerations

The manuscript was professionally reviewed and proofread for English-language accuracy, clarity, coherence, and readability.

Author Contributions: Investigation, B.B., M.P., E.M., and H.Q.; Formal analysis, B.B., M.P., E.M., and H.Q.; Project administration, B.B.; Funding acquisition, B.B.; Writing - review and editing, B.B., M.P., E.M., and H.Q. All authors reviewed and approved the final version of the manuscript.

Ethical Approval: Ethical approval for this study was granted by the Research Ethics Committee of Universitas Terbuka, Indonesia, under approval number B/549/UN31.LPPM/PT.00/2026, with an approval date of 26 March 2026. Formal data collection commenced only after this approval had been granted.

Informed Consent: Informed consent was obtained from all participants involved in the study, ensuring respect for the principles of confidentiality, voluntariness, and anonymity.

Declaration of Conflicts of Interest: The authors declare that there are no conflicts of interest regarding the research, authorship, and/or publication of this article.

Use of Artificial Intelligence (AI): Artificial Intelligence tools (i.e., ChatGPT, Grammarly, QuillBot) were used solely for language editing and text refinement. All intellectual contributions, including analysis and interpretation, remain the responsibility of the authors.

Funding: This research was supported by the National Research and Innovation Agency of the Republic of Indonesia (BRIN) and the Indonesia Endowment Fund for Education Agency (LPDP) through the Research and Innovation for Advanced Indonesia (RIIM) programme (Contract No. B/955/UN31.LPPM/HK.08.00/2026).

8. References

Al-Bogami, R. M., & Alahmadi, N. A. (2025). Effects of an AI-based reading progress tool on third-grade EFL learners' oral reading fluency. Computers and Education Open, 9, 100283. https://doi.org/10.1016/j.caeo.2025.100283

Amouri, H., Haroud, S., Ouchaouka, L., & Saqri, N. (2025). Acceptability of artificial intelligence in inclusive education: a TAM2-based study among preservice teachers. Frontiers in Artificial Intelligence, 8, 1616327. https://doi.org/10.3389/frai.2025.1616327

Arranz-García, O., García, M. del C. R., & Alonso-Secades, V. (2025). Perceptions, Strategies, and Challenges of Teachers in the Integration of Artificial Intelligence in Primary Education: A Systematic Review. Journal of Information Technology Education: Research, 24, Article 6. https://doi.org/10.28945/5458

Bachtiar, B. (2025). Preparing Citizens for the Future of Digital Literacy and AI: With a Focus on Indonesian EFL Teachers. In Digital Citizenship and the Future of AI Engagement, Ethics, and Privacy (pp. 405–440). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3693-9015-3.ch015

Bachtiar, B., Juhana, J., & Pratiwi, W. R. (2024). Indonesian English language teachers' conceptions of critical thinking: Challenge and strategy. International Journal of Evaluation and Research in Education (IJERE), 13(1), 617–625. https://doi.org/10.11591/ijere.v13i1.26467

Bachtiar, B., Sylvia, S., & Konchiab, S. (2026). Impact of Instructional Strategies, Classroom Management, and Student Engagement on Teachers' Professional Practices. AsTEN Journal of Teacher Education, 10(1). https://doi.org/10.56278/asten.v10i1.4089

Berger, R. (2015). Now I see it, now I don't: researcher's position and reflexivity in qualitative research. Qualitative Research, 15(2), 219–234. https://doi.org/10.1177/1468794112468475

Braun, V., & Clarke, V. (2022). Thematic analysis: A practical guide. SAGE.

Bulathwela, S., Pérez-Ortiz, M., Holloway, C., Cukurova, M., & Shawe-Taylor, J. (2024). Artificial Intelligence Alone Will Not Democratise Education: On Educational Inequality, Techno-Solutionism and Inclusive Tools. Sustainability, 16(2), 781. https://doi.org/10.3390/su16020781

Chehimi, G. M., & Hejase, H. J. (2025). Influence of Generative Artificial Intelligence on English Language Teaching. International Journal of English Language Teaching, 12(1), 1–23. https://doi.org/10.5430/ijelt.v12n1p1

Chiu, T. K. F., Falloon, G., Song, Y., Wong, V. W. L., Zhao, L., & Ismailov, M. (2024). A self-determination theory approach to teacher digital competence development. Computers and Education, 214, 105017. https://doi.org/10.1016/j.compedu.2024.105017

Choi, K. Y., Wu, C., & Moorhouse, B. L. (2025). Exploring the use of Generative Artificial Intelligence (GenAI) in English language teaching: Voices from in-service teachers at an early-adopting Hong Kong secondary school. Technology in Language Teaching and Learning, 7(3), 102516. https://doi.org/10.29140/tltl.v7n3.102516

Cotton, D. R. E., Cotton, P. A., & Shipway, J. R. (2024). Chatting and cheating: Ensuring academic integrity in the era of ChatGPT. Innovations in Education and Teaching International, 61(2), 228–239. https://doi.org/10.1080/14703297.2023.2190148

de Sousa, F. R., Mascia, M. A. A., & Carrasqueira, K. (2025). Ethics and academic integrity: challenges and possibilities in using Artificial Intelligence in the scientific editorial process. Praxis Educativa, 20, 1–13. https://doi.org/10.5212/PraxEduc.v.20.25513.083

Denzin, N. K., & Lincoln, Y. S. (Eds.). (2005). The SAGE handbook of qualitative research (3rd ed.). SAGE Publications.

García-López, I. M., Ramírez-Montoya, M. S., & Molina-Espinosa, J. M. (2026). Generative artificial intelligence in education: A systematic analysis of opportunities, challenges, and responses. Interactive Learning Environments, 34(3), 1194–1217. https://doi.org/10.1080/10494820.2025.2519133

Irasuti, I., & Bachtiar, B. (2024). Empowering Indonesian EFL Teachers: The Transformative Impact of Visual Literacy Training on Teaching Materials. International Journal of Learning, Teaching and Educational Research, 23(8), 116–136. https://doi.org/10.26803/ijlter.23.8.7

Jin, F., Peng, X., Sun, L., Song, Z., Zhou, K., & Lin, C. H. (2025). Knowledge (Co-)Construction Among Artificial Intelligence, Novice Teachers, and Experienced Teachers in an Online Professional Learning Community. Journal of Computer Assisted Learning, 41(2), e70004. https://doi.org/10.1111/jcal.70004

Juhana, J., Puspitasari, M., & Bachtiar, B. (2026). Translanguaging in the EFL classroom: Bridging Language Barriers for Inclusive and Motivated Learning. Language Teaching Research Quarterly, 54, 83–101. https://doi.org/10.32038/ltrq.2026.54.04

Kankpog, E. B., Sulemana, M., & Issaka, C. A. (2024). Influence of Professional Learning Communities (PLCs) on Teacher Professional Development (TPD) in Basic Schools in the Tamale Metropolis. Journal of Education and Practice, 8(7), 70–87. https://doi.org/10.47941/jep.2272

Kasneci, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., Gasser, U., Groh, G., Günnemann, S., Hüllermeier, E., Krusche, S., Kutyniok, G., Michaeli, T., Nerdel, C., Pfeffer, J., Poquet, O., Sailer, M., Schmidt, A., Seidel, T., … Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. Learning and Individual Differences, 103, 102274. https://doi.org/10.1016/j.lindif.2023.102274

Kouam, A. W. F., & Muchowe, R. M. (2025). Assessing the role of AI technology in mitigating the equity gap in educational access in Zimbabwe: Barriers and implications. Journal of Applied Learning and Teaching, 8(1), 154–163. https://doi.org/10.37074/jalt.2025.8.1.15

Kovalenko, I., & Baranivska, N. (2024). Integrating artificial intelligence in English language teaching: Exploring the potential and challenges of AI tools in enhancing language learning outcomes and personalized education. European Socio-Legal & Humanitarian Studies, 3(1), 86–95. https://doi.org/10.61345/2734-8873.2024.1.9

Maxwell, J. A. (2013). Qualitative research design: An interactive approach (3rd ed.). SAGE Publications.

Merriam, S. B., & Tisdell, E. J. (2016). Qualitative research: A guide to design and implementation (4th ed.). Jossey-Bass.

Miles, M. B., Huberman, A. M., & Saldaña, J. (2020). Qualitative data analysis: A methods sourcebook (4th ed.). SAGE Publications.

Namaziandost, E., & Rezai, A. (2024). Special Issue: Artificial Intelligence in Open and Distributed Learning: Does It Facilitate or Hinder Teaching and Learning? The International Review of Research in Open and Distributed Learning, 25(3), 203–217. https://doi.org/10.19173/irrodl.v25i3.8070

Peña-Acuña, B., & Durão, C. F. R. (2024). Learning English as a second language with artificial intelligence for prospective teachers: a systematic review. Frontiers in Education, 9,1490067. https://doi.org/10.3389/feduc.2024.1490067

Pitychoutis, K. M., & Rawahi, A. Al. (2024). Smart Teaching: The Synergy of Multiple Intelligences and Artificial Intelligence in English as a Foreign Language Instruction. Forum for Linguistic Studies, 6(6), 249–260. https://doi.org/10.30564/fls.v6i6.7297

Pokharel, K. R., Paudel, S., & Marasini, A. (2024). Revisiting the Case Study Method in Social Research: A Reflective and Argumentative Review for Novice Researchers. Educational Journal, 3(1), 1–14. https://doi.org/10.3126/ej.v3i1.82043

Pratiwi, W. R., Kuswoyo, H., Puspitasari, M., Juhana, & Bachtiar. (2024). Driving to communicative approach: The innovative teaching speaking methods in Indonesian English immersion program. International Journal of Evaluation and Research in Education, 13(1), 626–634. https://doi.org/10.11591/ijere.v13i1.25420

Rane, J., Kaya, Ö., Mallick, S. K., & Rane, N. L. (2024). Artificial intelligence in education: A SWOT analysis of ChatGPT and its implications for practice and research. In Generative Artificial Intelligence in Agriculture, Education, and Business (pp. 142–161). Deep Science Publishing. https://doi.org/10.70593/978-81-981271-7-4_4

Rice, B. T., Rasmus, S., Onders, R., Thomas, T., Day, G., Wood, J., Britton, C., Hernandez-Boussard, T., & Hiratsuka, V. (2025). Community-engaged artificial intelligence: An upstream, participatory design, development, testing, validation, use and monitoring framework for artificial intelligence and machine learning models in the Alaska Tribal Health System. Frontiers in Artificial Intelligence, 8,1568886. https://doi.org/10.3389/frai.2025.1568886

Ruiz Viruel, S., Sánchez Rivas, E., & Ruiz Palmero, J. (2025). The Role of Artificial Intelligence in Project-Based Learning: Teacher Perceptions and Pedagogical Implications. Education Sciences, 15(2), 150. https://doi.org/10.3390/educsci15020150

Sharma, R., Kumar, P., Singh, D. K., Suri, D., Rajput, P., & Kumar, S. (2024). The Intersection of AI, Ethics, and Education: A Bibliometric Analysis. 2024 International Conference on Computing and Data Science (ICCDS), 259–264. https://doi.org/10.1109/ICCDS60734.2024.10560363

Solihin, L., Utama, B., Pratiwi, I., & Novirina. (2019). Indeks aktivitas literasi membaca di 34 provinsi (Reading literacy activity index at 34 provinces). Pusat Penelitian Kebijakan Pendidikan dan Kebudayaan, Kementerian Pendidikan dan Kebudayaan.

Vetter, M. A., Lucia, B., Jiang, J., & Othman, M. (2024). Towards a framework for local interrogation of AI ethics: A case study on text generators, academic integrity, and composing with ChatGPT. Computers and Composition, 71, 102831. https://doi.org/10.1016/j.compcom.2024.102831

Wuttikamonchai, O. (2025). A blended and project-based learning management model using artificial intelligence to enhance Thai undergraduate student digital media creation skills. Edelweiss Applied Science and Technology, 9(4), 2692–2705. https://doi.org/10.55214/25768484.v9i4.6640

Ya'u, M. S., & Mohammed, M. S. (2025). AI-Assisted Writing and Academic Literacy: Investigating the Dual Impact of Language Models on Writing Proficiency and Ethical Concerns in Nigerian Higher Education. International Journal of Education and Literacy Studies, 13(2), 593–604. https://doi.org/10.7575/aiac.ijels.v.13n.2p.593

Yousaf, M. N. (2025). Practical Considerations and Ethical Implications of Using Artificial Intelligence in Writing Scientific Manuscripts. ACG Case Reports Journal, 12(2), e01629. https://doi.org/10.14309/crj.0000000000001629

Yunus, M., & Bachtiar. (2025a). Beyond Access: Reframing Engagement, Assessment, and Feedback in Open and Distance Learning at Universitas Terbuka. International Journal of Learning, Teaching and Educational Research, 24(6), 562–587. https://doi.org/10.26803/ijlter.24.6.26

Yunus, M., & Bachtiar, B. (2025b). Exploring the complexities of thesis writing in the distance mode: Postgraduate students' perspectives, challenges and strategies. Asian Association of Open Universities Journal, 20(1), 68–81. https://doi.org/10.1108/AAOUJ-07-2024-0099

Yusra, S. R., & Hanifa, R. (2025). Unveiling Indonesian Higher Education Students' English Academic Writing Misconduct in The Era of Technology & AI: Comprehension vs Practice. World Journal of English Language, 15(5). https://doi.org/10.5430/wjel.v15n5p220

Bachtiar Bachtiar
Graduate School, Universitas Terbuka, Indonesia
https://orcid.org/0000-0002-5653-1252
bachtiar_nur@ecampus.ut.ac.id

Maya Puspitasari
Graduate School, Universitas Terbuka, Indonesia
https://orcid.org/0000-0002-6879-309X
maya_p@ecampus.ut.ac.id

Effendi Mantang
Faculty of Teacher Education and Training, Universitas Terbuka, Indonesia
https://orcid.org/0000-0002-3523-0290
effendim@ecampus.ut.ac.id

Hilman Qudratuddarsi
Faculty of Teacher Education and Training, Universitas Sulawesi Barat, Indonesia
https://orcid.org/0000-0002-9066-1392
hilman.qudratuddarsi@unsulbar.ac.id