



The Journal of Language Teaching and Learning™

2025

Volume 15/Issue 2

Article 8

Developing AI-Supported Classroom Materials: Lecturer Insights and Practical Strategies

Merve Öksüz Zerey, Gazi University, Ankara, Türkiye, merveoksuz@gazi.edu.tr

Recommended Citations:

APA

Öksüz Zerey, M. (2025). Developing AI-supported classroom materials: Lecturer insights and practical strategies. *The Journal of Language Teaching and Learning*, 15(2), 140-156.

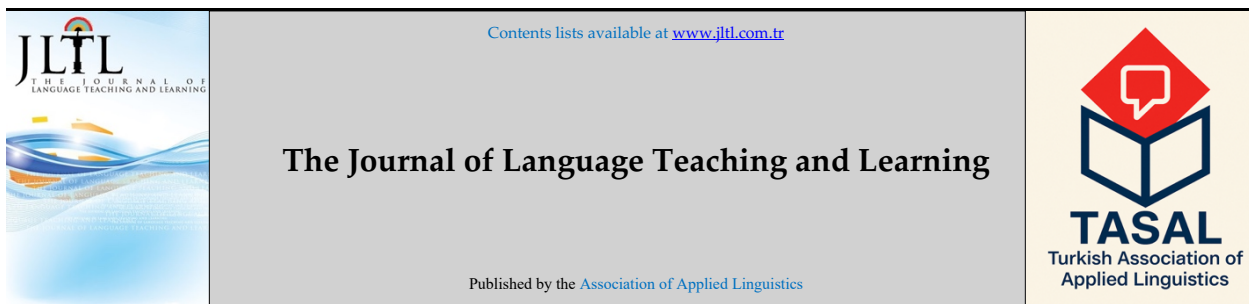
MLA

Öksüz Zerey, Merve. "Developing AI-supported classroom materials: Lecturer Insights and Practical Strategies." *The Journal of Language Teaching and Learning*, vol. 15, no. 2, 2025, 140-156.

The JLTL is freely available online at www.jltl.com.tr with neither subscription nor membership required. Contributors are invited to review the Submission page and manuscript templates at www.jltl.org/Submitonline



As an online journal, the JLTL adopts a green-policy journal. Please print out and copy responsibly.



www.jltl.com.tr

The Journal of Language Teaching and Learning, 2025(2), pp. 140-156

Developing AI-Supported Classroom Materials: Lecturer Insights and Practical Strategies

Merve Öksüz Zerey¹

ARTICLE INFO

Article History:

Received 28 May 2025

Revisions completed 20 Jun 2025

Online First 30 Jun 2025

Published 30 Jun 2025

Key Words:

GenAI

Artificial intelligence

Sociocultural theory

Material development

Foreign language teaching

Foreign language education

ABSTRACT

Generative AI (GenAI) has rapidly evolved, offering new possibilities across various domains, including education. While it is increasingly integrated into English Language Teaching (ELT), empirical research on pedagogical applications remains limited. Therefore, this study explored how ELT lecturers in a higher education context incorporated GenAI tools into their material development processes. It also identified the strategies they offered for optimizing its use for instructional purposes. Drawing on Sociocultural Theory (SCT), the study conceptualized AI as a mediational tool that supports lecturers' cognitive processes in material development. A phenomenological research approach was adopted, and the data were collected through semi-structured interviews. Thematic analysis of the data revealed three primary ways of AI use in material development: task generation and brainstorming, content development for instructional tasks, and material adaptation to enhance instructional effectiveness. Findings suggest that lecturers used AI to diversify instructional materials, promote interactive learning, and enhance task variety, yet emphasized the need for critical evaluation and adaptation of AI-generated content. They also provided practical strategies for effective AI integration. These insights contribute to developing clear guidelines and practices for AI integration in ELT.

© Association of Applied Linguistics. All rights reserved

¹ Department of Foreign Language Education, English Language Teaching Program, Gazi University, Ankara, Türkiye, merveoksuz@gazi.edu.tr

Öksüz Zerey, M. (2025). Developing AI-supported classroom materials: Lecturer insights and practical strategies. *The Journal of Language Teaching and Learning*, 15(2), 140-156.

A quick web search of the number of users for such GenAI tools as ChatGPT, CoPilot, Gemini, and DeepSeek provides undeniable proof of the widespread adoption of GenAI-powered tools across various sectors and contexts. Education, particularly foreign language education, has witnessed a proliferation of research studies investigating what affordances these AI tools offer and what are specific challenges that need to be addressed (e.g., Koraishi, 2023; Kostka & Toncelli, 2023; Moorhouse, 2024). As these GenAI technologies generate content that involves texts, images, and audio, they have sparked growing interest in their potential to enhance teaching and learning processes. In the context of foreign language education, these tools are being explored for their ability to facilitate language practice (Kohnke et al., 2023), personalized learning experiences (Farrokhnia et al., 2024), assessment and evaluation (Kasneci et al., 2023), and lesson planning and preparation (Moorhouse, 2024). Along with these affordances, researchers also highlight challenges related to ethical considerations (Hockly, 2023), overreliance on these tools (Kasneci et al., 2023), and the accuracy of AI-generated content (Kohnke et al., 2023). While these studies emphasize the potential of AI in education and the importance of addressing its limitations, research has primarily focused on student learning and general teaching applications, leaving a gap in understanding how GenAI can be specifically used for material development and adaptation. In particular, there is a lack of empirical research examining how educators engage with GenAI tools in real-life classroom planning, how they develop and adapt AI-generated materials, and what specific strategies they use.

To fill this gap, the present research explores the implementation of GenAI in material development in the context of higher education. Relying on ELT lecturers' insights and experiences, it investigates how GenAI can be incorporated into material development processes. Furthermore, it investigates practical strategies based on lecturers' lived experiences, contributing to the literature on the effective integration of AI into education.

Accordingly, this study seeks answers to the following research questions:

1. How do lecturers incorporate GenAI into their material development and implementation processes?
2. What practical strategies do lecturers suggest for optimizing the use of GenAI in material development?

This study draws on Sociocultural Theory (SCT) (Vygotsky, 1978) to interpret how lecturers interact with GenAI tools during instructional planning and material development processes. Within this framework, GenAI is conceptualized as a mediational tool that supports lecturers' cognitive processes in material development and adaptation. This perspective helps capture how lecturers appropriate GenAI tools regarding their context, illustrating the dynamic relationship between technology, cognition, and pedagogy.

2. Literature Review

2.1. Sociocultural Theory

Drawing on the work of Vygotsky (1978), sociocultural theory assumes that cognitive development occurs in social life, mediated by social practices and cultural artifacts (Lantolf & Thorne, 2006). Accordingly, rather than acting directly, humans mediate their actions and relations through artifacts as social-semiotic tools (e.g., language and concepts), technology, and materials (Lantolf, 2000; Thorne, 2003). These artifacts, as suggested by Lantolf (2000), are typically reshaped as they are passed down through generations to respond to the needs of both individuals and communities. One such artifact is artificial intelligence (AI), which has undergone significant transformation since its emergence in the 1950s. In recent years, the development of generative AI (GenAI) tools, such as ChatGPT, has introduced new forms of mediation in educational contexts, particularly in language teaching and learning. From the perspective of SCT, these tools are not just technological tools but socially situated resources that shape educators' cognitive activity. As teachers engage with GenAI for tasks such as material

development, lesson planning, and instructional adaptation, their thinking is mediated through interaction with these tools, shaped by their pedagogical intentions and the sociocultural contexts in which they work.

2.2. *Generative AI in Language Education*

Artificial intelligence (AI) has rapidly evolved, transforming various aspects of daily life and driving significant technological innovations. Recent advancements in AI have led to the emergence of Generative AI (GenAI), a technology capable of generating original and contextually relevant content - including text, images, and audio - based on its training data (Feuerriegel et al., 2024). This advanced technology, specifically the launch of ChatGPT (OpenAI, 2022), has made a tremendous impact on the whole world. ChatGPT, an AI-powered chatbot, can process textual, audio, and visual input (OpenAI, 2024), respond to input quickly and efficiently, simulate human-like conversations, and perform a wide range of tasks such as creating content, answering questions, and offering personalized recommendations. These features distinguish ChatGPT and similar GenAI tools as versatile technologies for personal, professional, and educational use.

Second language learning and teaching through GenAI tools have received a great deal of attention from scholars, researching what these technologies can offer to support and enhance language education (e.g., Hong, 2023; Law, 2024; Kostka & Toncelli, 2023; Moorhouse, 2024). In terms of language learning, highlighting both advantages and challenges, studies have demonstrated how these tools can support language skills (Lee, 2024; Thai & Chen, 2024; Teng, 2024), pronunciation (Mompean, 2024), grammar (Kohnke, 2024); promote communication (Yang et al., 2022); provide personalized language learning resources (Chan & Hu, 2023); offer feedback on student production (Allen & Mizumato, 2024). The majority of studies in this area have focused on how GenAI supports language learning, as highlighted by scoping reviews (Law, 2024), while research on its role in language teaching remains comparatively limited.

While most research has explored how GenAI supports second language learning, there is a growing interest in its applications for language teaching. Although comparatively fewer studies focus on this area, recent publications have begun to investigate how these tools can assist educators in instructional planning, material development, and assessment. Specifically, recent publications fall into the category of technology review, demonstrating the affordances and limitations of these tools in language teaching. A thematic synthesis of these studies reveals several key areas where GenAI tools contribute to language teaching, including the provision of knowledge and resources for teachers (Bonner et al., 2023; Moorhouse, 2024), the development of teaching ideas and lesson plans (Bonner et al., 2023; Farrokhnia et al., 2024; Koraishi, 2023; Moorhouse, 2024), the creation of classroom materials (Kohnke et al., 2023; Koraishi, 2023; Moorhouse, 2024), the creation of test items or quizzes for language assessment (Bonner et al., 2023; Koraishi, 2023; Moorhouse, 2024; Shin & Lee, 2024), the generation of feedback on student performance (Kasneci et al., 2023; Şahin-Toptaş, 2023).

One of the primary ways GenAI supports educators is by serving as a readily accessible knowledge resource. Moorhouse (2004) suggests that teachers can consult these tools on various topics, languages, and methodologies. This might help teachers stay informed about emerging pedagogical trends, instructional strategies, and developments in language education. Another widely discussed area is the use of GenAI for lesson planning and material development. Studies indicate that AI can be used to develop teaching ideas, lesson plans, and classroom materials for learners with different needs and backgrounds (Bonner et al., 2023; Crompton & Burke, 2024; Kohnke et al., 2023; Koraishi, 2023; Moorhouse, 2024). Such AI tools as ChatGPT and Gemini can generate texts, adapt the level of these texts according to specified criteria, summarize longer texts, integrate target vocabulary in texts, offer writing prompts, and provide teachers with teaching ideas and instructional tasks. These practical applications can help teachers save time in

lesson planning and material development and provide more effective instruction. GenAI's role in assessment and feedback is another emerging focus in the literature. Research suggests that AI can help teachers generate test items, quizzes, and rubrics, as well as automated feedback (Bonner et al., 2023; Kasneci et al., 2023; Koraishi, 2023; Moorhouse, 2024; Shin & Lee, 2024). These affordances can significantly reduce teachers' workload, allowing them to allocate more time to instructional planning and student engagement.

Despite its affordances, the use of GenAI in language teaching is not without limitations that educators must carefully navigate. While AI-generated materials can be useful, they often lack pedagogical depth, raising concerns about their alignment with course objectives and instructional quality. To illustrate, Farrokhnia et al. (2024) argue that ChatGPT's limited contextual and curricular understanding poses a challenge in education because without a thorough understanding, its recommendations might be too simple, complex, or inaccurate. Specifically, researchers caution both learners and educators about inaccurate content GenAI tools can produce (Moorhouse, 2024). Another major concern is the risk of overreliance on these tools. Studies emphasize that these models should supplement teachers' instruction rather than replace them since human creativity and critical thinking are irreplaceable (Cogo et al., 2024; Kasneci et al., 2023). Ultimately, the effective use of AI tools depends on teachers' involvement and expertise.

While discussions on the affordances and limitations of GenAI in language teaching continue to evolve, empirical research has begun to provide valuable insights into how teachers perceive and utilize these tools in instructional contexts. Investigating EFL teachers' perceptions of ChatGPT in the Thai context, Ulla et al. (2023) revealed that the teachers viewed the chatbot as a valuable teaching assistant that helped them plan their lessons and activities, model language use, and enhance interaction in classes. However, teachers expressed concerns about the chatbot's accuracy, students' overreliance, and risks of academic dishonesty. Despite these challenges, they acknowledged its value for teaching and learning.

Likewise, English teachers from different contexts in Al-khresheh (2024) highlighted pedagogical opportunities that involved instant feedback, personalized learning, enhanced engagement, supplementary teaching support, and enhanced analytical skills. On the other hand, teachers identified such challenges as limited cultural sensitivity, lack of real-world interaction, overreliance on AI, and accessibility issues. Furthermore, they agree that these tools will become supplementary resources in the field of ELT, and curriculum innovations are considered necessary in this regard. Nugroho et al. (2024) explored university EFL teachers' experiences using ChatGPT for language teaching. The participants reported using ChatGPT to facilitate teaching activities and assist in book/article writing. Particularly, in terms of teaching, they found the tool useful for designing lesson plans, obtaining creative activity ideas, preparing teaching materials, and developing assessment prompts. However, they raised concerns about trustworthiness and ethical issues as challenges that must be addressed. Similarly, examining English language instructors' experiences with GenAI, Toncelli and Kostka (2024) found out that the instructors from two universities used AI for a variety of purposes that involved generating materials for classroom use and getting students to use AI to generate output, to engage in discussions, and to do critical analysis. On the other hand, the participants, who had varying experiences with the tool, expressed a range of emotions toward AI, from enthusiasm to skepticism.

Although previous research has explored teachers' perceptions of GenAI and their experiences with lesson planning, material development, and assessment (Ulla et al., 2023; Nugroho et al., 2024; Toncelli & Kostka, 2024), limited attention has been given to how AI is specifically used for material development and adaptation in classroom settings. From a sociocultural perspective, such instructional processes are not isolated but mediated by tools, social context, and pedagogical intent. Accordingly, this study conceptualizes GenAI as a mediational tool that supports educators' cognitive activity

during the design and adaptation of instructional materials. This perspective allows for an exploration of how GenAI mediates teachers' thinking, planning, and decision-making in material development. It also contributes to extending the application of Sociocultural Theory into emerging educational technologies. Furthermore, by investigating educators' integration of GenAI into their teaching, this study explores a less examined area in the literature, offering novel insights into real-world practices and providing practical strategies for utilizing GenAI in material development.

3. Methodology

3.1. Research Design

As this study explores the use of AI for material development, phenomenological research – an approach to qualitative research inquiry - was

conducted. Phenomenological research “describes the common meaning for several individuals of their lived experiences of a concept or a phenomenon” (Creswell, 2013, p.77). By adopting a phenomenological design, the study seeks to uncover the essence of lecturers' practices and strategies related to the integration of AI into material development.

3.2. Setting and Participants

This research adopted the purposive sampling strategy to select participants who can provide rich information (Patton, 2002). To align with the study's focus, the selected participants were required to use AI to develop materials for their classes. Accordingly, three lecturers who met this criterion were invited to participate in the study and share their experiences.

Table 1
Background to the Participants

	Department	Experience	AI tools used
Sarah	English Language Teaching	6 years	ChatGPT Plus
Summer	English Language Teaching	4 years	ChatGPT Plus
Lily	English Language Teaching	2 years	ChatGPT Plus

As seen in the table above, the lecturers worked in a state university's English Language Teaching department. They primarily used ChatGPT Plus, a paid subscription plan that offers access to the more advanced GPT-4 model, generating detailed and accurate responses and offering faster processing times. For the most part, the lecturers benefitted from ChatGPT Plus for their academic work, involving their own studies, research, and teaching, evidence of their dedication to enhancing their teaching practices and engaging with innovative educational approaches. In particular, they used GenAI to support their material development processes, aligning with their broader commitment to interactive and student-centered instruction.

The research was conducted within the context of English Language Teaching, where teacher educators are responsible for training future language teachers. Given that language teaching requires innovative approaches, such as communicative language teaching (CLT) and technology integration, these lecturers play a critical role in modeling best practices. By implementing these strategies in their courses, specifically through the integration of AI-generated tasks, they not only provide a rich learning environment but also demonstrate how to effectively incorporate such methods, preparing prospective teachers to meet the demands of modern classrooms.

3.3. Data Collection

This study employed semi-structured interviews to gain an in-depth understanding of lecturers' motivations, practices, and strategies in developing AI-supported classroom tasks. As semi-structured interviews allow for an extensive exploration of participants' lived worlds, experiences, beliefs, and motivations (Richards, 2009), they were particularly well-suited for this research. Accordingly, an interview guide was developed to lead the data collection process that involved questions about instructors' general experiences with AI, task design and implementation, and advice for other educators. Individual interviews were conducted with the participants, with each interview lasting for 45 - 60 minutes.

3.4. Data Analysis

The analysis of the interview data was guided by the thematic analysis method, "a method for identifying, analysing and reporting patterns (themes) within data" (Braun & Clarke, 2006, p. 79). Braun and Clarke (2006) offer a six-phase framework for a thematic analysis that starts with becoming familiar with the data. Accordingly, the researcher engaged in cyclical reading and re-reading the interview transcripts to gain an initial understanding of the participants' experiences. In the second step, initial codes were generated considering their practices and strategies. For example, one common practice among participants was using GenAI to brainstorm task ideas, which was coded accordingly. The third step, searching for themes, was facilitated by research questions as each coded segment fell into the category of practices or suggestions. During this process, subthemes emerged between the codes and overarching themes. For instance, while 'brainstorming task ideas' represented a specific practice, it also contributed to the subtheme of 'generating multiple task options' through AI. Additionally, generating task options was not limited to brainstorming; it extended to content development and assessment facilitation. Thus, each theme encompassed several interconnected

subthemes and codes. In the fourth and fifth steps, the themes were reviewed and defined. During these stages, to enhance trustworthiness, a field expert also reviewed the data, codes, and themes to ensure they accurately captured the data and clearly defined the data. A few changes were made to refine the codes and subthemes (e.g., the addition of some new codes and renaming codes). Lastly, these findings led to the development of this qualitative research paper.

4. Findings

4.1. Implementation of AI in Material Development

4.1.1. AI for Task Generation and Brainstorming

The findings indicate that lecturers incorporated AI into their material development in multiple ways, from brainstorming task ideas to designing assessment tools. As shown in Table 2, the findings reveal three main areas where AI plays a role in this process. These categories also reflect how educators' instructional thinking was mediated through GenAI, shaped by their goals, classroom realities, and iterative engagement with the tool.

Initially, all the lecturers reported that they benefited from AI in brainstorming task ideas for their classes to enhance instruction, and they generated multiple tasks through AI. Although they had lecture notes and textbooks to guide them through their courses, they indicated the need to enrich the learning experiences with additional content and activities in a way that promoted interaction, engagement, and group and pair work. To illustrate, the following excerpt shows how Summer was using ChatGPT as an assistant since she discovered the tool.

"Since October 2023, it has become my closest assistant in every lesson preparation. Initially, I sought ideas for my syllabus before planning my lessons. Later, on a weekly basis, I brainstormed with it before going to class. I would ask, I have this lesson plan in mind; what kind of interactive activities could we incorporate into this lesson? Then I started to get other ideas from it."

Table 2

Implementation of AI in Material Development

AI for task generation and brainstorming	Brainstorming task ideas for each class session
	Generating multiple task options
	Generating ideas on tasks that promote interaction
	Generating ideas on tasks that promote group and pair work
AI for content development in materials	Developing AI-generated sample texts, poems, essays on a given topic
	Designing scenarios for discussion-based tasks
	Creating topic-related examples for classroom activities
	Generating discussion questions tailored to specific topics
AI for material adaptation	Refining and modifying materials before classroom use
	Adapting content to student proficiency levels

Like Summer, Lily mainly used ChatGPT to diversify in-class tasks so that she would increase student engagement in classes and boost their motivation for learning. The excerpt below illustrates how Lily benefitted from ChatGPT to introduce more interactive and creative elements into her lessons, moving beyond traditional reading activities to foster greater student engagement and participation.

"For example, in a reading lesson, students usually read a text before class, and then we go over comprehension questions or do some vocabulary work related to the text. But, you know, these are more traditional methods. So, I try to create different activities using ChatGPT. Like, if they read a story, I might say, 'Okay, let's write an alternative ending. How would you have ended this story?' And I often do this as a group work activity. As I mentioned, ChatGPT can provide different instructions for this kind of task, which is really helpful. In another lesson, I tried a storyboard activity suggested by ChatGPT, and the students really enjoyed it. They were active during the whole activity, asking and answering questions in English. I mean, of course, we can design different tasks ourselves too, but ChatGPT gives multiple suggestions at once, which helps us save time."

Although Sarah relied more on her repertoire of activities to enrich the learning environment, she enjoyed the broader perspective ChatGPT provided. She remarked,

"It can offer a new perspective that I haven't seen, thought of, or considered before. When ChatGPT suggests something that I hadn't thought of, I find myself saying, 'Yes, I can integrate this too.'"

On the other hand, she consistently underlined that one should not trust too much the information these tools provide, and the teacher must evaluate the output carefully.

The findings suggest that teachers use ChatGPT as creative partners in task design and material development. AI-generated ideas help diversify in-class tasks, promote interaction, and encourage active participation through group and pair work. These practices also demonstrate how lecturers mediate their instructional creativity through GenAI, engaging with the tool as a cognitive resource that expands their task repertoire within the social and pedagogical context of their classrooms.

4.1.2. AI for Content Development in Materials

In addition to offering multiple task options, certain GenAI tools have the capability to develop content for texts, an affordance used by the participants extensively. Initially, the lecturers remarked that when they had specific tasks in mind, they generated texts in various genres on a given topic to introduce the topic to the class and to provide model content for instructional tasks. These texts served as examples for students when introducing novel concepts in different classes and promoting learning. Additionally, the lecturers

emphasized that content generation saved so much of their preparation time, as exemplified by Sarah,

“Even before using ChatGPT, I enjoyed incorporating various methods into my lessons. I want my classes to be engaging, and for me, having a variety of activities is essential. This was a method I followed even before ChatGPT. But what did ChatGPT do? It shortened the time I spent preparing handouts for my activities. For example, if I wanted to write a poem that aligned with my lesson objectives, it might take me hours or even days. But with ChatGPT, I can generate such a piece in just 10 seconds.”

All three participants reported that content development helped them save time in lesson preparation and provide models for various activities they employed in their classes. Summer, to illustrate, commented on how she used ChatGPT to come up with topic-related content and scenarios to integrate into her classes.

“I want my students to create something in my lessons, but before they can produce their own work, I need to provide them with a model. Yes, there are examples in the textbooks and some in the presentations I use, but sometimes I need different kinds of examples. For instance, I asked ChatGPT to create scenarios so that students could discuss them or come up with their own examples.”

Similar comments were made by Lily, who thought that different topic-related examples she obtained through ChatGPT provided her with more effective instruction. She provided an example based on her Advanced Writing courses, “I was teaching how to write topic sentences. I asked ChatGPT to produce strong and weak topic sentences to discuss these in class. It allowed me to teach more effectively because I could diversify content with different examples.” Furthermore, they used the material to generate discussion questions to promote interaction in class. To illustrate, Sarah asked ChatGPT to generate discussion questions to talk about a movie that her students would see in class; Summer provided the topic and had ChatGPT prepared warm-up

questions to motivate her students at the beginning of the class. Summer and Lily generated discussion questions based on texts. Overall, the participants found that using GenAI tools for content development not only saved them valuable preparation time but also enriched their lessons with diverse examples and discussion prompts, thereby fostering more engaging and interactive classroom environments.

4.1.3. AI for Material Adaptation

While ChatGPT provided a useful tool to generate various task options and generate content for tasks and materials, it also enabled the lecturers to modify the materials and adapt them to align with their students’ proficiency levels. To illustrate, Summer mentioned that she often sought ChatGPT’s support to adapt her existing classroom activities to new contexts by asking for suggestions on interactive applications. She stated, “I asked how I could apply activities I had used in other classes to this one. I always asked, ‘what could be an interactive activity?’ or ‘I have a game idea in mind; how can I adapt it to this topic?’” Lily adopted a similar approach. Considering course objectives and the lesson plan, she negotiated with ChatGPT on how to adapt specific tasks to align with the objectives and lesson plan. Such interactions highlight how GenAI use is mediated through ongoing negotiation and contextual decision-making, core aspects of cognitive activity in Sociocultural Theory.

Furthermore, a recurrent theme across three interviews is the constant negotiation process with ChatGPT through prompts while designing and adapting the tasks. As discussed, Summer and Lily modified the tasks and materials they had in mind to align with their courses. Summer, Lily, and Sarah also took certain tasks offered by ChatGPT to their classes after they carefully refined these outputs, relying on their own expertise and classroom context to ensure the tasks met their students’ needs and learning objectives. That required back-and-forth conversations with ChatGPT until they are satisfied with the final product. Specifically, Sarah continuously underlined this revision process.

"When I tell it to produce something aligned with my objective, it generates something close to what I have in mind. If it doesn't, I update my prompt. I keep refining my prompts until the final version matches my vision. However, the final version may not be perfect - I can still work on it and make adjustments."

Similarly, Lily mentioned that she selected one or two task options from the ones ChatGPT offers further. She explained,

"I ask follow-up questions based on the options I like, such as, 'what if we did it this way?' or 'how would it be if we changed this part?' Through a back-and-forth exchange of questions and revisions, I develop the tasks. Rather than taking the task and applying it directly in class, I ask questions and provide prompts taking into consideration my class size, students' needs, and learning objectives. ChatGPT then revises the task and sends it back to me, and we finalize it through a process of negotiation."

The modification process involved tailoring certain tasks and their content to students' proficiency levels. Summer and Sarah expressed that they specifically had to adapt ChatGPT-generated content and discussion questions to align them with students' proficiency levels and to improve complexity. As shown below, Summer mentioned that her students, knowing that she benefited from AI tools, realized the use of ChatGPT for questions they were supposed to answer.

"Sometimes, when I ask ChatGPT to generate questions, it can produce very simple ones. In fact, one time, I used them in class without checking, and my students noticed. They even asked, 'Did ChatGPT prepare these questions, teacher?' So, whenever necessary, I make adjustments to the content and question levels to ensure they are appropriate."

Interviews with three lecturers suggest that their use of AI for material development involved brainstorming and generating multiple task options, generating content for materials, and revising and modifying tasks and their content to match students' proficiency levels. These findings highlight how AI tools, specifically ChatGPT within the scope of this research, serve not only as a source of inspiration but also as a dynamic partner in the instructional design processes. Rather than relying on AI-generated output without modification, lecturers engaged in an iterative process of refining, adapting, and contextualizing materials to align with their course objectives and student needs.

4.2. Strategies for Effective Use of AI for Material Development

4.2.1. Enhancing the Quality of Prompts

Lecturers' active use of ChatGPT and, as a result, their experiences allowed them to develop several strategies to effectively integrate AI into their lesson planning and material development processes. These strategies directly reflect the insights they gained through their immerse engagement with the AI technology.

Table 3

Strategies for Effective Use of AI for Material Development

Enhancing the Quality of Prompts	Context-specific prompting (aligning with course objectives, learning outcomes, student needs, proficiency levels) Clarity and precision in prompts Iterative refinement (practicing and revising prompts) Negotiating AI output until the desired response is reached
Adapting AI-Generated Content, Not Just Adopting It	Adapting content to student needs and proficiency levels Revising AI output for difficulty alignment Testing and refining tasks in classroom settings
Maintaining a Growth Mindset Toward AI Tools	Exploring diverse AI tools Using AI for out-of-class learning
Expanding AI-Generated Instructional Content (Beyond Text-Based Tasks)	Creating diverse instructional materials Generating visual aids

The first strategy that all three lecturers strongly emphasize involved enhancing the quality of prompts to get the desired outcome. Since AI-generated content depends on user input, crafting clear and specific prompts is essential for obtaining the most relevant and effective results. As Sarah succinctly underlines, “A good prompt means a good outcome.” To improve the prompt quality, the participants stated the need to clearly and precisely explain course objectives, learning outcomes, student needs, and proficiency levels to contextualize these prompts. Lily claims,

“Even when we provide ChatGPT with prompts on the same topic, the way we phrase them can lead to different responses. That’s why it is essential to clearly specify exactly what we want, our context, our students’ proficiency levels, the course objectives, as well as their needs and interests. This process is largely shaped by trial and error. So, being patient is also important.”

As she stressed, the process is an iterative one that requires practicing prompt writing and revising the prompts. From a SCT perspective, this iterative prompt refinement process can be viewed as a form of mediated learning, where the tool shapes and is shaped by the educator’s growing understanding and instructional goals. Sarah shared her experiences leading to her current practices, which involved learning how ChatGPT responds and adjusting her prompts accordingly to get more accurate and useful outputs.

“Since I use ChatGPT very frequently, I have come to understand the importance of prompt quality. At first, I kept saying, ‘No, this is not what I want,’ or ‘No, this isn’t right either,’ in response to its answers. Over time, I began to understand what ChatGPT needed and how it processed language. As a result, I learned to communicate in a way that aligns with its logic and to craft my prompts accordingly.”

Naturally, this was a process that included negotiation until the desired response was reached. Therefore, the lecturers suggest educators engage in a deliberate and iterative approach to prompt refinement, experimenting with different prompts, and engaging in a back-and-forth dialogue with ChatGPT to achieve the most effective outcomes.

4.2.2. Adapting AI-Generated Content, Not Just Adopting It

The second strongly suggested strategy is adapting AI outcomes rather than adopting them. As previously discussed, for the most part, the lecturers used the tasks and content generated by ChatGPT after carefully refining and modifying them to align with learning outcomes and students’ needs and proficiency levels. This, in turn, emerged as a highly recommended strategy, highlighting the necessity of human intervention to maximize the effectiveness of AI tools.

Moreover, Sarah and Lily proposed that teachers should test AI output in classroom settings to further evaluate what works for their students and learn what motivates them so that they can make necessary revisions, if necessary, in subsequent

lessons based on student responses and engagement. Sarah explained,

"You shouldn't assume that just because ChatGPT generated something, it must be the best or most accurate option. Instead, it's important to take a step back, evaluate the output, test it with students, and think, 'If this doesn't work as expected, how can I revise it?' Whenever possible, we can also test tasks in the classroom. For example, if I implement a task and don't get the reaction I was hoping for, I reflect on how I can adapt it. I believe this is the most effective approach."

Sarah, Lily, and Summer were aware of the importance of teachers' expertise in instructional decision-making processes. Therefore, their implementation of AI and suggested strategies reflect their belief system. These insights highlight the lecturers' active role in evaluating and shaping AI-generated content, emphasizing the importance of pedagogical judgment and context-aware decision-making.

4.2.3. Maintaining a Growth Mindset Toward AI Tools

Although ChatGPT was the main AI tool the lecturers used, they suggested that maintaining a growth mindset towards AI tools and exploring diverse tools that suit different needs are crucial. The participants recognized that this technology has become an indispensable part of modern life and will continue to evolve, necessitating ongoing exploration and adaptation to effectively integrate it into teaching practices. Summer suggests that

"There are many other AI tools available. I believe it's important not to be traditional in this regard - we need to embrace change and adaptation. Instead of sticking to familiar methods, we should first consider what we need and what kind of tool would be useful in our lessons and then explore which AI options can support those needs."

Summer and Lily recommended that these tools can also be used by educators to support out-of-

class learning. Lily's suggestion was to integrate AI-generated tasks into alternative assessment processes to promote learning outside the classes. She discussed that "Several AI-generated tasks can be assigned to students as projects or reports to be completed outside the classes. Furthermore, ChatGPT can help teachers develop rubrics to evaluate students' work." Summer stated a similar opinion based on her experiences.

"We can't cover everything in class, and sometimes it's just not enough. Take speaking practice, for example - it can be insufficient, there's limited time, and we can't attend to every student individually. But there are so many great apps out there. Even if we can't fully integrate them into the lesson, we can at least assign them as homework and add an assessment component to get students actively engaged outside the classroom."

These suggestions clearly indicate the need to explore various AI tools that cater to different needs. Although the lecturers mainly benefitted from ChatGPT to assist their lesson planning and material development processes, they understood that it is not the only one and numerous options are out there waiting to be discovered. These discoveries can then be used to support learning outside the classroom, enabling students to engage in independent practice and extend their learning beyond the limitations of class time.

4.2.4. Expanding AI-Generated Instructional Content

The last set of suggestions offered by the lecturers involved expanding the instructional content generated by ChatGPT. Although the lecturers mainly generated textual content in different forms, such as poems, scenarios, or reading texts, they recommended that educators take a step further and create visual aids. Nowadays, several GenAI tools can generate images based on user prompts, learning charts, or concept maps. Lily states,

"Teachers can develop various types of materials with the help of AI. For example, they can create quizzes,

design infographics and diagrams, or generate images. These are all things we can do using AI tools, and I believe they contribute to enriching the learning environment."

Similarly, Summer mentioned learning different AI tools from her students for different purposes. She explained,

"In one class, my students created a story using AI and then turned it into a video. An English teacher could easily do the same or even create an animated version of the story. Instead of sticking to just one type of content, we can expand the ways we use AI and push its boundaries."

As these extracts indicate, teachers' engagement with AI tools can go beyond text-based content, allowing for the integration of multimodal materials that promote student participation and learning. By exploring different AI tools, educators can create a variety of instructional materials, including visual, auditory, and interactive content, thereby enriching the material students are exposed to. In doing so, GenAI becomes not just a content generator but a mediational means through which teachers creatively reshape instructional design in response to classroom demands, a process central to sociocultural understandings of tool use in education.

5. Discussion

This study researched how ELT lecturers benefitted from GenAI to develop instructional materials and explored strategies they offered to optimize its use for more effective outcomes. The results demonstrated that the lecturers primarily engaged with ChatGPT to brainstorm and generate multiple task options, develop AI-generated content for instructional tasks, and adapt and refine both instructor- and AI-generated materials to align with student needs and course objectives. These affordances have been accentuated in theoretical reviews that state GenAI, and particularly ChatGPT, can assist in streamlining material development by generating and adapting texts,

contextualizing vocabulary teaching, creating lesson plans, generating tasks, generating teaching ideas, and classroom materials (Bonner et al., 2023; Crompton & Burke, 2024; Kohnke et al., 2023; Koraishi, 2023; Moorhouse, 2024). Empirical research further showed that educators from different contexts benefited from these features during instructional planning and implementation (Al-khresheh, 2024; Nugroho et al., 2024; Ulla et al., 2023). As emphasized in the literature, these features can alleviate teachers' workload (Hong, 2023) and save a significant amount of time. Likewise, the participants clearly explained how their use of ChatGPT as a creative partner in instructional design helped them save time while preparing for their classes.

While the findings of the current research support the existing research, it contributes to the body of findings with its particular focus on material development and adaptation, adding depth to the understanding of how teachers critically evaluated, modified, and integrated AI-generated content and materials in real-world teaching scenarios. Specifically, it presented evidence of lecturers' aim to integrate engaging tasks that promoted active participation, interaction, and group and pair work into their classes to boost the effectiveness of their instruction. The participants explained in detail how they generated content for their classes based on their students' needs and course objectives to present language models and expose them to various text types. They further clarified how they adapted materials and content by considering certain criteria such as the lesson objectives and their context. Furthermore, this study revealed that teachers relied on their own expertise and beliefs about teaching while using ChatGPT to assist in material development and adaptation processes. Their emphasis on ChatGPT as a supporting tool rather than a teacher replacement was evident throughout all three interviews. Cogo et al. (2024) state that "Educators must develop clear guidelines and best practices for the responsible integration of AI in the classroom, ensuring that it enhances rather than replaces human interaction and critical thinking" (p. 373). In this regard, lecturers in this study seem to

have developed their guidelines for successfully integrating AI into their instruction.

The principles that guided the lecturers while developing and adapting materials for their classes were then offered by them as successful strategies that can be pursued while using GenAI tools for instructional practices. Specifically, they emphasized the importance of crafting clear, contextual, and specific prompts to get the most relevant and desired outcomes. For the lecturers, this process was iterative, requiring back-and-forth negotiations with ChatGPT until the outcome matched their vision. This finding is crucial as it demonstrates lecturers' awareness of the effective use of GenAI technology in terms of prompting strategies. In this sense, their suggestions follow what has been recommended in the literature when it comes to prompt engineering (Cain, 2023; Moorhouse, 2024). This further shows that what was recommended proved useful in teachers' practice. This process also aligns with a sociocultural perspective on learning and teaching, suggesting that interaction with tools like GenAI becomes a form of mediated thinking. Secondly, the lecturers' suggestion to adapt AI output rather than adopting it demonstrated the necessity of teachers' knowledge, expertise, and beliefs while incorporating AI into teaching. Although the study did not evaluate how effectively the lecturers used AI, their insights, experiences, and suggestions demonstrate that they followed research emphasizing the importance of human oversight, pedagogical judgment, and contextual adaptation in AI integration (Cogo et al., 2024; Farrokhnia et al., 2024; Kasneci et al., 2023). From an SCT perspective, these adaptations illustrate how teachers shape the use of technological tools in line with their instructional goals and the social realities of their classrooms. This also might be the reason why the lecturers did not focus on ethical issues regarding AI during the interviews. As they seemed to be aware of concerns and problems associated with AI use, they approached it thoughtfully, emphasizing responsible use grounded in pedagogical goals. Thirdly, their suggestions to explore various AI tools for a variety of instructional materials demonstrate their openness to innovation and

willingness to change, reflecting a pedagogical mindset that values experimentation and continuous learning. This is a valuable mindset that educators can adopt for continuous professional development.

Lastly, this research adopted a SCT lens to study GenAI use in material development, aiming to shed light on how educators' instructional decisions and practices are mediated by their interaction with AI tools. Accordingly, the findings suggest that viewing GenAI as a mediational tool through the lens of sociocultural theory enriches our understanding of the use of technology in education. Further, it highlights the educators' active role in shaping meaning, interpreting contextual realities, and making instructional decisions in AI-supported environments.

6. Conclusion

This study explored how ELT lecturers integrated Generative AI into material development, highlighting its role in task generation, content creation, and adaptation to enhance instructional effectiveness. Findings suggest that while GenAI, particularly ChatGPT, serves as a valuable tool for diversifying and enhancing material design, its optimal use requires educators' critical evaluation, constant refinement, and strategic adaptation to align with pedagogical goals. Several crucial implications arise from these findings. Initially, it proves that material development is indeed an affordance of GenAI technologies. From brainstorming task ideas to generating content and adapting them, these technologies can support educators while alleviating their workload. However, educators' critical engagement with these tools while evaluating the output is critical. Secondly, the study reinforces the idea that AI should complement rather than replace educators' expertise, as effective material development requires the consideration of the teaching context, student needs and interests, and course objectives - factors that AI alone cannot fully account for. Thirdly, the findings highlight that well-crafted prompts are crucial for obtaining high-quality AI-generated materials. By following effective

prompting strategies, educators can boost the quality and relevance of the output. Lastly, these findings underscore the necessity of AI literacy to benefit from AI technologies more effectively.

Despite these valuable insights, the study is not without limitations. Since it focuses on the experiences of lecturers from a single higher education context, generalizing findings should be approached with caution. Additionally, although semi-structured interviews provide in-depth insights into the use of GenAI for material development, supporting lecturer insights with additional data sources such as classroom

observations and student perspectives could have provided more concrete evidence of AI's effectiveness in practice. Accordingly, further research can involve educators from diverse contexts and investigate their perspectives of and experiences with material development through GenAI tools. Through additional data sources such as classroom observations and student feedback, future research can offer a more comprehensive understanding of how AI-generated materials impact teaching effectiveness, student engagement, and learning outcomes.

References

- Al-khresheh, M. H. (2024). Bridging technology and pedagogy from a global lens: Teachers' perspectives on integrating ChatGPT in English language teaching. *Computers and Education: Artificial Intelligence*, 6, 100218. <https://doi.org/10.1016/j.caeai.2024.100218>
- Allen, T., & Mizumoto, A. (2024). ChatGPT over my friends: Japanese EFL learners' preferences for editing and proofreading strategies. *RELC Journal*. <https://doi.org/10.1177/00336882241262533>
- Bonner, E., Lege, R., & Frazier, E. (2023). Large language model-based artificial intelligence in the language classroom: Practical ideas for teaching. *Teaching English with Technology*, 23(1), 23-41. <https://doi.org/10.56297/BKAM1691/WIEO1749>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Cain, W. (2024). Prompting change: Exploring prompt engineering in large language model AI and its potential to transform education. *TechTrends*, 68(1), 47-57. <https://doi.org/10.1007/s11528-023-00896-0>
- Chan, C.K.Y., & Hu, W. (2023). Students' voices on generative AI: perceptions, benefits, and challenges in higher education. *International Journal of Educational Technology in Higher Education*, 20(43). <https://doi.org/10.1186/s41239-023-00411-8>
- Cogo, A., Patsko, L., & Szoke, J. (2024). Generative artificial intelligence and ELT. *ELT Journal*, 78(4), 373-377. <https://doi.org/10.1093/elt/ccae051>
- Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches* (3rd ed). Sage.
- Crompton, H., & Burke, D. (2024). The educational affordances and challenges of ChatGPT: State of the field. *TechTrends*, 68(2), 380-392. <https://doi.org/10.1007/s11528-024-00939-0>
- Farrokhnia, M., Banihashem, S. K., Noroozi, O., & Wals, A. (2024). A SWOT analysis of ChatGPT: Implications for educational practice and research. *Innovations in Education and Teaching International*, 61(3), 460-474. <https://doi.org/10.1080/14703297.2023.2195846>
- Feuerriegel, S., Hartmann, J., Janiesch, C., & Zschech, P. (2024). Generative AI. *Business & Information Systems Engineering*, 66(1), 111-126. <https://doi.org/10.1007/s12599-023-00834-7>
- Hockly, N. (2023). Artificial intelligence in English language teaching: The good, the bad and the ugly. *RELC Journal*, 54(2), 445-451. <https://doi.org/10.1177/00336882231168504>
- Hong, W. C. H. (2023). The impact of ChatGPT on foreign language teaching and learning: Opportunities in education and research. *Journal of Educational Technology and Innovation*, 5(1), 37-45.
- Kasneci, E., Sessler, S., 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., Seide, T., ... Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and Individual Differences*, 103, 1-9. <https://doi.org/10.1016/j.lindif.2023.102274>
- Kohnke, L. (2024). Exploring EAP students' perceptions of GenAI and traditional grammar-checking tools for language learning. *Computers and Education: Artificial Intelligence*, 7, 100279. <https://doi.org/10.1016/j.caeai.2024.100279>
- Kohnke, L., Moorhouse, B. L., & Zou, D. (2023). ChatGPT for language teaching and learning. *RELC Journal*, 54(2), 537-550. <https://doi.org/10.1177/00336882231162868>
- Koraishi, O. (2023). Teaching English in the age of AI: Embracing ChatGPT to optimize EFL materials and assessment. *Language Education & Technology (LET Journal)*, 3(1), 55-72.
- Kostka, I., & Toncelli, R. (2023). Exploring applications of ChatGPT to English language teaching: Opportunities, challenges, and recommendations. *Tesl-Ej*, 27(3), 1-19.
- Lantolf, J. P. (2000). Introducing sociocultural theory. In J. P. Lantolf (Ed.), *Sociocultural theory and second language learning* (pp. 1-26). Oxford.
- Lantolf, J. P., & Thorne, S. L. (2006). *Sociocultural theory and the genesis of second language development*. Oxford.
- Law, L. (2024). Application of generative artificial intelligence (GenAI) in language teaching and learning: A scoping literature review. *Computers and Education Open*, 100174. <https://doi.org/10.1016/j.caeo.2024.100174>
- Lee, Y. J. (2024). Can my writing be polished further? When ChatGPT meets human touch. *ELT Journal*, 78(4), 401-413.
- Mompean, J. A. (2024). ChatGPT for L2 pronunciation teaching and learning. *ELT Journal*, 78(4), 423-434. <https://doi.org/10.1093/elt/ccae050>
- Moorhouse, B. L. (2024). Generative artificial intelligence and ELT. *ELT Journal*, 78(4), 387-392. <https://doi.org/10.1093/elt/ccae032>

- Nugroho, A., Putro, N. H. P. S., Syamsi, K., Mutiaraningrum, I., & Wulandari, F. D. (2024). Teacher's experience using ChatGPT in language teaching: An exploratory study. *Computers in the Schools*. <https://doi.org/10.1080/07380569.2024.2441161>
- OpenAI. (2022). *Introducing ChatGPT*. <https://openai.com/index/chatgpt/>
- OpenAI. (2024). *Hello GPT-4o*. <https://openai.com/index/hello-gpt-4o/>
- Patton, M. Q. (2002). *Qualitative research and evaluation methods*. Sage.
- Richards, K. (2009). Interviews. In J. Heigham & R. A. Croker (Eds.), *Qualitative research in applied linguistics: A practical introduction* (182-199). The UK: Palgrave Macmillan.
- Şahin Toptaş, A. (2023). Yapay zekanın yabancı dil öğretiminde kullanımı: Almanca Örneği. In A. Deregözlü (Ed.), *Contemporary research in language education* (pp. 77-96). Eğitim Yayınevi.
- Shin, D., & Lee, J. H. (2024). AI-powered automated item generation for language testing. *ELT Journal*, 78(4), 446–452. <https://doi.org/10.1093/elt/ccae016>
- Tai, T. Y., & Chen, H. H. J. (2024). Improving elementary EFL speaking skills with generative AI chatbots: Exploring individual and paired interactions. *Computers & Education*, 220, 105112. <https://doi.org/10.1016/j.compedu.2024.105112>
- Teng, M. F. (2024). A systematic review of ChatGPT for English as a foreign language writing: Opportunities, challenges, and recommendations. *International Journal of TESOL Studies*, 6(3), 36-57.
- Thorne, S. L. (2003). Artifacts and cultures-of-use in intercultural communication. *Language Learning & Technology*, 7(2), 38-67.
- Toncelli, R., & Kostka, I. (2024). A love-hate relationship: Exploring faculty attitudes towards GenAI and its integration into teaching. *International Journal of TESOL Studies*, 6(3), 77-94. <https://doi.org/10.58304/ijts.20240306>
- Ulla, M. B., Perales, W. F., & Busbus, S. O. (2023). 'To generate or stop generating response': Exploring EFL teachers' perspectives on ChatGPT in English language teaching in Thailand. *Learning: Research and Practice*, 9(2), 168-182. <https://doi.org/10.1080/23735082.2023.2257252>
- Vygotsky, L.S. (1978). *Mind in society*. Harvard University Press.
- Yang, H., Kim, H., Lee, J. H., & Shin, D. (2022). Implementation of an AI chatbot as an English conversation partner in EFL speaking classes. *ReCALL*, 34(3), 327-343. 10.1017/S0958344022000039