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AI-assisted lesson planning in English language teaching: Teachers' perceptions, practices, and ethical concerns

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ABSTRACT
The rapid advancement of artificial intelligence (AI) has increasingly transformed educational practices, including lesson planning in English language teaching (ELT). While AI tools are widely recognized for supporting instructional preparation, limited attention has been given to how English teachers in local school contexts perceive, use, and critically evaluate AI-assisted lesson planning. This qualitative descriptive study examined English teachers' perceptions, practices, and ethical concerns regarding the use of AI tools in designing English lesson plans. Data were collected through a questionnaire completed by 14 English teachers from elementary and junior high schools in Banjarmasin, Indonesia, and semi-structured interviews with three selected participants. Questionnaire responses were analyzed descriptively, while interview data were examined through thematic analysis. The findings reveal that teachers perceived AI tools as useful for saving time, generating instructional ideas, organizing lesson materials, and supporting creativity in English lesson preparation. However, teachers also expressed concerns about the accuracy of AI-generated content, over-reliance on AI, data privacy, and the alignment of AI outputs with curriculum goals and learners' needs. The study suggests that AI can meaningfully support ELT lesson planning when used critically, ethically, and under teachers' professional judgment. It further highlights the need for systematic training and institutional guidance to help teachers integrate AI tools responsibly without diminishing their pedagogical autonomy and instructional accountability.

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Introduction

Artificial intelligence (AI) has increasingly become part of contemporary educational practice, reshaping how teachers design instruction, prepare learning materials, and respond to students' needs. In English language teaching (ELT), the development of generative AI has created new possibilities for teachers to generate lesson ideas, adapt learning materials, design assessment tasks, and provide more varied instructional resources. Unlike earlier educational technologies that mainly functioned as supplementary tools, generative AI can now produce contextually relevant texts, suggest pedagogical activities, and support instructional decision-making. This development has expanded the role of AI from a technical aid to a pedagogical resource that may influence how English teachers plan, implement, and evaluate classroom instruction (Kohnke et al., 2023a; Law, 2024).

Lesson planning is one of the most important areas in which AI can support teachers' professional work. Effective lesson planning requires teachers to align learning objectives, materials, classroom activities, assessment strategies, students' proficiency levels, and curriculum expectations. In this process, generative AI may help teachers save preparation time, organize instructional content, produce alternative classroom activities, and develop materials that are more varied and engaging. Recent studies suggest that generative AI can assist educators in instructional design, assessment development, content adaptation, and lesson planning (Moundridou et al., 2024; Karakaya et al., 2025; Kerr & Kim, 2025). However, the pedagogical value of AI-generated lesson plans depends not only on the availability of AI tools but also on teachers' ability to evaluate, revise, and contextualize AI outputs according to classroom realities.

The integration of AI into lesson planning also requires teachers to develop AI literacy. AI literacy refers to the ability to understand, use, evaluate, and engage with AI technologies responsibly and ethically (Ng, Leung, Chu, & Qiao, 2021; Wang et al., 2023). In educational contexts, AI literacy is not limited to technical competence. It also involves teachers' capacity to assess the accuracy of AI-generated content, identify possible bias, consider data privacy, and make pedagogically sound decisions. Sari et al. (2025) identify four important dimensions of AI literacy, namely awareness, usage, evaluation, and ethics, which are relevant for understanding how teachers interact with AI tools in instructional planning. These dimensions are particularly important in ELT because teachers need to ensure that AI-generated materials are linguistically appropriate, culturally relevant, aligned with curriculum goals, and suitable for students' language proficiency.

At the same time, AI-assisted lesson planning raises important ethical and professional concerns. Although AI may reduce teachers' workload and provide quick instructional suggestions, over-reliance on AI may weaken teachers' professional judgment, creativity, and pedagogical autonomy. Previous research has shown that teachers may position AI in different ways: as a teaching partner, a grading assistant, or even a substitute teacher (Greene Nolan, et al., 2024). This distinction is important because responsible AI

integration should keep teachers at the center of instructional decision-making. AI should support, rather than replace, teachers' role as curriculum interpreters, classroom decision-makers, and moral agents in education. Therefore, teachers need to critically examine AI outputs instead of accepting them automatically.

Previous studies have examined AI use in education, teachers' perceptions of AI, and the role of generative AI in language teaching and teacher education (An et al., 2023; Moorhouse & Kohnke, 2024). Some studies have also discussed the use of AI for lesson planning, instructional design, and teacher professional development (Belloula, 2025; Kerr & Kim, 2025; Moundridou et al., 2024). However, much of the existing literature has focused on higher education, pre-service teachers, or broader educational contexts. Less attention has been given to how in-service English teachers in local Indonesian school contexts perceive and use AI tools specifically for designing English lesson plans. This gap is significant because teachers' experiences with AI are shaped by local curriculum demands, school resources, digital readiness, and classroom conditions.

To address this gap, the present study investigates English teachers' perceptions, practices, and ethical concerns regarding AI-assisted lesson planning in elementary and junior high schools in Banjarmasin, Indonesia. Specifically, this study focuses on teachers' awareness of AI tools, perceived usefulness, actual practices, challenges, ethical concerns, and recommendations for responsible AI integration in ELT lesson planning. By examining teachers' perspectives in a local school context, this study contributes to the growing discussion on AI in ELT and highlights the need for critical, ethical, and context-sensitive use of AI in English lesson planning.

Literature Review

AI-Assisted Lesson Planning in English Language Teaching

AI-assisted lesson planning refers to the use of artificial intelligence tools to support teachers in designing, organizing, adapting, and evaluating instructional plans. In English language teaching (ELT), lesson planning is not merely a technical activity of arranging classroom procedures; it is a pedagogical decision-making process that requires teachers to align learning objectives, language skills, instructional materials, learning activities, assessment strategies, curriculum demands, and students' proficiency levels (Biggs, 1996; Lestari & Yusuf, 2025; Rouffet et al., 2023). From the perspective of technology-enhanced pedagogy, AI should be understood as a mediating tool that expands teachers' instructional possibilities rather than as an autonomous replacement for professional judgment. This view is consistent with the broader argument that educational technologies become meaningful only when they are integrated into teachers' pedagogical reasoning, classroom knowledge, and instructional purposes.

Generative AI has introduced new possibilities for lesson planning because it can generate lesson objectives, suggest classroom activities, develop learning materials, and propose assessment tasks within a short time (Y. An & James, 2025; Kılıçkaya & Kic-Drgas,

2025; Kim, 2026). In ELT, these functions are particularly relevant because English teachers often need to prepare differentiated materials for vocabulary, grammar, reading, speaking, listening, and writing activities. Belloula (2025) shows that AI tools may reduce teachers' lesson planning workload and improve lesson quality by supporting resource creation, instructional variation, and student-centered learning. Similarly, studies on generative AI in language teacher education indicate that AI can support instructional design, assessment preparation, and lesson planning, especially when teachers are able to use prompts effectively and critically evaluate AI-generated outputs (Karakaya et al., 2025; Kerr & Kim, 2025; Moorhouse & Kohnke, 2024a). Therefore, AI-assisted lesson planning should be conceptualized as a collaborative process in which AI provides initial instructional possibilities, while teachers refine, contextualize, and validate them.

However, the pedagogical value of AI-generated lesson plans depends on the quality of teachers' evaluation and adaptation. AI-generated content may appear fluent, coherent, and complete, but it may still be inaccurate, culturally inappropriate, linguistically unsuitable, or misaligned with students' actual learning needs (Dornburg & Davin, 2025; Kohnke et al., 2023a). In ELT contexts, this issue is crucial because lesson materials must correspond to students' language proficiency, communicative goals, local curriculum, and classroom interaction patterns. Thus, AI can support the development of lesson objectives, activities, materials, and assessments, but teachers remain responsible for ensuring that these components are pedagogically coherent and contextually appropriate. In this sense, AI-assisted lesson planning requires not only technological access but also strong pedagogical judgment, technological-pedagogical content knowledge, and professional agency (Mishra & Koehler, 2006; Zhai, 2025).

AI Literacy and Teachers' Pedagogical Competence

The effective use of AI in lesson planning is closely related to teachers' AI literacy and pedagogical competence. From the perspective of technological pedagogical content knowledge, effective technology integration requires teachers to connect technological affordances with pedagogical strategies, content knowledge, learner characteristics, and classroom contexts (Mishra & Koehler, 2006). AI literacy generally refers to the ability to understand, use, evaluate, and engage with AI technologies responsibly and ethically. Chiu et al. (2024) conceptualize AI literacy as a multidimensional competence that includes understanding AI concepts, applying AI tools, evaluating AI outputs, and considering ethical issues. In the Indonesian context, Sari et al. (2025) identify four dimensions of AI literacy: awareness, usage, evaluation, and ethics. These dimensions provide a useful conceptual lens for examining teachers' AI-assisted lesson planning because teachers must recognize AI functions, use AI tools for instructional purposes, evaluate the pedagogical quality of AI-generated outputs, and consider ethical risks before applying them in classroom contexts. Therefore, AI literacy should not be treated merely as technical competence, but as part of teachers' professional capacity to make pedagogically and ethically responsible decisions when using AI-generated content in lesson planning.

For ELT teachers, AI literacy must be systematically integrated into pedagogical competence, given that effective AI-driven lesson planning demands advanced pedagogical reasoning rather than mere technical proficiency. From the perspective of technological pedagogical content knowledge, meaningful technology integration occurs when teachers are able to connect technological affordances with pedagogical strategies, content knowledge, learner characteristics, and classroom contexts (Mishra & Koehler, 2006; Celik, 2023). In AI-assisted ELT lesson planning, this means that teachers need to transform AI-generated outputs into meaningful language learning experiences that support communicative competence, curriculum goals, and students' language development (Canale & Swain, 1980; Richards, 2013; Kohnke et al., 2023a).

This pedagogical role is particularly important because AI-generated materials may appear complete but still require teachers' critical evaluation and adaptation. For example, when AI generates a reading passage, teachers must decide whether the vocabulary level is appropriate, whether the topic is culturally relevant, whether the comprehension questions align with learning objectives, and whether the activity promotes meaningful language use. Such decisions reflect principles of materials development, constructive alignment, and pedagogical reasoning, which emphasize that instructional materials, learning activities, and assessments should be adapted to learners' needs, lesson objectives, and classroom realities (Shulman, 1987; Biggs, 1996; Tomlinson, 2011). Therefore, teachers' AI literacy should not be treated merely as technical competence, but as a professional capacity to question, revise, and justify AI-generated lesson components critically and ethically (Moorhouse & Kohnke, 2024a; Erdogan et al., 2026).The literature also suggests that teachers' AI literacy should include practical application. Many teachers may understand AI conceptually but still struggle to use it effectively in classroom planning. This gap between awareness and application is significant for ELT lesson planning, where teachers must translate AI suggestions into lesson sequences, communicative tasks, differentiated materials, and assessment criteria. Therefore, AI literacy in this study is treated as a professional competence that enables teachers to use AI critically, ethically, and pedagogically in designing English lesson plans.

Teachers' Perceptions and Practices of AI Integration

Teachers' perceptions play a central role in shaping how AI is adopted in lesson planning because technology integration depends not only on tool availability but also on teachers' beliefs about its usefulness, ease of use, pedagogical relevance, and possible risks. The Technology Acceptance Model and the Unified Theory of Acceptance and Use of Technology explain that teachers are more likely to adopt digital tools when they perceive them as beneficial, manageable, and supported by appropriate conditions (Davis, 1989; Venkatesh et al., 2003). In AI-supported English language teaching, teachers' technological knowledge, pedagogical readiness, and AI readiness further influence their intention to use AI for instructional purposes (X. An et al., 2023a; Wang et al., 2023). Empirical studies show that teachers generally view AI positively because it can save preparation time, support

material development, enhance student engagement, and stimulate new pedagogical approaches; however, adoption is often constrained by limited AI knowledge, lack of skills, technical complexity, over-reliance, ethical concerns, and fear of losing control over the teaching process (Chounta et al., 2022; Hammoud, 2025). Thus, teachers' perceptions of AI are shaped by the interaction between perceived usefulness, ease of use, professional readiness, and perceived pedagogical or ethical risks.

In ELT lesson planning, teachers' engagement with AI is deeply personal, shaped by their digital skills, pedagogical beliefs, and immediate classroom needs. From an Intelligent-TPACK perspective, truly effective integration occurs when teachers look beyond the technology itself, weaving AI's capabilities into their pedagogical strategies, subject expertise, and ethical judgment (Celik, 2023). In practice, this manifests in diverse ways: some educators simply use AI to brainstorm spark ideas, while others collaborate with it to scaffold materials, design rubrics, or differentiate activities for mixed-ability learners. Ultimately, these varied approaches underscore that AI's role is defined by the teacher's own professional agency. When treated as a thoughtful co-designer, AI empowers teachers to remain the central architects of their classrooms; conversely, relying on it blindly risks eroding their pedagogical intuition. Investigating these lived practices is therefore vital to see whether AI is serving as a meaningful assistant or silently replacing the teacher's unique voice in instruction (Moorhouse & Kohnke, 2024a; Zhai, 2025).

Previous studies also highlight the importance of teacher training and institutional support. Positive attitudes toward AI do not automatically lead to effective use if teachers lack guidance on prompt writing, curriculum alignment, ethical use, and output evaluation. Belloula (2025) argues that AI integration in lesson planning requires comprehensive training and collaborative development between educators and AI developers. This is relevant to the present study because English teachers in local school contexts may use AI informally without sufficient professional development. As a result, their AI-assisted lesson planning practices need to be understood in relation to available support, school context, and teachers' own professional readiness.

Ethical and Professional Dimensions of AI-Assisted Lesson Planning

AI-assisted lesson planning raises important ethical concerns because AI-generated materials may contain inaccurate information, biased assumptions, culturally inappropriate examples, privacy risks, or content that is not fully aligned with students' learning needs and curriculum expectations (Celik, 2023; Kasneci et al., 2023; Labadze et al., 2023). In educational contexts, ethical AI use requires transparency, fairness, accountability, data protection, and critical human oversight, especially when AI tools are used to support instructional decisions (Sengsri & Khunratchasana, 2024; Erdogan et al., 2026). For ELT teachers, these concerns are particularly relevant because lesson plans involve language input, communicative tasks, assessment criteria, and classroom interaction patterns that must be pedagogically meaningful and contextually appropriate (Biggs, 1996; Tomlinson, 2011; Richards, 2013). Therefore, teachers should not treat AI-generated outputs as ready-

to-use lesson plans, but as provisional resources that need to be evaluated, revised, and adapted according to students' proficiency levels, learning objectives, cultural backgrounds, and classroom realities (Moorhouse & Kohnke, 2024a; Alasgarova & Rzayev, 2025).

Responsible AI-assisted lesson planning depends on teacher agency because teachers must remain active pedagogical decision-makers rather than passive users of machine-generated content. Teacher agency refers to teachers' capacity to make purposeful instructional decisions, maintain professional authority, and respond critically to changing educational conditions. In AI-supported classrooms, this agency becomes increasingly important as teachers are expected to evaluate AI-generated objectives, activities, materials, and assessments while ensuring their pedagogical relevance and ethical appropriateness (Alasgarova & Rzayev, 2025; Celik, 2023). Recent studies show that AI can enhance efficiency, personalized learning, and student autonomy, but it may also weaken teacher authority and encourage over-reliance on AI-generated content when teachers and students lack sufficient AI literacy, professional training, and institutional guidance (Nazaretsky et al., 2022). Thus, responsible AI integration in ELT lesson planning requires teachers to position AI as a pedagogical assistant or co-design partner while preserving their role as curriculum interpreters, ethical gatekeepers, and reflective professionals (Moorhouse & Kohnke, 2024a; Zhai, 2025).

Technology Integration and Pedagogical Transformation

The integration of technology into educational practice offers diverse and innovative pathways to achieve instructional goals and enhance the overall learning experience. As artificial intelligence becomes more widely accepted and utilized by teachers, there is a growing need for educators to reconsider and transform their pedagogical approaches in order to meaningfully integrate tools such as generative AI into classroom instruction (Bozkurt et al., 2023; Kohnke et al., 2023b). This transformation requires not only technical familiarity but also a deeper understanding of how digital tools can support learning processes, promote student engagement, and foster higher-order thinking skills (Ng, Leung, Chu, & Shen, 2021). Furthermore, developing the ability to use AI responsibly and strategically is increasingly recognized as a critical competence for educators in navigating the demands of a digitally driven society. In this context, adapting teaching methods to align with technological advancements is no longer optional, but rather a fundamental requirement for sustaining relevance and effectiveness in contemporary education (Holmes et al., 2023; Kristiawan et al., 2024; Redecker, 2017; Vivian, 2008; Zhao & Watterston, 2021).

Overall, integrating AI into educational practice requires teachers to adapt their pedagogical approaches while maintaining instructional effectiveness and professional judgment. Consequently, investigating teachers' experiences with AI-assisted lesson planning can provide valuable insights into how educators navigate this pedagogical transformation in contemporary ELT contexts.

Methods

This section describes the methodological procedures used to explore English teachers' perceptions, practices, and ethical concerns regarding AI-assisted lesson planning. It explains the research design, context and participants, data collection instruments, data analysis procedures, and strategies used to ensure trustworthiness and ethical conduct.

Research Design

This study employed a qualitative descriptive design supported by descriptive questionnaire data. A qualitative descriptive design was appropriate because the study aimed to provide a contextual and straightforward account of how English teachers perceive, use, and critically evaluate AI tools when designing English lesson plans (H. Kim et al., 2017). The questionnaire data were used to identify general patterns in teachers' responses, while the interview data provided richer explanations of teachers' experiences, concerns, and recommendations. This combination of descriptive questionnaire data and semi-structured interview data allowed the study to capture both broad tendencies and deeper qualitative insights into teachers' AI-assisted lesson planning practices (Dörnyei, 2007; Creswell & Poth, 2018). Therefore, the study was not intended to test hypotheses or establish statistical relationships, but to interpret teachers' perspectives and practices in a local school context.

Participants

The study was conducted with English teachers from elementary and junior high schools in Banjarmasin, Indonesia. Participants were recruited purposively because the study required teachers who were actively teaching English and had experience using educational technology or some familiarity with AI-assisted tools for instructional planning. Fourteen English teachers voluntarily completed the questionnaire. They represented different teaching backgrounds in terms of gender, school level, and length of teaching experience, as shown in Table 1.

Table 1. Participant Demographics

Category	Description	Number
Gender	Female	8
	Male	6
Teaching Experience	Less than 1 year	2
	1–5 years	7
	6–10 years	1
	More than 10 years	4
School Level	Elementary School	3
	Junior High School	11
Total Participants		14

From the questionnaire respondents, three teachers were selected for semi-structured interviews. The selection considered the richness of their questionnaire responses, teaching experience, and relevance to the research focus. This follow-up interview sample was considered sufficient for the qualitative purpose of obtaining deeper explanations of teachers' perceptions, practices, challenges, and ethical concerns in AI-assisted lesson planning.

Data Collection

Questionnaire

Data were first collected through a structured questionnaire administered via Google Forms. The questionnaire consisted of closed-ended Likert-scale statements and open-ended questions organized around six areas: teachers' awareness of AI tools, perceived usefulness, actual use in lesson planning, perceived benefits, challenges and ethical concerns, and recommendations for future AI integration. The closed-ended component included 12 statements rated on a five-point scale ranging from strongly disagree to strongly agree. Sample items included "AI tools help me save time in designing lesson plans", "AI tools provide creative ideas for lesson plans", and "I need more training to use AI tools effectively". The open-ended questions allowed teachers to elaborate on their experiences, examples of AI use, and concerns regarding AI-assisted English lesson planning. Before distribution, the questionnaire was checked for clarity, relevance, and alignment with the research objectives.

Interview

Semi-structured interviews were conducted with three selected teachers to obtain deeper insights into their questionnaire responses. The interview guide contained 22 guiding questions organized into seven thematic sections: teaching background, awareness and understanding of AI tools, use of AI in lesson planning, perceived benefits, challenges and ethical concerns, attitudes toward AI integration, and suggestions for future use. The questions were used flexibly so that follow-up probes could be asked when participants provided relevant or unexpected information. Sample interview prompts included "How do you usually use AI tools when preparing an English lesson plan?", "How do you evaluate whether AI-generated content is suitable for your students?", and "What ethical concerns do you consider when using AI tools for lesson planning?". The interviews were conducted individually, recorded with participants' consent, and transcribed for analysis.

Data Analysis

The questionnaire and interview data were analyzed in complementary ways. Responses to the closed-ended questionnaire items were summarized using frequencies and percentages to identify general response patterns. Open-ended questionnaire responses were reviewed qualitatively and grouped according to recurring ideas related to AI awareness, perceived usefulness, AI-supported practices, challenges, ethical concerns, and training needs.

Interview data were analyzed using thematic analysis. First, the interview transcripts were read repeatedly to develop familiarity with the data. Second, meaningful statements related to teachers' perceptions and practices of AI-assisted lesson planning were coded. Third, similar codes were grouped into categories, including awareness of AI tools, uses of AI in lesson design, perceived benefits, pedagogical adaptation, accuracy concerns, ethical concerns, teacher agency, and professional development needs. Finally, these categories were refined into broader themes aligned with the research objectives. Initial coding was conducted by the first author and then discussed with the co-authors to improve consistency and reduce interpretive bias.

Findings from the questionnaire and interviews were then compared to strengthen the interpretation. The questionnaire results provided descriptive patterns, while the interviews clarified how teachers explained, justified, and negotiated their AI use in actual lesson-planning practices. This integration enabled a more comprehensive understanding of teachers' perceptions, practices, and ethical concerns regarding AI-assisted English lesson planning.

To enhance the credibility of the findings, data source triangulation was conducted by comparing questionnaire responses with interview findings. The analytic process was documented through coding notes and theme development records, and representative participant statements were used to support the interpretation of the data. These procedures helped ensure that the analysis remained grounded in participants' responses and that the findings were presented transparently. Ethical considerations were also addressed throughout the research process. Participation was voluntary, and participants were informed about the purpose of the study before completing the questionnaire or taking part in the interviews. Participants' identities and school names were kept confidential, and the data were used only for research purposes. In reporting the findings, participants were referred to using interview labels rather than real names to protect anonymity.

Results

Findings are presented according to five themes generated from the questionnaire responses and semi-structured interviews: (1) perceived efficiency of AI-assisted lesson planning, (2) instructional ideas and creative support, (3) concerns about accuracy and ethical use, (4) AI as a supportive rather than substitutive tool, and (5) training needs and institutional support. Questionnaire data provide descriptive patterns from 14 teachers, while interview excerpts from three selected participants illustrate how teachers explained and negotiated their use of AI in English lesson planning.

Perceived Efficiency of AI-Assisted Lesson Planning

The first theme concerns teachers' perceptions of AI as a tool for improving efficiency in English lesson planning. Questionnaire data were used to identify general response patterns regarding time-saving and teaching preparation, while interview data provided further explanations of how teachers experienced AI support in their planning practices. The

findings suggest that most participants viewed AI-assisted tools as helpful in reducing preparation time and supporting more efficient organization of lesson objectives, activities, and instructional materials. Table 2 presents teachers' responses regarding the perceived efficiency of AI-assisted lesson planning.

Table 2. Teachers' Perceptions of AI as a Time-Saving and Efficiency Tool (n = 14)

Statement	Agree/ Strongly Agree	Percentage
AI tools help me save time in designing lesson plans	11	78.6%
AI tools improve the overall quality of teaching preparation	9	64.3%

Table 2 shows that most teachers perceived AI as useful for making lesson preparation more efficient. Eleven respondents (78.6%) agreed or strongly agreed that AI helped them save time, while nine respondents (64.3%) agreed or strongly agreed that AI improved the overall quality of their teaching preparation. These results indicate that AI was valued primarily as a practical planning aid that reduced preparation time and supported more organized instructional planning.

Interview data clarified how this efficiency was experienced in practice. Teachers explained that AI helped them generate lesson objectives, activity ideas, and assessment tasks more quickly, especially when they faced limited preparation time or sudden teaching demands:

> *When I use AI, I can quickly get lesson objectives and activity ideas. It saves much time compared to preparing everything manually.* (Interviewee 1).

Another participant emphasized that AI was particularly helpful when facing time constraints or sudden teaching demands:

> *AI is very useful when I have limited time or when I suddenly need ideas for teaching.* (Interviewee 2).

However, the teachers did not describe efficiency as a reason to surrender pedagogical judgment. Instead, they emphasized that AI-generated suggestions still needed to be selected and adapted to students' needs:

> *AI helps me, but I still decide what is suitable for my students. I cannot depend on AI completely.* (Interviewee 3).

These responses suggest that teachers used AI to accelerate planning while retaining control over instructional decisions.

AI as a Source of Instructional Ideas and Creative Support

The second theme focuses on teachers' perceptions of AI as a source of instructional ideas and creative support in English lesson planning. In addition to saving preparation time, AI tools were perceived as helping teachers generate alternative teaching activities, organize lesson content, and develop more varied instructional materials. The questionnaire data provided an overview of teachers' responses regarding AI-supported creativity. In contrast, the interview data offered further insight into how teachers adapted AI-generated ideas to

suit their students' proficiency levels and classroom contexts. Table 3 presents teachers' responses regarding the role of AI in supporting instructional ideas and creative lesson development.

Table 3. Teachers' perceptions of AI for creativity and lesson development (n = 14)

Statement	Agree/ Strongly Agree	Percentage
AI provides creative ideas for lesson plans	7	50.0%
AI makes lesson plans more varied and engaging	8	57.1%
AI helps create materials matching students' needs	8	57.1%

Table 3 indicates that teachers also perceived AI as a source of instructional ideas and creative support. Eight respondents (57.1%) agreed or strongly agreed that AI made lesson plans more varied and engaging, and the same proportion reported that AI helped create materials that matched students' needs. Seven respondents (50.0%) agreed or strongly agreed that AI provided creative ideas for lesson planning.

Interview findings showed that AI was particularly helpful when teachers needed inspiration, alternative activity formats, or a clearer structure for lesson materials:

Sometimes I feel stuck when preparing lessons, and AI helps me with new ideas and activities. (Interviewee 1).

Another teacher reported that AI assisted in structuring materials more systematically:

AI helps me organize my lesson plan better and gives me different options for teaching activities. (Interviewee 2).

Nevertheless, teachers also emphasized that AI-generated suggestions were often too general and required adaptation to students' proficiency levels and classroom situations:

The ideas from AI are still too general, so I need to adjust them to my students' level and classroom situation. (Interviewee 3).

Thus, AI appeared to function as cognitive support for teacher creativity rather than as an independent creative authority.

Accuracy, Ethical Concerns, and Content Reliability

The next theme concerns teachers' awareness of the limitations and ethical risks associated with AI-assisted lesson planning. Although participants recognized the practical benefits of AI tools, they also expressed concerns about the accuracy of AI-generated content, the reliability of information, the possibility of over-reliance, and the need for responsible use. The questionnaire data provided an overview of teachers' concerns regarding content accuracy, creativity, and training needs, while the interview data offered deeper explanations of how teachers evaluated, filtered, and revised AI-generated outputs before using them in English lesson plans. Table 4 presents teachers' responses regarding accuracy, ethical concerns, and content reliability in the use of AI tools for lesson planning.

Table 4. Teachers' concerns regarding AI use (n = 14)

Statement	Agree/ Strongly Agree	Percentage
Concerned about accuracy of AI-generated content	7	50.0%
Worry AI may reduce teacher creativity	8	57.1%
Need more training to use AI effectively	11	78.6%

As shown in Table 4, 50% of the respondents expressed concern about the accuracy of AI-generated content, while 57.1% worried that excessive dependence on AI might reduce teachers' creativity. The strongest response concerned training needs, with 78.6% of respondents agreeing or strongly agreeing that they needed further training to use AI tools effectively. These findings indicate that teachers did not accept AI-generated materials uncritically. Instead, they recognized the need to verify information, align AI outputs with curriculum requirements, and maintain professional judgment when using AI in lesson planning.

Despite generally positive perceptions, teachers expressed serious concerns regarding the accuracy and ethical use of AI-generated content. The questionnaire respondents emphasized the risk of obtaining incorrect or unreliable information from AI tools. This concern was also evident in the interview data. One teacher stated:

> *I am afraid that the information from AI is not always correct, so I must check it again before using it in class.* (Interviewee 1).

Another participant emphasized the importance of aligning AI-generated content with curriculum requirements:

> *Sometimes the content from AI does not match the curriculum, so I need to filter and revise it.* (Interviewee 2).

Teachers also referred to ethical responsibilities, particularly plagiarism, academic integrity, and the reliability of AI-generated information. These findings suggest that teachers approached AI-assisted lesson planning with critical evaluation and ethical awareness rather than simple technological enthusiasm.

AI as a Supportive Rather Than Substitutive Tool

The fourth theme highlights teachers' views of AI as a supportive tool rather than a replacement for their professional role. While participants acknowledged the usefulness of AI in assisting lesson planning, they consistently emphasized that AI could not replace teachers' pedagogical judgment, classroom experience, and human interaction with students. The questionnaire data captured teachers' general attitudes toward AI integration, while the interview data provided further insight into how teachers positioned themselves as the main decision-makers in selecting, adapting, and validating AI-generated lesson content. Table 5 presents teachers' attitudes toward AI as a supportive rather than substitutive tool in English lesson planning.

Table 5. Teachers' attitudes toward AI integration (n = 14)

Statement	Agree/Strongly Agree	Percentage
AI tools are useful in lesson planning	12	85.7%
AI supports teachers rather than replaces them	12	85.7%
AI integration will improve education in the future	12	85.7%

Table 5 demonstrates a strong positive attitude toward AI integration. Twelve respondents (85.7%) agreed or strongly agreed that AI tools were useful in lesson planning, supported rather than replaced teachers, and could contribute to future educational improvement.

A strong consensus emerged that AI cannot replace teachers' roles in the teaching and learning process. Survey results showed that teachers view AI as a tool rather than a substitute for human interaction. Interview participants further emphasized the irreplaceable role of teachers. One teacher explained:

> *AI cannot replace teachers because students need human guidance and interaction*. (Interviewee 2).

Another teacher highlighted the importance of professional judgment and experience:

> *Teaching is not only about giving information. It is about understanding students and guiding them* (Interviewee 3).

These responses demonstrate that teachers consider themselves the primary decision-makers in lesson design and instructional strategies, reflecting strong professional identity and pedagogical autonomy.

Training Needs and Institutional Support

The final theme concerns teachers' need for further training and institutional support in using AI tools for English lesson planning. Although teachers generally perceived AI as useful, the findings indicate that many participants still required structured guidance on how to use AI effectively, ethically, and pedagogically. The questionnaire data captured teachers' perceived need for professional development, while the interview data provided further insight into how teachers learned to use AI tools, the challenges they faced, and the types of support they expected from schools or educational institutions. Table 6 presents teachers' responses regarding their need for training in using AI tools for lesson design.

Table 6. Teachers' need for training in using AI tools for lesson design (n = 14)

Response Category	Frequency	Percentage
Disagree	1	7.1%
Neutral	2	14.3%
Agree	5	35.7%
Strongly Agree	6	42.9%

Table 6 indicates a clear need for professional development. Eleven respondents (78.6%) agreed or strongly agreed that they needed additional training to use AI tools effectively, while only one respondent (7.1%) disagreed. This pattern suggests that positive

attitudes toward AI did not automatically translate into full confidence or preparedness. Interview findings also revealed that many teachers learned to use AI independently through online resources or colleagues:

> *I learned how to use AI by myself from the internet and from friends, not from school training*. (Interviewee 1).

Another teacher expressed concern about senior teachers' difficulties in adapting to technology:

> *Senior teachers need more guidance because they are not familiar with AI technology*. (Interviewee 2).

These findings point to the need for systematic professional development that addresses not only technical use, but also prompt design, curriculum alignment, output evaluation, data privacy, and ethical use.

Overall, the results show that teachers viewed AI as helpful for efficiency and creativity but remained cautious about accuracy, ethical use, over-reliance, and the need for training. The findings also indicate that teachers positioned AI as an assistant rather than a replacement, maintaining professional judgment over the selection and adaptation of AI-generated lesson components.

Discussion

This section interprets the findings in relation to the literature on AI-assisted lesson planning, AI literacy, teacher agency, and responsible AI integration in ELT. Overall, the findings indicate that teachers perceived AI as a useful planning aid that could enhance efficiency and stimulate instructional creativity. However, they did not accept AI-generated content uncritically. Instead, teachers positioned AI as a supportive pedagogical resource that still required professional judgment, contextual adaptation, ethical awareness, and institutional support. This suggests that the value of AI in lesson planning does not lie merely in its ability to generate instructional content, but in how teachers evaluate, adapt, and align such content with learners' needs, curriculum goals, and classroom realities. Therefore, the discussion is organized around five issues emerging from the findings: efficiency, instructional creativity, accuracy and ethical concerns, teacher agency, and professional development.

AI-Assisted Lesson Planning as Efficient Pedagogical Support

The finding that teachers perceived AI as time-saving and efficiency-enhancing supports previous work showing that generative AI can assist educators in developing lesson objectives, classroom activities, and assessment tasks (Belloula, 2025; Moundridou et al., 2024; Kerr & Kim, 2025). However, the present study adds an important contextual nuance: teachers in elementary and junior high schools used AI mainly to reduce routine planning burdens, not to transfer full responsibility for lesson design to the tool. This distinction is important because lesson planning in ELT requires the alignment of objectives, materials, activities, assessments, and learner needs (Biggs, 1996; Richards, 2013). Thus, AI-supported

efficiency should be understood as pedagogically meaningful only when teachers continue to evaluate and adapt AI-generated suggestions to their curriculum and classroom context.

AI-Generated Ideas, Teacher Creativity, and Contextual Adaptation

The finding that AI supported instructional ideas and creativity is consistent with studies that describe generative AI as a brainstorming tool or co-design resource for lesson planning (Moorhouse & Kohnke, 2024a; Kılıçkaya & Kic-Drgas, 2025; Zhai, 2025). Teachers reported that AI helped them generate alternative activities and organize lesson materials, but they also noted that AI-generated ideas were often too general. This finding aligns with the literature review's argument that AI can expand teachers' instructional possibilities but cannot replace contextual pedagogical reasoning. In ELT, materials must be linguistically appropriate, culturally relevant, and suited to students' proficiency levels (Tomlinson, 2011; Kohnke et al., 2023a). Therefore, teacher creativity in AI-assisted lesson planning lies not only in receiving ideas from AI, but also in selecting, reshaping, and contextualizing those ideas for meaningful language learning.

Accuracy, Ethical Awareness, and Critical Evaluation of AI Outputs

Teachers' concerns about accuracy, content reliability, plagiarism, data privacy, and over-reliance show that AI adoption was accompanied by ethical awareness. This finding supports previous studies warning that AI-generated outputs may be inaccurate, biased, incomplete, or misaligned with pedagogical purposes (Kasneci et al., 2023; Labadze et al., 2023; Celik, 2023). It also connects with AI literacy frameworks that emphasize evaluation and ethics as essential dimensions of responsible AI use (Chiu et al., 2024; Sari et al., 2025; Sengsri & Khunratchasana, 2024). In this study, teachers' practice of checking, filtering, and revising AI-generated content indicates that they understood AI outputs as provisional resources rather than ready-to-use instructional materials. This critical stance is particularly important in ELT because lesson content must be accurate, level-appropriate, and aligned with curricular goals.

Teacher Agency and AI as a Supportive Pedagogical Tool

The finding that teachers positioned AI as supportive rather than substitutive is closely related to the concept of teacher agency. Rather than viewing AI as an autonomous instructional authority, participants emphasized that teachers remain responsible for deciding whether AI-generated objectives, activities, and materials are suitable for their students. This supports research suggesting that AI can challenge teacher authority when students or teachers over-rely on automated outputs, but that teacher agency can be preserved when educators critically review, adapt, or override AI-generated suggestions (Nazaretsky et al., 2022; Alasgarova & Rzayev, 2025; Zhai, 2025). The present study therefore reinforces the view that responsible AI-assisted lesson planning requires teachers to act as curriculum interpreters, ethical gatekeepers, and reflective professionals, not merely as users of machine-generated content.

The Need for Training and Instructional Support

The strong need for training indicates that positive attitudes toward AI do not automatically lead to pedagogically sound or ethical implementation. Teachers' reliance on self-learning through online resources and colleagues suggests that AI use in this context remains largely informal. This finding is consistent with studies emphasizing that teachers need structured professional development to build AI literacy, prompt-writing competence, output evaluation skills, and ethical awareness (Moorhouse & Kohnke, 2024a; Belloula, 2025; Traga Philippakos & Rocconi, 2025). Institutional support is therefore necessary not only to improve technical competence but also to establish shared guidelines for curriculum alignment, academic integrity, data privacy, and responsible AI use in ELT lesson planning.

Overall, the findings extend current discussions on AI in ELT by showing how in-service English teachers in a local Indonesian school context negotiate the benefits and risks of AI-assisted lesson planning. The study confirms that AI can support efficiency, creativity, and instructional organization, but it also shows that these benefits depend on teachers' AI literacy, pedagogical competence, and professional agency. The implication is that AI integration should be framed as a human-centered pedagogical practice: AI may generate possibilities, but teachers remain responsible for evaluating, contextualizing, and justifying the final lesson design. For schools and teacher education programs, this means that AI training should combine technical instruction with ethical reflection, curriculum alignment, and discipline-specific pedagogical practice.

Nevertheless, alongside these positive perceptions, several challenges related to implementation were also identified. Issues such as limited professional training and varying levels of digital readiness mirror concerns raised in previous studies, particularly those by (Moorhouse & Kohnke, 2024b) who emphasized that teachers require structured guidance and continuous professional development to integrate AI effectively into classroom practice. These results imply that teacher education institutions and professional training programs should incorporate AI literacy as a core component of their curricula to prepare future educators for the growing presence of AI-driven technologies in education. Without adequate preparation, the pedagogical benefits of AI may not be fully realized, and its application may remain superficial or inconsistent.

In addition, ethical and responsible use of AI emerged as a critical concern among teachers. Participants expressed awareness of potential risks related to data privacy, plagiarism, and academic integrity, indicating that the adoption of AI must be accompanied by clear institutional policies and ethical frameworks. This concern is consistent with (X. An et al., 2023), who argued that ethical awareness is a fundamental requirement when AI is utilized in instructional planning, particularly in English language education. Teachers' emphasis on responsible use reflects their professional commitment to maintaining educational quality and protecting students' learning values in technologically mediated environments.

Overall, the integration of AI into lesson plan design reflects both opportunities for pedagogical innovation and challenges that demand institutional attention. While AI offers practical advantages in efficiency, creativity, and personalization, it simultaneously highlights the necessity for adequate infrastructure, systematic training, and ethical regulation. These findings reinforce the growing body of literature that positions AI as both a promising resource and a complex challenge in contemporary education (Söğüt, 2024; Son et al., 2025). Therefore, although the teachers who participated in this study demonstrated enthusiasm and openness toward AI-assisted lesson planning, their experiences underscore the importance of sustained professional development and institutional readiness to ensure that AI can be implemented in ways that are pedagogically meaningful, ethically sound, and supportive of teachers' central role in the educational process.

Conclusion

This study examined English teachers' perceptions, practices, and ethical concerns regarding the use of artificial intelligence (AI) tools in designing English lesson plans. Drawing on questionnaire responses and semi-structured interviews, the findings show that teachers generally viewed AI-assisted lesson planning positively. AI tools were perceived as helpful in reducing preparation time, generating instructional ideas, organizing lesson materials, and supporting more varied teaching activities. These benefits suggest that AI can serve as a practical resource for teachers, particularly when they face time constraints or need additional inspiration in preparing lessons.

At the same time, the findings also reveal that teachers did not position AI as a replacement for their professional role. Rather, they viewed AI as a supportive tool that still requires human judgment, pedagogical reasoning, and contextual adaptation. Teachers emphasized the need to review, revise, and align AI-generated outputs with curriculum goals, students' proficiency levels, and classroom realities. This indicates that the value of AI in lesson planning depends not only on what the technology can produce, but also on how teachers critically interpret and transform its outputs into meaningful learning experiences.

The study also highlights several concerns that need careful attention. Teachers were aware of the possible risks related to inaccurate AI-generated content, over-reliance on technology, data privacy, and ethical use. These concerns suggest that responsible AI integration in English language teaching requires more than access to digital tools. It requires teachers' AI literacy, ethical awareness, and institutional support. Therefore, professional development programs should help teachers develop the ability to use AI effectively, evaluate AI-generated materials critically, and make informed pedagogical decisions.

This study contributes to the growing discussion on AI in English language teaching by showing how in-service English teachers in a local Indonesian school context understand and negotiate the use of AI in lesson planning. It emphasizes that AI can support instructional preparation, but the teacher remains central in making educational decisions,

understanding students' needs, and ensuring the quality and relevance of classroom instruction.

Despite these contributions, this study has limitations. The participants were limited to English teachers from elementary and junior high schools in one geographical area, which may limit the transferability of the findings to other contexts. In addition, the data were based on self-reported perceptions and experiences. Future research may involve larger and more diverse groups of teachers, include classroom-based observations, or use mixed-method designs to examine how AI-assisted lesson planning influences actual teaching practices and student learning outcomes.

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Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

CRediT Authorship Contribution Statement

Isnainah Qumainah: Conceptualization, Methodology, Investigation, Writing – Original Draft, Project administration;

Yuniar Ramadini: Data Curation, Formal analysis, Validation, Visualization, Writing – Review & Editing;

Noor Maulidiyah: Supervision, Resources, Validation, Writing – Review & Editing, Investigation**.**

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