

Leveraging Generative AI To Foster Teachers' Creativity in Lesson Design

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ABSTRACT

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Although generative artificial intelligence (GenAI) has gained popularity to assist in planning lessons in EFL teaching, its potential to enhance teachers' creativity remains underexplored. Thus, the study aims to investigate the impact of GenAI on EFL teachers' creativity in lesson design during a six-week professional development program at Nguyen Van Cu High School, Hai Phong, Vietnam. The study was carried out with ten in-service EFL teachers. A mixed-methods design was utilized, including pre- and post-intervention lesson plans, creativity evaluation rubrics, and reflective journals. Quantitative data were analyzed through creativity scores, whereas qualitative data were analyzed thematically. The results suggested that GenAI improved teachers' originality, multimodal lesson design, and learner-centered instructional practices. However, participants were worried about authenticity and overreliance on AI as well. The findings highlight GenAI as a valuable pedagogical partner for enhancing teacher creativity while underscoring the necessity for reflective and balanced integration of AI into language education.

Introduction

Generative artificial intelligence (AI) technologies have emerged, with tools such as ChatGPT, significantly influencing the landscape of education, particularly language teaching. These technologies enable educators to create educational content, customize learning materials, and maximize classroom interactivity. Previous studies have mainly examined student-centered applications of AI, which have been found to improve learning outcomes, engagement, and assessment (Kasneci et al., 2023; Zawacki-Richter et al., 2019). However, research examining teachers' use of generative AI in instructional design remains relatively limited compared with research focusing on students' learning experiences and outcomes.

Although previous research has focused on the productivity and feasibility of AI, there is still limited empirical evidence on how AI enables and constrains teachers in lesson planning, particularly in authentic classroom contexts. More specifically, prior studies have not

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adequately investigated (1) how teachers integrate AI into lesson design practices (Hoang et al., 2025), (2) how creativity may be systematically measured during AI-assisted instructional design, and (3) how teachers' perceptions of creativity change as a result of continued use of AI tools. This discrepancy is particularly clear in EFL settings, where inflexible curricula and examination-oriented teaching practices constrain teachers' creative agency (Richards, 2013).

Creativity (Runco & Jaeger, 2012) is widely defined as the ability to generate original and appropriate ideas or artifacts in a given context and is emerging as a core competency for effective teaching. Creative educators develop standardized content into meaningful learning experiences, adapt instructional materials to learners' diverse needs, and design authentic, relevant learning activities. However, it remains difficult to sustain such creativity due to time constraints, institutional demands, and inadequate professional support.

Within this context, generative AI can be conceptualized as a cognitive and pedagogical support tool that enables idea generation, content reuse, and multimodal lesson planning. Rather than just automating routine tasks, AI has the potential to enhance teachers' creative processes by offering diverse perspectives, supporting instructional ideas, and facilitating rapid prototyping of teaching materials. The question is whether teachers use AI as a creative partner or primarily as a tool to improve efficiency. Addressing this distinction is important for understanding the educational value of AI integration and its potential contribution to teacher creativity.

Based on this gap in the research, the current study seeks to examine how EFL teachers use generative AI tools in lesson design and how such use influences their creativity. The study took place at Nguyen Van Cu High School in Hai Phong, Vietnam, where English teachers operate within a national curriculum framework that places considerable emphasis on standardized learning outcomes and examination preparation. Similar constraints have been documented in Vietnamese EFL contexts, where teachers often face heavy curricular requirements and limited flexibility for pedagogical innovation (Nguyen & Burns, 2017; Pillai et al., 2022). Through a six-week professional development program, this research examines how generative AI can function not merely as an instructional assistant but as a collaborative partner in lesson design. By integrating quantitative analysis of lesson-plan creativity with qualitative data from teachers' reflections, this research aims to provide nuanced insights into how AI is shaping teachers' creativity in contemporary EFL contexts.

Literature review

Generative AI in education

AI refers to machine learning systems that can automatically generate new outputs (text, images, teaching ideas, quizzes, multimedia) from human input and large-scale training data (Shanahan et al., 2023). Educational institutions have increasingly adopted this technology. Unlike previous generations of educational technology that did not rely on static databases or programmed responses, generative AI uses deep learning models (especially transformer architectures) to replicate creative, context-specific production (OpenAI, 2023). Such systems, including ChatGPT, Gemini, Claude, and DALL·E, are increasingly being applied in educational practice for writing support, adaptation, automated feedback and grading, and assessment creation. Recent research has pointed out a number of pedagogical affordances of generative AI. Kasneci et al. (2023) demonstrated that AI-based text generators can provide different levels of materials, which further scaffold differentiated instruction by building materials at scale, allowing teachers to match the needs of different learners more effectively.

AI has already been used in language learning to simplify reading passages, create vocabulary exercises, or translate genuine sources while preserving context. Similarly, teachers can use AI to form discussion prompts anchored in Bloom's taxonomy or conduct dialogues to assess communicative competence. However, when used effectively, it potentially helps foster teachers' ideational fluency and pedagogical imagination (Yang et al., 2025). For example, teachers can stimulate multimodal engagement among students by using AI to suggest interesting role-play scenarios. This perspective is in line with that of Holmes et al. (2019), who argue that these tools can help to reduce technical barriers for teachers and thereby provide greater opportunities for instructional innovation and inspiration. Despite this, the use of generative AI in education still faces issues of authenticity, authorship, and ethical use. Issues such as factual inaccuracies ("hallucinations"), risks of plagiarism, and the opacity of AI-generated explanations may undermine teachers' trust in the technology (Dwivedi et al., 2023). Additionally, empirical research remains limited on teachers' use of generative AI in the classroom, particularly regarding their creative decision-making. Recent investigations reveal that the effectiveness of AI in education relies primarily on teachers' critical literacy, flexible pedagogies, and institutional support (Luckin et al., 2024).

The role of creativity in language teaching

Teacher creativity means the capacity to develop innovative, useful, and contextually relevant methods of instruction that involve students and fulfill curriculum-driven purposes in teaching (Richards, 2013). In language teaching, creativity is exemplified by the creation of communicative tasks, the alteration of materials to accommodate each lesson, and the construction, from the start, of authentic learning experiences that invite students to explore through curiosity and imagination. Creativity operates on four dimensions (Kaufman & Beghetto, 2009): "mini-c" creativity denotes personally meaningful interpretations and insights; "little-c" creativity denotes everyday creative problem-solving; "Pro-C" creativity denotes professional-level expertise and innovation; and "Big-C" creativity includes eminent contributions that transform a field. This framework serves as a useful lens for understanding how teachers use creativity in lesson design at the "little-c" and "Pro-C" levels, where pedagogical adaptation and professional expertise are most evident in the context of this study. This study, therefore, operationalizes teacher creativity in terms of observable instructional outputs rather than abstract notions.

Many studies have shown that teacher creativity enhances student outcomes, and so does children's creativity. Research has consistently shown that creative teaching promotes intrinsic motivation, participation, and long-term learning (Richards, 2013; Sawyer, 2011). Likewise, Nguyen & Le (2025) demonstrated that students experience higher levels of engagement and communicative confidence when teachers use creative storytelling, gamification, or digital media. In the EFL context, creativity promotes adaptive teaching by enabling instructors to tailor lessons to students' linguistic and cultural backgrounds (Xie & Fang, 2025). The development of teachers' creativity comes from both individual and systematic factors. According to Craft (2005) and Sawyer (2011), teachers are discouraged from trying new ideas due to less flexible curricula, an exam-oriented culture, and pressures coming from the administration. As a result, creative activities are often neglected. On the other hand, schools that foster reflection, peer interaction, and continuous professional development (CPD) are more likely to promote teacher creativity (Jones & Richards, 2015). Creativity in language education, in particular, is not only about developing new materials, but about creatively recontextualizing previously familiar material in new forms. Creative teachers use authentic materials, develop role-plays on contemporary topics, or use digital materials to concretize abstract linguistic processes. As digital tools become increasingly integrated, the idea of "digital

creativity” has emerged, highlighting teachers’ capacity to utilize technology as a medium for pedagogical transformation rather than reducing it to a “mechanical one” to some extent (Mishra & Koehler, 2006). Such understanding provides a conceptual basis for understanding how generative AI might affect teachers’ creative processes in language classrooms.

Generative AI and teacher creativity

Generative AI and teacher creativity represent an emerging area of educational research. Some initial work suggests that AI might facilitate teachers’ ideation by generating multiple alternatives and visual inspiration, as well as help iterate on ideas (Holmes et al., 2019; Hossain & Al Younus, 2025). Teachers who use AI-powered programs, such as ChatGPT, Canva Magic Write, and Gemini, describe rising “idea fluency,” producing hundreds of new teaching ideas in a flash (Hossain & Al Younus, 2025). The tools can also serve as brainstorming tools, providing templates for lesson plans, storylines, and assessment tasks that teachers can modify and refashion within the pedagogical curriculum.

Furthermore, generative AI could stimulate divergent thought by introducing educators to cross-cultural or interdisciplinary perspectives (Yang et al., 2025). For example, a language teacher could leverage AI to produce idiomatic expressions from different English regions, or to write themed lessons in science, art, and social issues. This is an analogous dynamic within the creative paradigm of concept expansion, as new combinations of ideas arise when heterogeneous information sources are combined.

However, embedding AI in creative pedagogies also presents substantial challenges. Bender et al. (2021) and Kasneci et al. (2023) caution that uncritical reliance on AI-generated outputs may reduce users’ active engagement in creative processes and encourage more formulaic approaches to content creation and instructional design. For example, teachers may directly adopt AI-generated lesson plans or activities without adjusting them to the learner’s proficiency level, cultural context, or curriculum requirements. In EFL classrooms, this can lead to tasks that are linguistically inappropriate or pedagogically misaligned with learning objectives. Ethical concerns, including privacy and bias issues, as well as intellectual property issues, complicate the educational aspects of AI use (Williamson & Eynon, 2020).

For these reasons, in order to optimize benefits, researchers propose a “human-AI co-creativity” framework (Long & Magerko, 2020), so that AI is not a competitor to teacher skillfulness, but rather that it provides a vehicle for exploration, reflection, and development. Under this theory, teachers continue to be the principal facilitators of creativity, critically engage with AI outputs, and contextualize them for learners. Professional development programs oriented towards AI literacy, pedagogy, and ethics are thus important (Kasneci et al., 2023; Holmes et al., 2019).

With these tensions and opportunities, further empirical research is required to explore how teachers engage with generative AI in authentic educational settings. By studying the ways in which AI mediates the creativity of teachers - through its presence as a potential source of support, inspiration, or potential constraint - the research article contributes to theoretical and practical contributions to teacher education in the digital age. Therefore, the current study examines how high school EFL teachers at Nguyen Van Cu High School integrate generative AI tools into instructional design, and how it impacts their creative pedagogical practices.

Research questions

To fulfill the purpose of the study, the survey sought to answer the following research questions:

1. How do EFL teachers integrate generative AI tools into their lesson designs?
2. To what extent does the use of generative AI influence different dimensions of teachers' creativity in lesson design?
3. What changes occur in teachers' perceptions of creativity and AI-supported teaching after using generative AI tools?

Methods

Pedagogical setting & participants

The study adopted a mixed-methods design combining quantitative analysis of creativity scores with qualitative analysis of reflective journals. The intervention was structured over six weeks and involved the use of generative AI tools in EFL lesson planning. Ten in-service English teachers (8 female and 2 male) from Nguyen Van Cu High School in Hai Phong voluntarily enrolled. They had 3 to 15 years of teaching experience. All had basic digital literacy but limited experience with AI tools.

Purposive sampling was used to recruit participants. An invitation outlining the study's objectives, procedures, and expected commitments was issued to all English teachers at the school. The study was conducted with the participation of teachers who were willing and interested in integrating generative AI tools into their lesson-planning practices. Participation was completely voluntary, with no monetary or material benefits provided.

Despite the limited sample size ($N = 10$), this was reasonable given the exploratory nature of the study. No statistical generalization was expected; instead, we aimed to go beneath the surface of teachers' experiences, creative practices, and perceptions regarding the integration of generative AI into lesson planning. In exploratory educational research, small samples are often used to build rich contextual knowledge and new trends for large future research (Creswell & Plano Clark, 2018; Merriam & Tisdell, 2016).

Participant code	Gender	Years of experience	Prior AI experience
T1	Female	12	None
T2	Female	7	Minimal
T3	Male	10	None
T4	Female	3	Minimal
T5	Female	8	Moderate
T6	Female	15	None
T7	Male	9	None
T8	Female	6	Minimal
T9	Female	5	Minimal
T10	Female	11	Moderate

Design of the study

Participants completed a professional development program that targeted the generative AI application for lesson development.

- Weeks 1 to 2: Familiarization with AI tools (ChatGPT, Canva, and Gemini).

- Weeks 3 to 4: Workshops on lesson design with AI prompts – activity generators and creative adaptors.
- Weeks 5 to 6: Execution, review, and re-evaluation.

Each teacher provided a pre- and post-intervention lesson plan, which was evaluated using the Creativity Assessment Rubric (CAR) adapted from Richards (2013) and Kaufman & Beghetto (2009).

The instruments used in this study include:

- Creativity Assessment Rubric (CAR): Measured lesson plans across four dimensions: originality, variety of methods, multimodality, and learner orientation. Each criterion was rated from 1 (low) to 5 (high). To establish measurement validity, participants were required to provide both initial AI-generated outputs and their final lesson plans. Creativity scores were assigned based on the extent to which teachers modified, adapted, and contextualized AI-generated content in order to differentiate between teacher creativity and AI-generated input. To establish reliability, two independent raters reviewed all lesson plans. Inter-rater agreement was determined using Cohen's kappa, and the value of $\kappa = 0.82$ showed strong agreement. Discrepancies were resolved through discussion. The CAR, although originally designed to assess instructional products, is relevant to the present study because lesson plans directly represent teachers' pedagogical reasoning and creative decision-making, thereby providing a valid proxy for teacher creativity.
- Reflective Journals: Teachers wrote weekly reflections about the extent to which AI influenced their lesson design and imagination.
- Semi-structured Interviews: Semi-structured interviews were conducted after the intervention to further explore participants' perceptions and to clarify any issues or questions that arose from their teaching experience.

Data collection & analysis

To summarize the study, both qualitative and quantitative data were collected and analyzed. Quantitative data were analyzed using SPSS, using a paired-sample t-test to compare creativity scores of teachers before and after treatment. The results demonstrated a significant increase ($p < .001$). While the sample was small ($N = 10$), the use of parametric testing is well-accepted given the within-subject and exploratory nature of the study. For additional support in interpreting the analysis, effect sizes were estimated using Cohen's d , which provided information on the magnitude of the changes in size rather than statistical significance.

For the qualitative element, thematic analysis was conducted in accordance with the framework outlined by Braun and Clarke (2006). It was a step-by-step process. The data were coded using initial coding, which identified themes and then refined them. The final themes emerged from examining journals and interview data. They are AI as a source of inspiration; AI as a co-creator in lesson design; and concerns about AI-generated content being authentic. These themes together show how teachers used AI and how it helped them be creative with lesson plans. They interacted with AI in various ways. Their experience with AI shaped their lesson plans.

Findings

In this section, the results will be reported in response to three research questions, while also providing quantitative and qualitative analyses of the impact of generative AI tools on teachers' lesson design practices, creativity, and professional perceptions.

RQ1: How do EFL teachers integrate generative AI tools into their lesson designs?

Lesson plan review, reflective journaling, interviews, and use of data suggest that teachers interacted with generative AI at levels that are iterative, involving generation, adaptation, and transformation. At a fundamental level, AI was employed to generate ideas, such as brainstorming lesson themes, crafting prompts, and proposing classroom activities. Teachers used AI-generated outputs at a more advanced level, such as modifying reading texts, rewriting dialogues, or adjusting task instructions to better align with learners' skill levels and lesson objectives. At a higher level, some participants demonstrated a transformational use of AI outputs, which were critically evaluated, reorganized, and integrated into larger pedagogical designs. Importantly, AI tools were not deployed as standalone generators but were built into teachers' lesson-planning workflow alongside pre-lesson ideation, material development, and activity sequencing.

Participants gradually changed their methods (e.g., stopped using AI for linguistic support (e.g., checking grammar, translation) and began using AI as a creative collaborator in the design phase, especially in the interactive and learner-directed creation of activities). AI tools such as ChatGPT, Canva, and Copilot were increasingly used to inform multimodal lesson design by helping teachers visualize abstract concepts and augment instructional content.

RQ2: To what extent does the use of generative AI influence different dimensions of teachers' creativity in lesson design?

Data from pre- and post-tests were quantitatively analyzed using paired-sample t-tests in SPSS. Table 1 shows mean scores across four creativity dimensions before and after the intervention.

Table 1

Pre- and post-intervention creativity scores (N=10)

Dimension	Pre-test mean (SD)	Post-test mean (SD)	Mean difference	t(9)	p	d
Originality	2.8 (0.60)	4.3 (0.55)	+1.5	6.10	<.001	2.45
Variety of methods	3.1 (0.57)	4.4 (0.52)	+1.3	5.92	<.001	2.30
Multimodal integration	2.5 (0.67)	4.1 (0.54)	+1.6	6.44	<.001	2.60
Learner orientation	3.0 (0.70)	4.2 (0.63)	+1.2	5.03	=.001	1.80
Overall creativity	2.85 (0.64)	4.25 (0.54)	+1.4	6.17	.001	2.40

Note: $p < .001$ reflects statistical significance.

Most importantly, for the other four dimensions, all were statistically significantly improved. Among them, multimodal integration showed the largest expansion (Mean difference = +1.6), indicating that AI gave teachers the most support to effectively incorporate and use all kinds of semiotic materials in their lesson plans. Next in order was Originality (+1.5), which suggested a strengthened capacity to produce new instructional concepts. Learner orientation showed the smallest improvement (+1.2), suggesting that adapting instruction to learners' specific needs may still require substantial teacher judgment and pedagogical expertise. The general creativity score increased by +1.4. Effect sizes (Cohen's $d = 1.80-2.60$) were large across all dimensions, indicating substantial practical differences between pre- and post-intervention scores. Nevertheless, due to the limited sample size ($N = 10$), such findings are only preliminary and exploratory in nature, and not generalizable.

RQ3: What changes occur in teachers' perceptions of creativity and AI-supported teaching after using generative AI tools?

A thematic analysis of reflective journal and semi-structured interview data was conducted to gain an in-depth understanding of how teachers' perceptions are evolving. Reflective journals were used to document participants' ongoing experiences during intervention stages, while the interviews offered opportunities for more in-depth reflection and clarification of emergent ideas. Using an inductive coding method and after several rounds of refinement, four main themes were identified.

First, teachers saw AI increasingly as a catalyst for creative ideation. Instead of approaching AI as an assistant for creating existing content, participants described it as a source of inspiration that helped them push through creative constraints and explore new pedagogical opportunities. Numerous teachers shared that suggestions assisted with AI promotion inspired them to try new activity types and broaden their pedagogical toolkit. *"When things got tricky, ChatGPT came in and I was trying to come up with all sorts of possible creative things I had never come up with before."* (T3). This indicates that AI served as an intellectual accomplice, assisting teachers in refining their ideation, while human judgment and adaptation were retained.

Second, the people who answered the questions said they felt a difference in how they thought about planning their lessons in a new way that combines many things. The new way of planning lessons is used with the approach to their schoolwork. Because tools that use Artificial Intelligence helped teachers present information in both audio and text formats without pausing, they could make complex concepts simpler for students to understand. This was especially true for pictures, videos, and interactive materials created by Artificial Intelligence, which engaged students in class and allowed them to learn in different ways.

The teacher said, *"AI features from Canva have helped me turn ideas into something my students can actually see."*

These things show that AI does not just help people be more creative with their ideas. It also helps create interactive, dynamic teaching methods.

Despite these benefits, they also raised concerns about the authenticity and appropriateness of the AI-generated content. Some participants were skeptical of the naturalness, cultural relevance, and contextual suitability of AI outcomes for a variety of potential cultural contexts. Such language awkwardness or cultural misalignment was observed on some occasions in AI-generated materials, where even a teacher's training could translate into miscommunication in the classroom. *"Some generated AI sounded strange or didn't quite adhere to the cultural context."* (T6). These issues focus on evaluating the value of teacher assessments and draw attention to the view that AI is no substitute for the nuanced understanding that educators bring

to the classroom.

Lastly, teachers exhibited heightened awareness of self-reliance and the need to maintain pedagogical agency. Although AI was widely regarded as an excellent support tool, there were moments when participants realized how involved they had actually been in using it, and they stressed that even AI-produced work should still be adapted to their students' teaching needs. *“I learned I don't need to depend too much on AI, it's the context of my students that I still need to adjust everything to.”* (T2). This theme represents a developing equilibrium between using AI as a tool for efficiency and the need to uphold teacher autonomy in instructional decision-making.

Taken together, these findings imply that teachers' perceptions of AI shifted from a mere functional tool to AI as a collaborator in the process of making creative objects. Simultaneously, they fostered a critical and reflective perspective on the limitations of the practice, demanding contextually sensitive and pedagogically grounded use.

Table 2

Frequency of emergent themes from reflective journals (N=10)

Theme	Number of Mentions	Representative Quotes
AI as ideation partner	18	“AI helped me brainstorm lesson hooks.”
Multimodal enhancement	14	“I used AI images and dialogues to diversify input.”
Authenticity concerns	9	“Some AI examples lacked cultural fit.”
Dependence awareness	7	“I realized I shouldn't rely too much on AI.”

Overall, qualitative results supported the statistical analysis by revealing that teachers increased their creative practices and became more reflective in understanding the possibilities and drawbacks of generative AI in instructional design.

Summary of Findings

In conclusion, generative AI tools have significantly enhanced teachers' creativity, increasing the originality and versatility of their lesson designs. In this view, teachers see AI as a tool that enhances their ability to generate ideas and to encourage creativity in their lesson design. However, they also face a few issues, including concerns about authenticity and dependence on AI. Thus, both quantitative and qualitative findings highlight that AI has the potential to facilitate teachers' creativity, enabling them to improve the quality of their lessons. It is also important to note that these tools should be used critically, and the suitability of context-sensitivity within a pedagogical framework should not be neglected.

Discussion

AI as a creative co-designer

According to this study, generative AI can serve as a creative co-designer in teachers' lesson planning rather than a more passive role. The findings of this study, where creativity across

multiple dimensions improved significantly—notably originality and multimodal integration—demonstrate that AI can expand teachers’ ability to ideate, expand, and practice teaching in new and novel ways. From a theoretical standpoint, it is consistent with the notion of ideational fluency (Runco, 2014), which suggests the capacity to generate multiple ideas under time constraints. By exposing teachers to a wide array of prompts, representations, and teaching methods, AI appears to facilitate divergent thinking, a cornerstone of creativity. This echoes earlier arguments by Holmes et al. (2019), who suggest that AI systems can broaden users’ thinking horizons by introducing new perspectives. Crucially, the role of AI in this study is better captured through the framework of co-creativity (Long & Magerko, 2020), in which human and artificial intelligence agents work in synergy to achieve creative goals. Instead of replacing teachers’ know-how, AI facilitated idea generation, but teachers kept the reins on evaluation, revision, and pedagogical alignment. This dynamic demonstrates a transition from tools to collaborative cognition, in which creativity emerges from a balance between human judgment and machine-generated information. Whilst there is research supporting the efficacy gains associated with AI across studies, this study demonstrates an even more subtle role of AI - AI may allow teachers to shift cognitive effort away from routine steps in instruction to higher-order pedagogical decision-making. This result is supported by Yang et al. (2025) on the scaffolding role of AI in helping teachers build confidence and take creative risks -especially when challenged by time constraints or a lack of technical expertise. However, rather than treating AI almost exclusively as a time-saving tool, we see the technology as a facilitator of pedagogical innovation and a basis for experimenting with multimodal, interactive forms of instruction.

Balancing innovation and authenticity

While opening up creative possibilities, the adoption of generative AI also raises serious issues related to authenticity, cultural appropriateness, and contextual relevance. Teachers reported that some AI-generated content reflected Western-centric assumptions, including unfamiliar names, locations, and communicative norms that were not always relevant to Vietnamese learners. This finding points to an important limitation of generative AI in EFL practice: although AI can generate accurate language content, it does not automatically integrate local cultural nuances or pedagogical considerations into instruction. In this sense, teachers played a central mediating role in modifying AI outputs to be relevant to their surroundings. These adaptations have often taken the form of adapting cultural references, simplifying or localizing scenarios, or using language to incorporate students’ lived experiences. As such practices can be explained through the TPACK framework (Mishra & Koehler, 2006), this approach emphasizes the integration of technological, pedagogical, and content knowledge. Teachers’ skills in critically appraising and modifying AI-generated content reflect not only technological literacy but also pedagogical rationale and cultural fluency. Creativity, in this sense, is not just novelty but also appropriateness and contextual fit, consistent with socio-cultural theories of creativity (Sawyer, 2011). The results of this study also resonate with the concerns raised by Williamson and Eynon (2020), who are concerned about ‘automated creativity’, where ‘too much use of AI could result in less contextualized or superficial instructional design’. However, teachers in this study, rather than parroting AI output, engaged in active reinterpretation, indicating that professional agency is crucial in AI-empowered contexts.

Implications for educational leadership and teacher development

The implications of this analysis for leaders in the learning environment of educators and teachers are very significant.

First, school administrators must move past viewing AI as a specific technical tool and instead consider its importance in facilitating pedagogical innovation and innovative teaching. To that end, there is a need to establish institutional arrangements in which AI experimentation is supported by critical reflection on and encouragement of it.

Second, teacher training programs should include structured AI literacy opportunities for teachers to practice beyond simple use of the tools; they should also include opportunities for self-critical evaluation, awareness of the ethics of AI use, and the use of AI in various contexts. As this study shows, good use of AI also relies on teachers' ability to make sense of, adapt, and transform AI-generated outputs, rather than simply adopting them.

Professional development should also focus on teachers developing adaptive expertise, balancing efficiency and pedagogical intent. There should be scenario-based activities in which teachers can work through scenario-based training to develop ways to adapt AI content to individual learners' needs and cultural settings.

Lastly, institutions should consider embedding AI in collaborative professional learning communities for teachers from across professional roles, where they can dialogue about their practices, discuss barriers and challenges, and co-create tactics for real-world integration of AI in meaningful ways. There are also approaches that can be used to ensure AI as an adjunct in AI education, not a substitute for expertise from teachers, but to be part of, rather than a substitute, the creative and sensitive to the context and content of teaching and knowledge transfer when producing content.

Conclusion

The study indicates that generative AI could enhance teacher creativity in EFL lesson planning. Instead of simply reproducing AI-generated outputs, participants modified, improved, and contextualized them, resulting in more original, multimodal, and learner-centered instructional designs.

The results indicate that AI might serve as a creative co-designer, assisting idea generation while maintaining teachers' professional judgment and pedagogical agency. Moreover, the research adds to the expanding literature in AI and language education by applying AI and human co-creativity to teacher creativity and instructional design. It reinforces the idea that creativity in AI-based teaching requires novelty, contextual responsiveness, and pedagogical appropriateness.

However, a generalization should be made with caution in light of the study's relatively small sample size ($N = 10$) and its exploratory nature. More research with a broader, more diverse sample is needed across different educational settings to investigate the impact of AI on teacher creativity, professional identity, and classroom practice.

In conclusion, the results imply that the importance of generative AI for learning does not entail replacing the teacher; rather, it enables teachers to create more meaningful, creative, and context-specific learning experiences relevant to the classroom.

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