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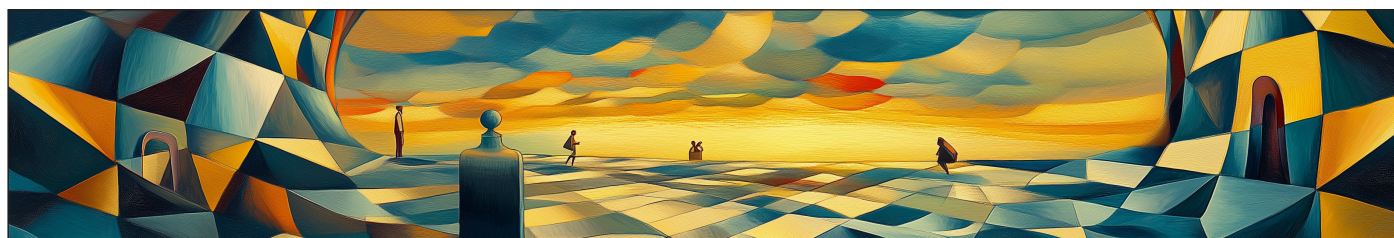
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ChatGPT-4 as a lesson planning assistant: Activity theory insights into volunteer ESL teachers' lesson preparation and task design

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Abstract

Research on the use of generative artificial intelligence (GAI) in English Language Teaching (ELT) is growing rapidly, yet few studies focus on its application in volunteer-driven English as a Second Language (ESL) teaching contexts. This study explores how integrating ChatGPT-4 can support volunteer ESL teachers in lesson planning and task design. The research investigates the role of GAI in addressing the challenges faced by untrained volunteer ESL teachers, such as limited resources, time constraints, and lack of training. Using Activity Theory as a framework, this qualitative case study analyses the interactions between volunteer teachers and ChatGPT-4 over four weeks. Findings suggest that ChatGPT-4 enhances lesson planning by saving time, increasing teacher confidence, and generating useful materials. However, it also highlights the necessity for teachers to critically evaluate GAI suggestions to ensure quality. This study contributes to the literature by demonstrating GAI's potential to enhance pedagogical practices in community-based ESL contexts and proposes a balanced approach to GAI integration, emphasising the importance of human oversight. Future research should focus on longitudinal studies, incorporating learner feedback, and exploring broader ELT and English language learning (ELL) contexts to build on this work.

1. Introduction

The demand for language services for newcomers in the Central and Western Regions of Nova Scotia, Canada, has unexpectedly increased by 55% - 60% since 2020. Service Provider Organisations (SPOs) have served 22,000 – 25,000 newcomers annually (Department of Labour, Skills, and Immigration, 2022, p. 13), highlighting the critical need for effective support in ESL education, particularly for untrained volunteer teachers who receive minimal support in lesson planning and task design. In the Canadian context, ‘newcomers’ refers to individuals who have recently arrived in Canada, including immigrants, refugees, asylum-seekers, and foreign students, typically within the last five years. This study investigates how integrating ChatGPT-4 as an assistant can enhance ESL volunteer teachers’ ability to design and scaffold engaging and effective pedagogical tasks for learners from diverse backgrounds.

Despite the crucial role of volunteer-led English language learning (ELL) programmes, these programmes face significant challenges, including limited funding, time constraints, and a lack of training for their volunteer teachers (Durham and Kim, 2019, p. 7; Henrichsen, 2010, p. 11; Perry and Hart, 2012, p. 120). Furthermore, ESL volunteer teachers in these contexts often lack formal training or support which unintentionally impacts their effectiveness in lesson planning and task design. There is a growing interest in academia in how generative artificial intelligence (GAI) can enhance educational practices, and studies have shown that GAI tools can provide personalised learning experiences (Mollick, 2023, p. 3; Kasneci et al., 2023, p. 3), and support teachers in developing effective instructional strategies (Koraishi, 2023, p. 69). Therefore, my research aims to address these challenges and contribute to this body of knowledge by exploring the impact of ChatGPT-4 on improving the pedagogical capabilities of volunteer ESL teachers in SPOs using Activity Theory (AT) as a framework.

Motivated by my background in English Language Teacher Education (ELTE), educational technology, and experience of working with ESL teachers in a range of contexts, I am particularly interested in how GAI can bridge gaps in ESL training and development. This research contributes to the emerging scholarship on GAI in ELT by providing valuable insights, evidence-based recommendations, and practical solutions for integrating technology into volunteer-based ESL programmes, as well as broader ELT and ELL contexts. Furthermore, it highlights GAI’s potential to address the current gaps in training, development, and resources available to ESL volunteer teachers.

The demand for language services reinforces the need for policies in this sector that support innovative technologies. By demonstrating the potential of ChatGPT-4 to enhance ESL volunteer teaching practices, this study could inform policy decisions aimed at improving support for volunteer-led programmes and ensuring more effective language education for newcomers.

2. Literature review

2.1 Search strategy

My literature search strategy focused on three main areas: ESL volunteer teachers, AI in ELT, and the application of Activity Theory (AT) in educational and Technology-Enhanced Learning (TEL) contexts. These areas were chosen for their relevance to the challenges faced by ESL volunteer teachers, the potential of GAI to address these challenges, and the theoretical framework supporting this integration. These topics align closely with the research problem and objectives of this study. I used both traditional academic databases and current digital tools for a thorough review. Starting with established databases, I employed broad and specific terms refined iteratively, applying exclusion criteria to find relevant papers. For example, I focused on papers discussing the support and training of ESL volunteer teachers to capture its historical development and identify future investigation areas. AI in ELT is a relatively recent research interest, and while studies predate OpenAI’s release of ChatGPT in November 2022, this study focuses on using GAI as an assistant for lesson preparation, necessitating a narrower search. I extended my search strategy to platforms that utilise AI, such as Research Rabbit, for a deeper search into connected papers from key authors in ELT and AI, illustrating the study’s exploratory approach.

Finally, exploring references from key sources through a snowball method provided a foundation for this review. Consequently, the search yielded a substantial number of papers. Table 1 provides an overview of the search results, indicating the number of hits and selected papers across different databases.

The literature review below is based on an analysis of approximately 45 papers, synthesised into two themes relevant to the research questions and objectives.

Table 1. Overview of search results

Database	Search Term	Exclusion Criteria	Hits	Selected Papers
Web of Science	AI OR artificial intelligence (All Fields) and “English language teaching” OR “learning” (All Fields) and activity theory (All Fields)	Since 2021	379	20
	artificial intelligence OR chatgpt OR generative AI) AND (teacher OR instructor OR tutor*) AND (assistant OR lesson planning)	Since 2023. Exclude focus on learners or teaching children.	275	2
OneSearch	Same as above	Same as above	54	20
	Assistant OR lesson planning teacher artificial intelligence	Since 2023. In Education and peer reviewed	332	20
Google Scholar	Assistant or lesson planning in ESL	Since 2023. Exclude focus on learners, teaching children, or language assistants.	71	3
	ESL volunteer teachers	2010 to date Exclude papers unrelated to support and training.	16,400	15

2.2 Ongoing professional development and support for volunteer ESL teachers

Community-based ESL programmes, often taught by volunteers, face challenges due to underfunding and lack of resources (Durham and Kim, 2019, p. 2). These programmes struggle with insufficient “professional-level preparation” (Henrichsen, 2010, p. 11). Perry (2013, p. 22), and Perry and Hart (2012) identified inadequate preparations for working with adult refugees, with many volunteer teachers feeling they lacked effective teaching techniques. Challenges include adapting to diverse learner needs, lesson planning, selecting appropriate materials, and developing comprehension strategies (Ceprano, 1995, as cited by Belzer, 2006). Ziegler et al. (2009) also identified difficulties in selecting engaging reading materials.

Durham and Kim, 2019, (p. 4) emphasise the need for professional training for volunteers to meet adult learners’ linguistic and cultural needs. However, Belzer (2006) and Wu and Carter (2001, p. 18) question the effectiveness of pre-volunteering training and urge for ongoing, targeted training and support that focuses on volunteer teachers’ needs (Belzer, 2006, p. 111; Doyle, 2021, p. 976). Suggested methods include mentoring, social media support, video sharing, and independent study (Perry and Hart, 2012, p. 121; Ziegler et al., 2009, p. 138).

Shufflebarger (2021) described inconsistent student attendance, frustrations with lesson planning, and isolation among volunteer teachers (p. 47). While collaborative lesson planning can mitigate isolation, it may not be sustainable long-term. Furthermore, Shufflebarger (2021, p. 45) highlights reciprocal dialogue among teacher educators and teachers as a key component of effective collaboration and addressing isolation. Despite these initiatives, practical obstacles like funding, staffing, and time constraints persist, necessitating innovative solutions. Given the unlikely increase in investment in these services by local authorities, emerging technologies such as GAI tools, while not being a silver bullet, have the potential to address these challenges.

2.3 Potential of GAI to support volunteer ESL teachers

Using GAI for lesson planning and preparation is rapidly gaining interest and momentum from custom built apps such as Roshi.ai to entering prompts into Large Language Models (LLM) of varied length and complexity. In K-12 schools, Karaman and Göksu, (2024, p. 113) compared the quality of AI-generated versus traditional lesson plans in primary school math education. In the UAE, AI has been used to create lesson plans to address teacher burnout without sacrificing academic rigour (Hashem et al., 2023, p. 3). In ELT, AI-assisted lesson planning is promising. Studies show ChatGPT and Microsoft CoPilot can create tailored lesson

plans, saving time and improving quality (Eller-Molitas, 2024, p. 34; Koraishi, 2023, p. 61; Demir and Karadavut, 2023, p. 151). However, Edmett et al. (2023, p. 29) express cautious optimism, stating AI cannot fully replace teacher involvement as AI-generated plans may lack precision or be overly generic without teacher guidance (Edmett et al., 2023; Eller-Molitas, 2024; Sihombing et al., 2024; Zemljak, 2023). Therefore, GAI is seen as a supportive tool, not a replacement for teachers.

The majority of the literature focuses on GAI for time-saving purposes and material creation (Koraishi, 2023, p. 62). While many ESL teachers are cautious or under-engaged with GAI (Edmett et al., 2023, p. 29), the literature emphasises perception over theoretically framed empirical research. While Koraishi (2023, p. 59) and Zemljak (2023, p. 17) recognise the importance of prompting when creating lesson plans, structured prompts are seldom utilised in the literature, and what these works overlook is the potential to explore reciprocal dialogue, as stated by Shufflebarger (2021, p. 45) in section 2.2, between the teacher and the GAI. This could account for the more generic output from GAI tools. Conversely, structured, or metacognitive prompts, as advocated by Mollick (2024, p. 169), provide a clear framework for achieving the desired response.

At this point, it is important to acknowledge that while GAI is a tool and not a professional (Edmett et al., 2023, p. 29), and “teachers need a deep understanding of content, pedagogical methods, and how technology supports these methods” (Ertmer & Ottenbreit-Leftwich 2010, p. 260), this study recognises GAI’s role as a mediator in ELT and explores its potential as the “expert” to provide pedagogical input to volunteer teachers during lesson and task design.

3. Research questions

The literature highlights persistent challenges for volunteer ESL teachers, including inadequate professional development (PD) and the potential of GAI to address these issues. This study aims to bridge the PD gap for volunteer ESL teachers by leveraging ChatGPT. The research questions focus on:

- RQ 1. How does using ChatGPT-4 as an assistant impact ESL volunteer teachers’ ability to design and scaffold engaging and effective pedagogical tasks for adult English language learners?
- RQ 2. How does the use of a structured prompt influence ESL volunteer teachers’ interaction with ChatGPT-4 in designing and scaffolding pedagogical tasks for English language learners?

This study will contribute to the integration of GAI in ELT by providing evidence-based insights into GAI integration in community-based ELT programmes and wider ELT contexts.

4. Theoretical framework

This study adopts an interpretive/constructivist epistemology, using hermeneutics to interpret volunteer ESL teachers’ experiences through written reflections (Merriam & Tisdell, 2016, p. 34). Drawing from Vygotsky, Engeström, and Leont’ev, I employ Activity Theory (AT) to systematically analyse how volunteer teachers utilise ChatGPT-4 for lesson preparation over a period of four weeks.

4.1 Why use this framework?

AT has effectively explored the integration of new technologies in education, highlighting potential disruptions and creative solutions (Cheung & Vogel, 2014, p. 149; Mwanza-Simwami, 2011, p. 82; Marwan & Sweeney, 2019, p. 122). One reason for selecting AT is its ability to provide ‘concept calibration’ (Bligh & Flood, 2017, p. 138), where specific concepts like contradictions are “intuitively relevant” to understanding the tensions and challenges of integrating new technology, such as ChatGPT4, into volunteer ESL teachers’ lesson planning process. This framework guides the shaping of research questions, designing the methodology, and interpreting findings through these relevant concepts.

4.2 Key principles and concepts

At the core of AT is the concept of the activity system, comprising interconnected components like subject, object, tools, rules, community, and division of labour (Engeström, 1987, p. 61; Mwanza-Simwami, 2011, p. 79). The activity system model describes the structure of activities, emphasising the interactions between these components.

Figure 1. Activity System (Engeström, 1987)

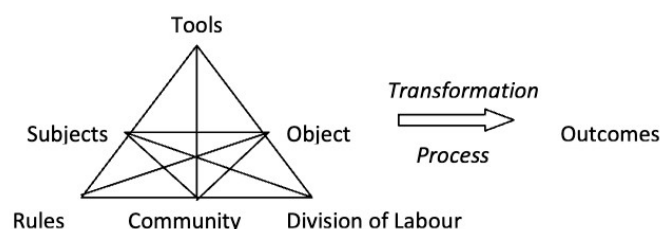
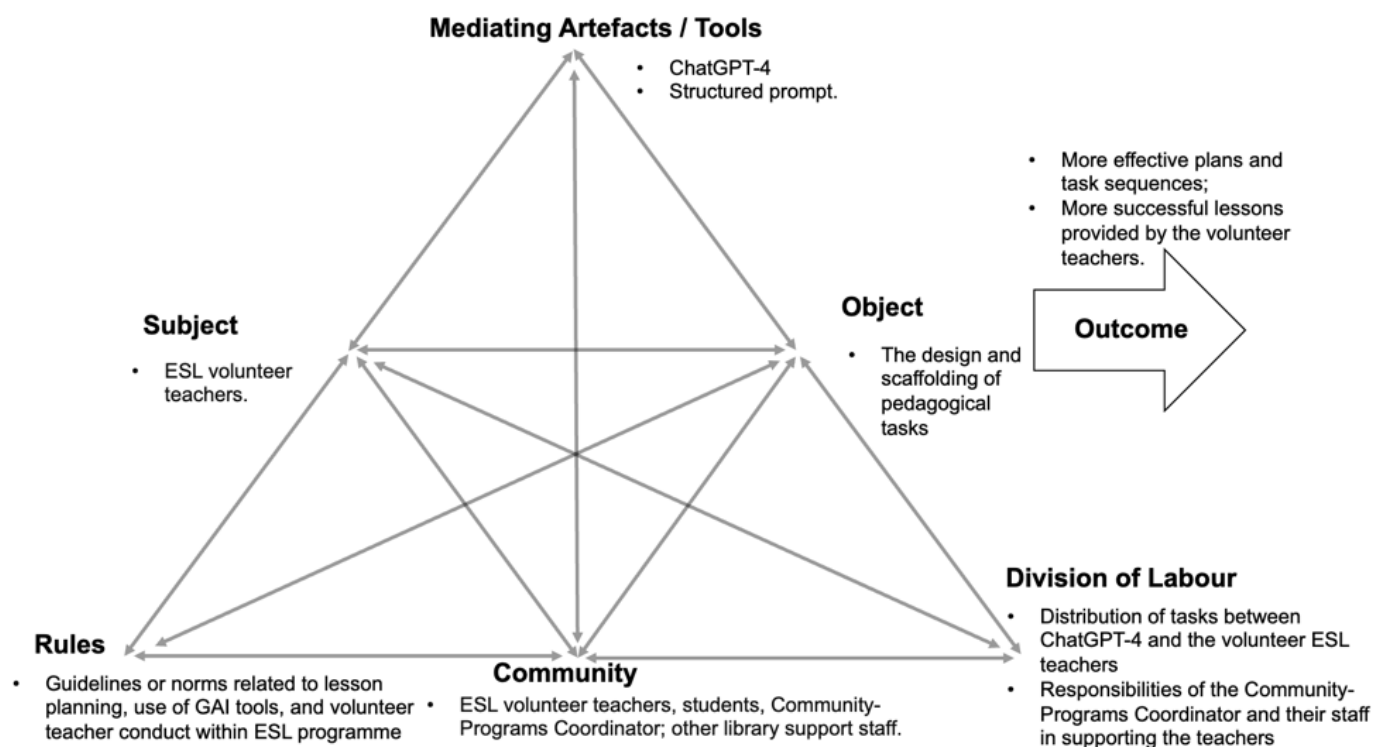


Figure 2. Activity System – English as a Second Language (ESL) volunteer teachers (subjects) using ChatGPT-4 (tool) to support their lesson preparation



4.3 Using the framework in this study

AT guides the research design, framing research questions, and shaping data collection and analysis. This involves focusing on how ChatGPT-4 impacts lesson/task design and teacher interaction with the GAI tool, selecting volunteer ESL teachers and community-based ESL programmes for rich data, and using questionnaires, document analysis, and written reflections to capture interactions within the activity system. Data analysis utilises AT to identify and analyse contradictions, how they are resolved, and the resulting transformations in teaching practices.

This study explores how contradictions within the activity system can drive innovation in lesson planning and task design, aligning with Yang's (2022, p. 181) insights on AI-supported language learning. By examining the process of resolving these contradictions through expansive learning, the study aims to identify potential advancements in ELT practice.

This research draws on Yamagata-Lynch (2010, p. 65) by adopting qualitative methods aligned with naturalistic inquiry principles to understand sociocultural dynamics.

This approach captures the authentic experiences of ESL volunteer teachers using ChatGPT-4, providing a detailed understanding of the activity system's complexity.

5. Research design

This qualitative case study adopts insights from activity systems analysis (Yamagata-Lynch, 2010, p. 79). The case focuses on volunteer ESL teachers at local libraries in Halifax, Nova Scotia integrating ChatGPT-4 into their lesson preparation over four weeks. This setting represents volunteer-led ESL programmes facing resource and training challenges, ideal for exploring the impact of GAI integration.

The researcher's role involved analysing participants' experiences (Creswell, 2013, p. 24) through conversations and reflections with the GAI assistant, framed within AT components. The goal is to uncover theoretical and practical implications of utilising generative GAI in ESL teaching preparation, contributing to a deeper understanding of how these tools can support teachers in ESL volunteer programmes and improve learning outcomes for their students.

5.1 Research site

I contacted the Community-Programs Coordinator at the local library who gave permission to share details of this study with their volunteer teachers. This library was chosen for its typical community-based ESL volunteer teaching programmes, making it a suitable case for examining how GAI tools can support lesson preparation and task design within the activity system framework.

5.2 Participants

Volunteer ESL teachers are often older (Henrichsen, 2010, p. 12), from diverse professional backgrounds (Vinogradova, 2019, p. 1), and motivated to help others (Shufflebarger, 2021, p. 55; Wu & Carter, 2001, p. 18). As stated in section 2.2, many lack formal Teaching English to Speakers of Other Languages (TESOL) training, facing challenges in lesson planning and instructional strategies.

The participants were five volunteer ESL teachers (Bella, Pen, Erin, Bennie, and Angela - all pseudonyms) with a variety of backgrounds and teaching experiences. Most had minimal or no formal TESOL training, reflecting the literature profile.

- *Bella*: (She/her, 60s, retired, 1-2 years of experience.) Bella works one-on-one with adult learners, has no formal ESL training, and prioritises learner-centred instruction. She is an experienced volunteer who has worked with both adult and young learners from diverse backgrounds. Bella prioritises understanding her students' needs and interests, tailoring lessons accordingly. She has some experience using ChatGPT3.5 for generating stories and information relevant to her students' goals.
- *Pen*: (She/her, mid-50s, over two years of experience.) Pen works with an intermediate adult learner, uses online resources, and has no formal TESOL training. She primarily uses online resources and videos for lesson planning, occasionally supplementing with library books. Pen has experience working with intermediate-level students and notes the challenge of finding free, adult-level content. She is interested in exploring how ChatGPT can help create personalised resources.
- *Erin*: (She/her, late 40s, less than six months of experience.) Erin works with an intermediate adult learner, follows a structured lesson planning process, and has no formal TESOL training. She identifies learning goals, research topics, and structures lessons in "logical blocks". She uses a "Volunteer Tutor Orientation Kit" and online resources like ESLGames.com

and LinkedIn. However, finding relevant materials is challenging. Erin is mindful of communication and takes care to avoid making assumptions about learners' experiences and culture. She expects ChatGPT to help create individualised lesson plans.

- *Bennie*: (She/they, early 40s, retired, 1-2 years of experience). Bennie co-teaches a lowintermediate conversation group, uses online resources, and has no formal TESOL training. She collaborates with a teaching partner to identify learner needs and select weekly topics, using a variety of resources including websites, brochures, board games, whiteboards, and ChatGPT on their cell phone. Bennie notes challenges in translation and understanding due to language barriers. They are interested in learning how to get the most accurate information from ChatGPT to assist with teaching.
- *Angela*: (She/her, early 50s, less than six months of experience). Angela teaches a B1-level group and individual students (A1 to B2 levels), has completed 120 hours of online TESOL training, and other online courses. She collaborates with a teaching partner to plan lessons but often adapts them based on student responses and understanding. Angela uses PowerPoints, course books, YouTube videos, and occasionally ChatGPT3.5 to create discussion questions. She identifies a lack of local materials and observes differences in student motivation compared to paid lessons. Angela is interested in exploring advanced features of ChatGPT to create "plug and play" activities and better-tailored lesson plans.

5.3 Data collection

Data collection was conducted in April 2024. After completing an initial questionnaire on teaching experiences and experience with GAI, each teacher received a one-month subscription to ChatGPT-4 to help prepare their next three or four lessons. Each conversation began with the same structured prompt provided by the researcher (Table 2 and Appendix A).

Mollick (2023, para. 18) describes structured prompting as "turning the AI into a tool that does a single task well in a way that is repeatable and adapts to its user." Structured prompts direct an AI's interaction by defining its role and intended goal, ensuring the responses are focused and relevant (Wei et al., 2023, p. 1). They include clear, step-by-step instructions that reflect the user's expertise and desired AI behaviour.

Conversations were systematically organised using a coding scheme for clarity and consistency. Each conversation with ChatGPT-4 and subsequent reflections captured in the questionnaires were recorded numerically, as illustrated in Table 3. Interactions were analysed within the context of the activity system, examining how ChatGPT-4 (tool) mediated the teacher's (subject) actions towards lesson preparation (object).

5.4 Data analysis

The data analysis aimed to investigate ESL volunteer teachers' ability to design and scaffold engaging lesson plans and tasks with the assistance of ChatGPT-4 and a structured

prompt over one month. Using AI, the analysis focused on understanding interactions and contradictions within the activity system.

An overview of participants' planning practices, materials selection, challenges, and expectations of using AI, was summarised from the initial questionnaire. As described by Kleinheksel et al., (2020, p. 127) a latent content analysis of conversations with ChatGPT-4 was employed to evaluate the quality and relevance of the AI's responses. Twelve codes were developed and categorised into themes related to ChatGPT-4 and the volunteer teacher (Table 4.)

Table 2. Excerpts from Structured Prompt (shown in Appendix A)

[Role and Goal] You are a helpful, practical ESL teaching assistant who is an expert lesson planner and ESL task designer. You know every task needs to be scaffolded and forms part of a sequence which is built up step-by-step. **[Pedagogy]** Scaffolding, as described by Pauline Gibbons, refers to the ...

Your task ### **[Step-by-Step Instructions]** 1. First introduce yourself to the ESL volunteer teacher as their ESL Volunteer Teaching Assistant here to help them break down their task and topic and help them plan a progression of activities. **[Constraints]** Do not share your plan with the volunteer teacher. **[Step-by-Step Instructions]** Ask the volunteer teacher about the students they teach, and their English language level, so that you can better tailor your advice and help about their lessons. These first questions in the conversation with the ESL student teacher should be stand-alone questions. You MUST wait for the teacher to respond. **[Constraints]** DO NOT move on until the teacher responds. **[Step-by-Step Instructions]** 2. Then ask them to upload the material they would like to use if they ...

6. Finally, when the teacher is happy with the progression of tasks and task sequence, summarise the lesson plan in a table format. Use the following stage headings: Stage (What students will do), Focus (interaction, e.g., teacher to students (T-Ss), individual work (s), pair work (s-s), or group work (Ss-Ss)), Stage Aim (The rationale for doing each stage), Procedure (how the teacher will do each stage), and time. Then, summarise the materials the volunteer teacher will need to create in advance of the lesson.

Table 3. Conversation and Questionnaire coding

Participant Pseudonym	Conversation Code	Questionnaire Code	Description
Bella	Bella_C1	Bella_Q1	Represents the first conversation each participant had with ChatGPT-4 and corresponding questionnaire.
Pen	Pen_C1	Pen_Q1	
Erin	Erin_C1	Erin_Q1	
Bennie	Bennie_C1	Bennie_Q1	
Angela	Angela_C1	Angela_Q1	

Table 4. Data Analysis Coding of Conversations between participants and ChatGPT-4

Code Category: ChatGPT-4	Description	Theme
Adherence to Prompt	Did ChatGPT-4 adhere to the prompt at each step of the interaction?	
Pedagogical accuracy	Is the suggestion or advice given by ChatGPT-4 pedagogically sound?	Adaptability and Responsiveness of AI
Relevance to aims	Is the activity or task suggested by ChatGPT-4 relevant to the aims of the lesson as provided by the ESL volunteer teacher, or by the AI?	
Clarity of communication	Are the ideas conveyed clearly?	Educational Alignment and Pedagogical Soundness
Scaffolded task	Are the tasks suggested by the AI broken up into manageable steps for the ESL volunteer to follow? Are the tasks realistic for the time?	
Input/rationale	Does the AI explain its answers and provide pedagogical rationale for its suggestions. Is the material provided reliable, ethical, etc.?	
Category: ESL volunteer Teacher		
Answered AI questions	Do the ESL volunteer teachers respond fully to the questions asked by ChatGPT-4?	
Asked for detail (planning)	When given ideas for tasks, or task sequences, does the teacher ask follow up questions in order to get more detail. The question asks for information on how to break up the activity or task into more manageable steps. Does the teacher ask for information or suggestions for/about content?	Teacher Engagement and Initiative
Asked for detail (techniques)	When given ideas for tasks, or task sequences, did the teachers ask follow up questions in order to get more detail. The question asked for advice on teaching tips, i.e., techniques.	
Ask for plan/materials	Does the teacher ask for a specific plan? When given ideas for tasks, or task sequences, did the teachers ask the AI to create materials?	Professional Development and Learning Opportunities
Redirect	Did the ESL volunteer teacher redirect the AI back to the prompt, task at hand, etc.?	
Disagree or replace	Did the ESL volunteer teacher disagree with a suggestion, activity, stage, etc., that was suggested by the AI?	

A thematic analysis using Byrne's Reflexive Thematic Analysis (RTA) (2021, p. 1398) was adopted to examine qualitative data from the post-planning questionnaire (PPQ). Microsoft Word and Excel supported data organisation and coding, while Notion served as a reflexive journal to document and reflect on my analytical decisions and evolution of themes.

Both sets of themes were then synthesised to provide a holistic view of the data, and then analysed within the AT framework to identify how components of the activity system interact and contradictions emerge.

5.5 Ethical considerations

The study adhered to ethical standards to protect participants' welfare and rights. Participants received an information sheet and an Informed Consent Form (ICF), understanding their involvement and rights to withdraw. Data confidentiality was maintained, with all data securely stored and accessible only to the researcher.

5.6 Limitations

This four-week study provides preliminary findings on ChatGPT-4's impact on lesson preparation. A longitudinal study, perhaps employing a change laboratory, would allow for reflection, refinement, and improvement of interactions with ChatGPT over time, providing deeper insights into its long-term impacts. Furthermore, reflections from the volunteer teachers' learners would provide further evidence of task effectiveness, although learner feedback was outside the scope of the study. Furthermore, the findings reflect the specific volunteer teacher group in the study, so care is needed before generalising to other ELT contexts or ESL teachers with different levels of experience and expertise. Finally, variations in participants' experience with GAI before starting the study could impact their use of ChatGPT-4 when preparing lessons.

6. Findings

The findings of this study are presented through five themes synthesised from the teachers' conversations with ChatGPT-4 during their lesson preparation and post-planning questionnaires (PPQ). These themes are closely linked to the research questions and the theoretical framework of Activity

Theory (AT), which helps us understand the interactions and contradictions within the activity system. Each theme includes a brief description, an activity system diagram, key observations and findings, and contradictions emerging from the data. The activity system diagrams illustrate how different elements of the study are interconnected and interact, making it easier to understand how components work together. How this study contributes to the field and current literature will follow in the Discussion section.

6.1 Adaptability and responsiveness of GAI

This theme highlights the flexibility and efficiency of ChatGPT-4 in lesson planning. Its ability to tailor responses based on teacher input and generate engaging lesson plans quickly was seen as a significant advantage, aligning lessons with students' needs and interests.

6.1.1 Key findings

The key findings are presented in table 5.

6.1.2 Identified contradictions

The identified contradictions are presented in table 6.

6.2 Principled practice

The alignment of AI-generated content with principles of good practice is crucial for ensuring that the lessons meet pedagogical goals. Using a structured prompt with ChatGPT-4 guided the creation of lesson plans, increasing the likelihood that they were pedagogically sound and aligned with established practice. However, some tasks and materials generated did not fully meet these principles, highlighting areas for improvement.

6.2.1 Key findings

The key findings are presented in table 7.

6.2.2 Identified contradictions

The identified contradictions are presented in table 8.

Figure 3. Theme - Adaptability and Responsiveness of GAI (artificial intelligence)

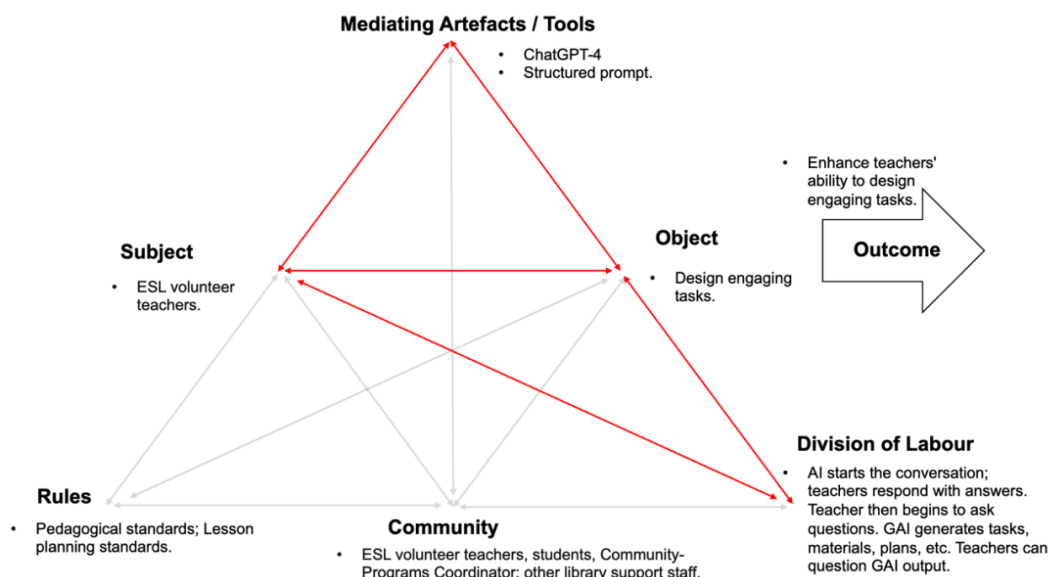
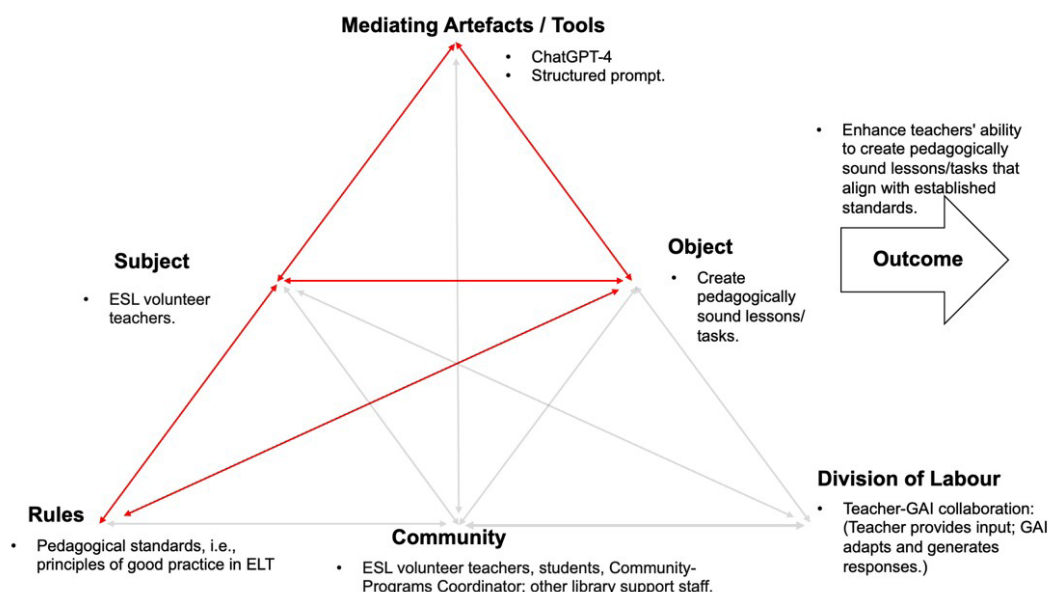


Table 5. Key Findings - Adaptability and Responsiveness of GAI

Finding	Example	Explanation
Enhanced ability to design engaging tasks quickly and effectively	Bella_Q1: "CGPT saves time" (21-23)	Time-saving benefits allow focus on other teaching aspects.
Alignment with standards	Erin_C1: Job interview prep in aviation (lines 25-26), relevant lesson plan (lines 53-100).	Ensures lessons align with career goals and industry requirements.
Efficient collaboration	Pen_Q3: Easier each time to ask questions and get desired results (lines 16-17).	Collaboration becomes more efficient/effective over time as teachers learn to provide clear input.

Table 6. Contradictions - Adaptability and Responsiveness of GAI

Contradiction	Level	Example/Explanation
Reliance on GAI	Secondary Contradiction: Conflict between the teacher's reliance on the GAI tool (mediating artifact) and the effectiveness of the lesson plan and materials (object).	Bennie_Q1: Lesson plan generated by ChatGPT-4 was "a bit too advanced" and contained a mistake in the answer key (lines 24-26, 56-58). This suggests over-reliance on AI without thorough review, leading to mismatched content and errors.
Balancing GAI Suggestions	Secondary Contradiction: Conflict between the AI generated content (mediating artifact) and the suitability for the students (object).	Bella_Q1: Vocabulary too advanced for students (lines 18-20). Teachers must adapt GAI's suggestions to student levels.

Figure 4. Theme – Principled Practice**Table 7. Key Findings - Principled Practice**

Finding	Example	Explanation
Aligns lesson plans with standards	Angela_C1: A1 ESL learners started daily routines (lines 1417). ChatGPT, building on earlier work (video), suggests a lesson plan with a vocabulary review, controlled practice, freer practice, and feedback (lines 5790).	Scaffolding learning by building on students' knowledge; increases task complexity.
Structured prompt increases likelihood of plan/task that reflects good practice	Bennie_C2: ChatGPT-4 gathers information about students and class structure, asks about goals and challenges (lines 7-34).	Guides teachers to articulate learning objectives/potential obstacles, create tailored, relevant, engaging lessons.
Collaboration generates higher-quality content	Bennie_C1: ChatGPT creates detailed solar eclipse lesson with vocabulary, experience sharing, and discussion (lines 32-81).	Shows efficiency in creating structured, engaging lessons, Aligns content with current events.

Table 8. Contradictions - Principled Practice

Contradiction	Level	Example/Explanation
Teacher expectations vs. GAI interaction	Secondary Contradiction: Conflict between the subject (teacher) and the mediating artifact (GAI).	Bennie_Q2: ChatGPT-4 "jumps too quick to a complete lesson plan" without asking if the teacher is ready (lines 50-51). Mismatch between teacher's desired pace and GAI's eagerness, leading to miscommunications.
Adapting GAI content to student needs	Secondary Contradiction: Conflict between the AI-generated content (mediating artifact) and the suitability for the students (object), requiring teacher intervention.	Pen_Q2: Generated text was too advanced, worked through unfamiliar words together (lines 62-63). Highlights need for teacher expertise to adapt GAI content.

Table 8. (cont.) Contradictions - Principled Practice

Contradiction	Level	Example/Explanation
Principles of good practice vs. GAI suggestions	Secondary Contradiction: Conflict between the GAI's suggestions (mediating artifact) and pedagogical standards (rules).	ChatGPT suggests students note down unfamiliar words, which Bella_C1 initially accepts but later finds less effective (Bella_Q1, lines 84-86). Highlights tension between GAI suggestions and principles of good practice.
Lack of creativity in GAI suggestions	Secondary Contradiction: Conflict between ChatGPT, structured prompt (mediating artifact), AI generated content (object) and innovative teaching approaches (rules/standards).	Angela_Q1-4: AI ideas not very creative, suggests more interesting activities elsewhere (lines 89-91). AI-generated content lacks creativity, conflicting with teachers' expectations for engaging lessons.

6.3 Teacher engagement and initiative

Teacher engagement and proactive interaction with ChatGPT-4 were crucial for the successful integration of ChatGPT-4 into lesson preparation. Teachers who actively engaged with the AI assistant and explored its capabilities found the tool to be more valuable in co-constructing lessons and enhancing their teaching practices through a collaborative process.

6.3.1 Key findings

The key findings are presented in table 9.

6.3.2 Identified contradictions

The identified contradictions are presented in table 10.

6.4 Professional development and learning opportunities

ChatGPT-4 supports continuous teacher learning and professional development by providing feedback, rationale, and suggestions. This helps teachers reflect on their practices and identify areas for growth, contributing to their ongoing professional development.

6.4.1 Key findings

The key findings are presented in table 11.

6.4.2 Identified contradictions

The identified contradictions are presented in table 12.

6.5 Cultural and contextual sensitivity

Ensuring AI-generated tasks and materials fits the cultural and contextual backgrounds of students is essential. Participants stated that ChatGPT-4 facilitated the creation of content that was mostly culturally relevant and sensitive

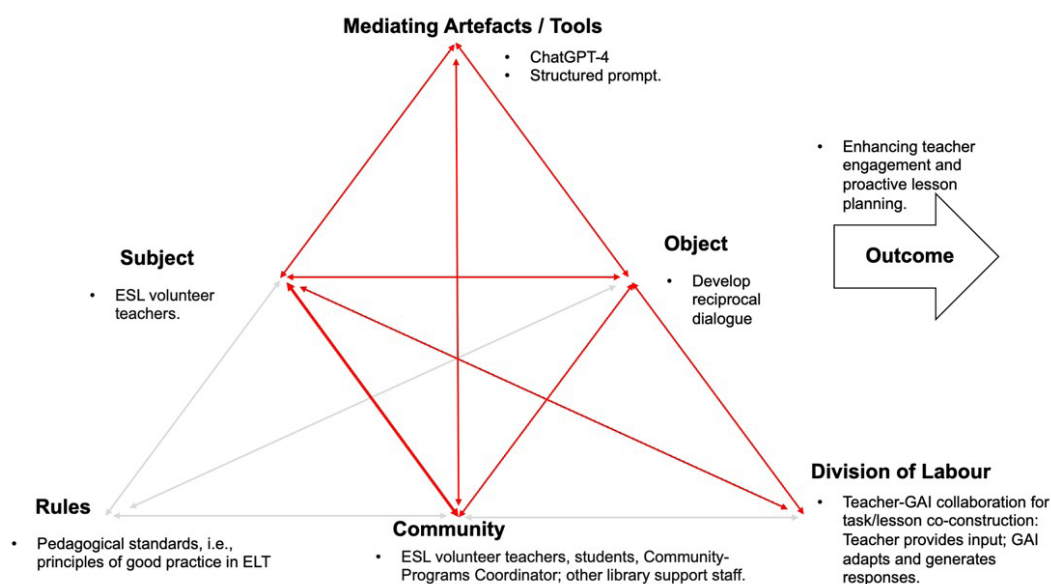
6.5.1 Key findings

The key findings are presented in table 13.

6.5.2 Identified contradictions

The identified contradictions are presented in table 14.

These findings demonstrate how integrating ChatGPT-4 into ESL lesson preparation can address various pedagogical and professional challenges faced by volunteer teachers. The subsequent discussion will further interpret these results through the lens of Cultural Historical Activity Theory (CHAT), exploring how the interactions and contradictions within the activity systems influence teaching practices and outcomes.

Figure 5. Theme - Teacher Engagement and Initiative**Table 9. Key Findings - Teacher Engagement and Initiative**

Finding	Example	Explanation
Proactive interaction enhances lesson planning.	Bella_C1 uses ChatGPT for travel stories (lines 26-31).	Proactive use creates customised, engaging content.
Active engagement leads to effective co-construction.	Bennie_C3 refines health lesson, incorporates ChatGPT's suggestions (lines 100104, 288-381).	Teacher-GAI collaboration leads to well structured, tailored lessons.
Direct engagement drives lesson creation but may miss deeper co-construction.	Bella_C1 asks for story and questions only (lines 120-122).	Drives lesson creation but misses deeper engagement opportunities.

Table 10. Contradictions - Teacher Engagement and Initiative

Contradiction	Level	Example/Explanation
Lack of diversity in lesson plans	Secondary Contradiction: Conflict: Tool (CGPT) and Object (reciprocal dialogue).	Angela_Q1-4: "CGPT has never suggested creating a task-based lesson" (lines 28-30). GAI's programming or prompt limits, restrict lesson plan diversity, hindering teacher engagement and stifling creative planning. Conflicts with expectations for innovation.
Focus on Materials Generation vs. Lesson Co-construction	Secondary Contradiction Conflict between the teacher's focus on specific materials (subject) and the potential for collaborative lesson co-construction with GAI (division of labour).	Pen_C1: Requests fill-in-the-blank activities for vocabulary practice (lines 63-66). Tension between generating specific materials and engaging in collaborative lesson design, affecting overall planning.

Figure 6. Theme - Professional Development and Learning Opportunities

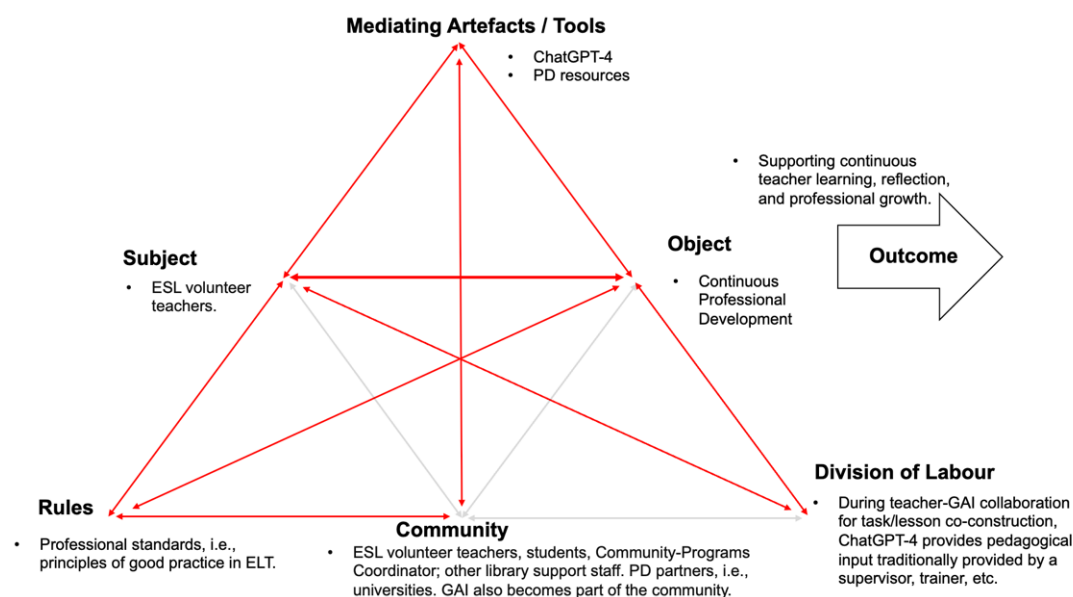
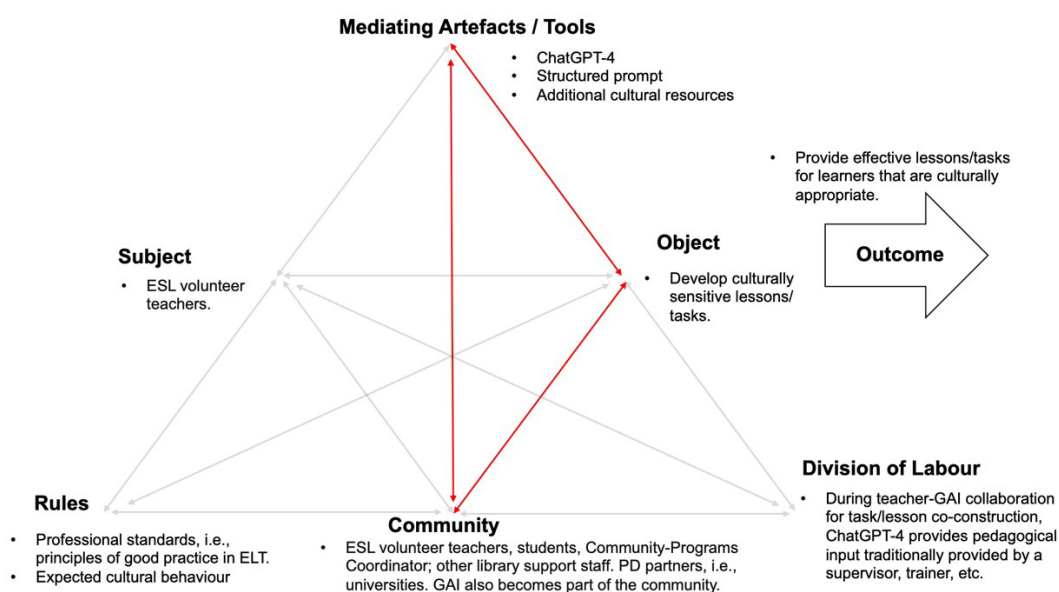


Table 11. Key Findings - Professional Development and Learning Opportunities

Finding	Example	Explanation
Enhanced Learning and Growth	Bella_Q1: "The lesson GPT prepared had me slow down with my student. We spent more time reflecting" (lines 38-39).	GAI suggestions led to reflective teaching, enhancing interaction and practices.
Reflective Practices	Bella_Q3: Reflects on initial misjudgement of student's level, focuses on basic skills (lines 33-38).	GAI feedback prompted reassessment of teaching strategies.
Good Practice Integration	Bennie_C1: ChatGPT-4 generates a lesson plan with vocabulary pre-teaching, experience sharing, group discussion (lines 32-81).	Structured plan aligns with pedagogical principles, promoting engagement.

Table 12. Contradictions - Professional Development and Learning Opportunities

Contradiction	Level	Example/Explanation
GAI Input vs. Human Expertise	Secondary Contradiction: Conflict between the mediating artifact (AI-generated content) and the object (appropriate lesson content for students). The teachers' need to adapt the AI's advanced vocabulary indicates a conflict between the tool's output and the desired educational outcomes.	Bella_C1 (lines 15-20) and Bennie_Q1 (lines 24-26) found vocabulary and content too advanced. Highlights tension between AI suggestions and teachers' expertise. Teachers modified content.
Balancing Tech and Human Resources	Secondary Contradiction: Conflict between the mediating artifact (AI) and the community (human support systems). The example shows how AI can provide valuable assistance but also indicates the necessity for human interaction and mentorship in PD.	Bennie_Q1 (lines 102-104) suggests AI valuable for ESL teachers with no formal background in education. AI supplements but does not replace human support systems. Balances tech and human resources.

Figure 7. Theme - Cultural and Contextual Sensitivity**Table 13. Key Findings - Cultural and Contextual Sensitivity**

Finding	Example	Explanation
Cultural Relevance and Teacher-GAI Collaboration	Pen_C2: AI creates and refines Mi'kmaw history lesson plan (lines 23, 38-86, 102-187).	Collaboration between teachers and AI can lead to the development of culturally sensitive tasks.

Table 14. Contradictions - Cultural and Contextual Sensitivity

Contradiction	Level	Example/Explanation
Cultural Accuracy in GAI Content	Secondary Contradiction: Tensions between tool (ChatGPT-4) and object (creating culturally sensitive and accurate lesson plans). While ChatGPT-4 aims to assist in creating engaging content, its output of incorrect images contradicts the teacher's goal of accurate cultural representation.	Pen_Q2: AI-generated images misrepresent Inuit and Metis people. Pen discusses this with her students and finds accurate images online. GAI can perpetuate stereotypes. Teachers must evaluate GAI content for cultural accuracy and bias to ensure inclusivity

7. Discussion

The purpose of this study was to explore how using ChatGPT-4 as an AI assistant could support and enhance ESL volunteer teachers' lesson planning and task design. The study aimed to answer two research questions: (1) How does using ChatGPT-4 as an assistant impact ESL volunteer teachers' ability to design and scaffold engaging and effective pedagogical tasks for adult ESL learners? and (2) How does the use of a structured prompt influence ESL volunteer teachers' interaction with ChatGPT-4 in designing and scaffolding pedagogical tasks for ESL learners? The findings revealed that ChatGPT-4 significantly improved teachers' ability to create engaging and effective lesson plans by providing adaptable and responsive content. However, it also highlighted the importance of teacher engagement in questioning and customising AI-generated content to ensure principles of good practice. Furthermore, the structured prompt was found to improve interactions and the overall quality of lesson planning, although some teachers would benefit from more training to fully utilise ChatGPT's capabilities.

7.1 Key contributions to the field

7.1.1 Enhancing lesson planning and customisation

By drawing a distinction between traditional lesson planning and GAI-assisted planning, this research highlights how GAI can augment teachers' capabilities, particularly in customising lessons to meet diverse student needs. This finding aligns with previous studies that indicate GAI's potential in saving time and raising the quality of lesson planning (Koraishi, 2023, p. 61; Demir and Karadavut, 2023, p. 156). This study adds to the existing literature by suggesting that GAI can play a more integrated role in ELT settings than previously documented, offering tailored support that addresses the unique challenges faced by volunteer teachers (Perry and Hart, 2012, p. 115; Durham and Kim, 2019, p. 2).

7.1.2 Reciprocal dialogue between teachers and GAI

The use of ChatGPT-4 encourages and facilitates reciprocal dialogue between volunteer teachers and the GAI assistant, a relatively under-examined area in the literature. Shufflebarger (2021, p. 45) emphasises the importance of reciprocal dialogue in enhancing teaching and learning experiences, and this study extends that concept to interactions with GAI. Wu and Carter (2001, p. 18-19) highlight the importance of volunteer tutors' voices in providing conver-

sational support and cultural guidance, mirroring GAI's role in assisting lesson planning. This dialogue-centric approach challenges the conventional use of AI in ELT, proposing a model where GAI is part of a participatory, co-creative process. This contribution is significant as it addresses both practical and theoretical implications of GAI in enhancing pedagogical practices and teacher engagement, echoing the importance of active facilitation (by both teachers and GAI) in community-based ELT programmes and wider ELT contexts.

7.1.3 Continuous professional development

A core contribution of this study is to highlight ChatGPT-4's in facilitating ongoing PD for volunteer ESL teachers. ChatGPT-4 provides "anytime" feedback and suggestions, helping teachers reflect on their practices and identify areas for growth (LEnfant, 2024, p. 12). This aligns with literature that emphasises the need for ongoing, targeted training and support for volunteer ESL teachers (Belzer, 2006, p. 111; Doyle, 2021, p. 976). By conceptualising GAI as a tool, or assistant for professional growth, this research challenges the traditional view of GAI as merely a time-saving device. Instead, it positions GAI as an active partner in teachers' PD journeys, offering a new option for continuous learning and improvement.

However, while ChatGPT-4 facilitates continuous learning, human interaction and mentorship remain essential. As Mollick (2024, p. 52) states, "For now, AI works best with human help, and you want to be that helpful human. As GAI gets more capable and requires less human help—you still want to be that human." Therefore, even if roles of programme co-ordinators and mentors evolve as GAI becomes more ubiquitous in PD programmes, being the human in the loop will remain important.

7.1.4 Addressing practical and theoretical implications

This research also contributes to understanding how GAI can support volunteer-driven community programmes within the broader ELT landscape. The findings suggest that GAI tools like ChatGPT-4 can mitigate the challenges of under-funded and under-resourced ESL programmes by providing scalable support that enhances both pedagogical quality and teacher confidence (Henrichsen, 2010, p. 11). GAI can also address "self-education", where traditionally volunteer teachers would need to "seek guidance and mentoring from experts" (Perry, 2013, p. 33). This study proposes shifting GAI's role from a mere tool for administrative efficiency to a partner in pedagogical planning, reflecting a more integrated and participatory approach to GAI in ELT. This

dual role of GAI as both a support tool and an object under examination necessitates a balanced and ethical approach to its integration, ensuring that GAI complements rather than replaces human expertise.

7.1.5 Critical engagement and ethical considerations

This study advocates for a critical engagement approach to GAI use in ELT, emphasising ethical considerations. The findings highlight the potential for cultural misrepresentation in AI-generated content, as seen in Pen's experience with AI-generated images of Indigenous peoples and Angela's experience with uninspired AI-generated ideas. These align with the literature on the importance of structured prompts and critical engagement to maintain ethical standards (Mollick, 2023, 2024; Koraishi, 2023, p. 62; Zemljak, 2023, p. 17; Elsayary, 2023, p. 9). Moreover, Durham and Kim (2018, p. 4) stress the need to adapt lessons to students' cultural and contextual backgrounds. By critically evaluating AI generated content, teachers can ensure it is culturally sensitive and ethically sound. This contribution highlights AI's dual role as both a support tool and an object under examination, necessitating a balanced and ethical approach in community-based ESL contexts.

These contributions highlight the significant role of AI in enhancing and evolving ESL teaching practices, particularly in volunteer-driven contexts. By highlighting both the benefits and the ethical considerations of GAI integration, this study lays the foundation for future research and practical applications that aim to balance technological innovation with human oversight in the broader ELT landscape. This balanced approach will be crucial in ensuring that GAI enhances rather than replaces the human elements essential to effective language teaching and learning.

7.2 Critical reflections on the application of activity theory

The use of second-generation CHAT provides an opportunity to examine the contradictions of using GAI to support lesson planning and task design in volunteer ESL teaching contexts. This study focuses primarily on the psychological process of the volunteer ESL teachers' individual teaching practices, as the analysis predominantly deals with activities, which occur at the individual level (Leont'ev, 1975/1978, p. 9, as cited by Cong-Lem, 2022, p. 3). This aligns more closely to Leont'ev's (L-CHAT) framework.

7.2.1 Critique of activity theory as a framework

While this study initially considered Engeström's second-generation CHAT framework, the distinctions between L-CHAT and E-CHAT merit reflection. Cong-Lem (2022, p. 3) highlights that L-CHAT emphasises individual hierarchical activities and the psychological processes of subjects. In contrast, ECHAT focuses on collective, system-wide interactions. This study focuses on individual ESL teachers' engagement with ChatGPT-4 during the lesson planning and task-design process, which therefore suggests that L-CHAT provides a more suitable lens for exploring the micro-level contradictions and personal sense-making processes evident in these practices. For example, while participants did not report any challenges in adapting AI-generated outputs to specific classroom needs, in order to enhance the quality of the GAI responses the participants needed to engage with the output more critically. This reflects personal motivations and contextual factors that L-CHAT is particularly well-suited to analyse.

7.2.2 The unit of analysis

Leont'ev's framework focuses on the hierarchical structure of activities. It distinguishes between collective and individual motives - the reasons and goals that drive ESL volunteer teachers to use ChatGPT-4 for lesson planning, such as wanting to create engaging lessons, save time, and meet their students' specific needs. In this study, the unit of analysis is focused on individual ESL volunteer teachers as they introduce ChatGPT into their lesson planning and task design. Building on Vygotsky's culturally mediated action as the unit of analysis in the first generation, Leont'ev (second-generation CHAT) developed the concept of the activity system, which incorporates the division of labour, tools, and rules to serve a collective object.

The object in an activity system, as conceptualised by Sannino and Engeström (2018, p. 46), plays a dual role: it represents a generalised societal goal and a specific problem space for the individual subject. In this study, the generalised object—enhancing language proficiency—serves as a shared goal for ESL volunteer teachers. However, the specific object varies significantly across each teacher as they critically engage to varying levels with ChatGPT's outputs to adapt them to the unique needs of their classrooms and learners. This introduces individualised contradictions, reflecting the teachers' personal sense-making processes, which can be analysed more clearly with Leont'ev's framework.

Relationships between the components of the activity system change when large language models (LLMs) like ChatGPT are introduced to the learning environment. Carbonel and Jullien (2024) identified the mediation of tools, the division of labour between students and GAI, and the establishment of rules as new tensions, all of which impact the roles of students as active learners, the objectives of learning, and the dynamics within the educational community (p. 2). My study identifies similar tensions in how the volunteer ESL teachers balance reliance on AI-generated outputs while recognising their own limited pedagogical expertise. While ChatGPT-4 provided scaffolding for lesson planning, it is not the expert yet. The ESL volunteer teachers needed to evaluate and modify its outputs more critically to align with classroom objectives. Nevertheless, this still illustrates how rules and tools interact dynamically within the activity system.

Blunden (2010, p. 9) expands on the concept of individual projects within activity theory, arguing that personal projects serve as critical loci for agency and transformation within the broader activity system. This perspective can provide insight into how volunteer ESL teachers' work to modify the lesson plan and resources created by ChatGPT-4 can be seen as distinct "projects" within the activity system. These are driven by their unique pedagogical contexts and motivations, and by framing these adaptations as projects, it becomes possible to examine critically how individual agency interacts with systemic constraints and how contradictions are resolved through these efforts.

Unlike third-generation CHAT, which focuses on multi-activity collaboration across interconnected systems, this study remains grounded in second-generation CHAT, as indicated in the findings, to explore the psychological engagement of individual teachers. The subsystem of the subject-mediator-object relationship in L-CHAT is understood as part of a dynamic, relational context (Sannino and Engeström, 2018, p. 46), where contradictions within the activity system drive transformation and learning.

7.2.3 The role of contradictions

Nah et al. (2023, p. 253) emphasise the importance of surfacing these tensions to drive meaningful change. This study identified contradictions at the individual level, such as the tension between Bennie, Pen, and Bella's expectations of ChatGPT's outputs and its limitations. These personal contradictions illustrate how L-CHAT enables a deeper understanding of the psychological processes underlying individual teachers' adaptations and responses to GAI.

7.2.4 Historicity and transformation

Sannino and Engeström (2018, p. 46) highlight the role of historicity in shaping activity systems, which in the context of this study is critical for understanding the evolving role of GAI in ESL teaching. ChatGPT represents a significant disruption in the historical trajectory of ESL pedagogy, introducing opportunities for personalised learning while challenging traditional teacher-preparation practices. For example, Bella (C1, lines 48–50) highlighted how she had used ChatGPT to generate stories aligned with her learner's interests in travel, because of a lack of books and resources at her local library. There is a noticeable technological transformation in how the participants in this study and teachers more broadly access lesson materials and resources. Teachers are also adapting traditional methods and embracing new opportunities.

The integration of ChatGPT also disrupted traditional teacher-centred practices. Bella once again used ChatGPT to design scaffolded, student-focused activities, such as role-playing and vocabulary journaling, placing greater emphasis on active learner engagement. ChatGPT-4 provided the following reasoning:

The incorporation of a vocabulary journal not only aids in retention but also empowers the student to take charge of his learning. Role-playing and discussion allow for the application of new language in a realistic context, enhancing fluency and confidence. Finally, reflection and feedback ensure that learning is consolidated, and any gaps are addressed promptly. (Bella, C1, lines 116–119).

These examples demonstrate how GAI reshapes long-established practices, encouraging more collaborative and learner-centred approaches.

Furthermore, while not perfect, ChatGPT can create tasks that are tailored to learners' specific goals. This shows how powerful it can be in helping teachers provide different types of instruction to meet the needs of each student. For example, Angela (C1, lines 14–52) used ChatGPT to create a lesson sequence focused on daily routines while reviewing specific vocabulary expressions. ChatGPT also suggested incorporating academic vocabulary and situational dialogues to prepare a student for community college applications (Bella, C1, lines 38–46). These examples show that the ESL volunteer teachers' methods are influenced not only by their past experiences, but also by the new technologies being used in their teaching context.

7.2.5 Challenges in identifying genuine contradictions

Identifying the difference between superficial disturbances and actual systemic contradictions requires careful analysis. Ploettner and Tresseras (2016, p. 95) emphasise the importance of a dialectical approach to uncover these deeper issues. In this study, iterative cycles of teacher reflection revealed how minor frustrations with ChatGPT's outputs sometimes masked more significant contradictions, such as the tension between teachers' pedagogical autonomy and their reliance on GAI tools. This tension is particularly evident when participants lack the expertise to critically evaluate and adapt content generated by ChatGPT, which can lead to over-reliance on the tool. Therefore, while GAI tools can be helpful, they can also limit teachers' ability to fully exercise their professional judgment and creativity. This study suggests that addressing these contradictions could be improved by using additional methods like Change Laboratory interventions, which are designed to help systematically resolve such conflicts.

8. Conclusion

This study, driven by my background in ELTE, educational technology, and diverse teaching experiences, explores how GAI can bridge gaps in ELT. The rising demand for language services in Nova Scotia highlights the need for effective support, especially for untrained volunteer teachers facing funding, time, and training challenges.

Integrating ChatGPT-4, or other frontier Large Language Models into volunteer-based ESL programmes, enhances lesson planning and task design, significantly improving teachers' ability to create engaging and effective tasks. Findings show that ChatGPT-4 saves time, boosts teachers' confidence, generates useful materials, and provides generally accurate rationale. However, it sometimes suggests fewer effective activities, highlighting the need for teachers to critically evaluate its responses and engage in specific discourse regarding its generated and suggested ideas. This study contributes to the literature by demonstrating GAI's role in addressing the unique challenges of volunteer ESL teachers and proposing a more integrated role for GAI in community-based ESL contexts.

Acknowledging limitations, the study's preliminary findings from this four-week study indicate the need for deeper insights through longitudinal research. The findings are specific to the volunteer teacher group studied, and caution is needed when generalising to other contexts. Structured

prompts guide interactions, but inconsistencies remain, potentially overlooked by volunteer teachers. Teacher engagement in the conversations varies, affecting the quality of the GAI assistant's suggestions.

The study highlights GAI's potential to improve ESL teaching practices, provide valuable insights for both researchers and practitioners, and has policy implications, including supporting new technologies to enhance volunteer-led programs. As GAI models evolve, (Chat-GPT4o was made available within weeks of the completion of this study, and o1 is the latest model that uses advanced reasoning), they will have significant implications for future PD and research. Future research in this space should incorporate learner feedback and explore different English Language Teaching (ELT) contexts to build on this work. These contributions highlight the importance of balancing technological innovation with human oversight, ensuring GAI enhances rather than replaces the human elements crucial to effective language teaching and learning.

References

- Bedny, G. Z., Seglin, M. H., & Meister, D. (2000). Activity theory: History, research and application. *Theoretical Issues in Ergonomics Science*, 1(2), 168–206. <https://doi.org/10.1080/14639220050171324>
- Belzer, A. (2006). Less May Be More: Rethinking Adult Literacy Volunteer Tutor Training. *Journal of Literacy Research*, 38(2), 111–140. https://doi.org/10.1207/s15548430jlr3802_1
- Bligh, B., & Flood, M. (2017). Activity theory in empirical higher education research: Choices, uses and values. *Tertiary Education and Management*, 23(2), 125–152. <https://doi.org/10.1080/13583883.2017.1284258>
- Blunden, A. (2010). *An interdisciplinary theory of activity*. Brill. <https://doi.org/10.1163/ej.9789004184060.i-344>
- Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, 11(4), 589–597. <https://doi.org/10.1080/2159676X.2019.1628806>
- Braun, V., & Clarke, V. (2021). One size fits all? What counts as quality practice in (reflexive) thematic analysis? *Qualitative Research in Psychology*, 18(3), 328–352. <https://doi.org/10.1080/14780887.2020.1769238>

- Byrne, D. (2022). A worked example of Braun and Clarke's approach to reflexive thematic analysis. *Quality & Quantity*, 56(3), 1391–1412. <https://doi.org/10.1007/s11135-021-01182-y>
- Carbonel, H., & Jullien, J.-M. (2024). Emerging tensions around learning with LLM-based chatbots: A CHAT approach. *Proceedings of the International Conference on Networked Learning*, 14. <https://doi.org/10.54337/nlc.v14i1.8084>
- Chen, D., & Yang, X. (2017). Improving active classroom participation of ESL students: Applying culturally responsive teaching strategies. *Theory and Practice in Language Studies*, 7(1), 79–87. <https://doi.org/10.17507/tpls.0701.10>
- Cong-Lem, N. (2022). Unravelling Cultural-Historical Activity Theory (CHAT): Leontiev's and Engeström's Approaches to Activity Theory. *Knowledge Cultures*, 10(1), 84. <https://doi.org/10.22381/kc10120225>
- Corp, A., & Revelle, C. (2023). ChatGPT is here to stay: using ChatGPT with student Teachers for lesson planning. *The Texas forum of teacher education*, 14(Fall 2023), 116–124. <https://txate.org/resources/Documents/Forum%202023%20Final%20Full%20Issue.pdf#page=122>
- Cross, R. (2010). Language Teaching as Sociocultural Activity: Rethinking Language Teacher Practice. *The Modern Language Journal*, 94(3), 434–452. <https://doi.org/10.1111/j.1540-4781.2010.01058.x>
- Crompton, H., Edmett, A., & Ichaporia, N. (2023). Artificial intelligence and English language teaching: A systematic literature review (p. 24) [A systematic literature review]. British Council. https://www.britishcouncil.org/sites/default/files/ai_in_english_language_teaching_systematic_review.pdf
- Davis, R. O., & Lee, Y. J. (2024). Prompt: ChatGPT, Create My Course, Please! *Education Sciences*, 14(1), Article 1. <https://doi.org/10.3390/educsci14010024>
- Demir, M., & Karadavut, T. (2023, December 21). *Using Bing Chat to Create Lesson Plans Based on the Communicative Language Teaching Approach*. https://www.researchgate.net/profile/TugbaKaradavut/publication/377785457_USING_BING_CHAT_TO_CREATE_LESSON_PLANS_BASED_ON_THE_COMMUNICATIVE_LANGUAGE_TEACHING_APPROACH/links/65b8e8c434bbff5ba7da2504/USING-BING-CHAT-TO-CREATE-LESSON-PLANS-BASED-ON-THE-COMMUNICATIVE-LANGUAGE-TEACHING-APPROACH.pdf
- Doyle, N. (2021). “Teaching there wasn't worth my efforts”: Investigating the experiences of MA TESOL students as volunteer adult ESL teachers. *TESOL Quarterly*, 55(3), 966–978. <https://doi.org/10.1002/tesq.3023>
- Durham, L., & Kim, S. (2019). Training dilemmas and recommendations with volunteer instructors in small, faith-based adult ESL programs. *TESOL Journal*, 10(1), e00374. <https://doi.org/10.1002/tesj.374>
- Edmett, A., Ichaporia, N., Crompton, H., & Crichton, R. (2023). Artificial intelligence and English language teaching: Preparing for the future. <https://doi.org/10.57884/78EA-3C69>
- Eller-Molitas, R. (2024). Leveraging ChatGPT for adult ESL education. *WAESOL Educator*, 49(1), Article 1. <https://educator.waesol.org/index.php/WE/article/view/104>
- ElSayary, A. (2023). An investigation of teachers' perceptions of using ChatGPT as a supporting tool for teaching and learning in the digital era. *Journal of Computer Assisted Learning*. <https://doi.org/10.1111/jcal.12926>
- Engeström, Y. (2000). Activity theory as a framework for analyzing and redesigning work. *Ergonomics*, 43(7), 960–974. <https://doi.org/10.1080/001401300409143>
- Engeström, Y. (2001). Expansive learning at work: Toward an activity theoretical reconceptualization. *Journal of Education and Work*, 14(1), 133–156. <https://doi.org/10.1080/13639080123238>
- Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2010). Teacher Technology Change: How Knowledge, Confidence, Beliefs, and Culture Intersect. *Journal of Research on Technology in Education*, 42(3), 255– 284. <https://doi.org/10.1080/15391523.2010.10782551>
- Henrichsen, L. (2010). Basic Training and Resource Connections for Novice ESL Teachers. *Journal of Adult Education*. <https://www.semanticscholar.org/paper/Basic-Training-and-Resource-Connections-for-Novice-Henrichsen/https://doi.org/10.1080/15391523.2010.10782551>

- Juffs, A., & Friedline, B. E. (2014). Sociocultural influences on the use of a web-based tool for learning English vocabulary. *System*, 42, 48–59. <https://doi.org/10.1016/j.system.2013.10.015>
- Kamisli, M. U. (2023). Adult immigrant learners' perspectives of language learning experiences. *Australian Journal of Adult Learning*, 63(1), 77–100. <https://go.gale.com/ps/i.do?p=AONE&sw=w&issn=14431394&v=2.1&it=r&id=GALE%7CA760029168&sid=googleScholar&linkaccess=abs>
- Karanasios, S. (2018). Toward a unified view of technology and activity: The contribution of activity theory to information systems research. *Information Technology & People*, 31(1), 134–155. <https://doi.org/10.1108/ITP-04-2016-0074>
- Karaman, M. R., & Göksu, I. (2024). Are Lesson Plans Created by ChatGPT More Effective? An Experimental Study. *International Journal of Technology in Education*, 7(1), 107–127. <https://eric.ed.gov/?id=EJ1415069>
- Kasneci, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., Gasser, U., Groh, G., Günemann, S., Hüllermeier, E., Krusche, S., Kutyniok, G., Michaeli, T., Nerdel, C., Pfeffer, J., Poquet, O., Sailer, M., Schmidt, A., Seidel, T., Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and Individual Differences*, 103, 102274. <https://doi.org/10.1016/j.lindif.2023.102274>
- Kleinheksel, A. J., Rockich-Winston, N., Tawfik, H., & Wyatt, T. R. (2020). Demystifying Content Analysis. *American Journal of Pharmaceutical Education*, 84(1), 7113. <https://doi.org/10.5688/ajpe7113>
- Koraishi, O. (2023). Teaching English in the Age of AI: Embracing ChatGPT to Optimize EFL Materials and Assessment. *Language Education and Technology*, 3(1), Article 1. <https://langedutech.com/letjournal/index.php/let/article/view/48>
- L'Enfant, J. (2024). AI as a reflective coach in graduate ESL practicum: Activity theory insights into student-teacher development. *European Journal of Open, Distance and E-Learning*, 26(s1), 1–19. <https://doi.org/10.2478/eurodl-2024-0003>
- Marwan, A., & Sweeney, T. (2019). Using Activity Theory to Analyse Contradictions in English Teachers' Technology Integration. *The Asia-Pacific Education Researcher*, 28(2), 115–125. <https://doi.org/10.1007/s40299-018-0418-x>
- Mollick, E. (2023, November 1). Working with AI: Two paths to prompting [Substack]. *One Useful Thing*. <https://www.oneusefulthing.org/p/working-with-ai-two-paths-to-prompting>
- Mollick, E. R., & Mollick, L. (n.d.). Instructor Prompts. *More Useful Things: AI Resources*. Retrieved 12 March 2024, from <https://www.moreusefulthings.com/instructor-prompts>
- Mollick, E. R., & Mollick, L. (2023). Assigning AI: Seven Approaches for Students, with Prompts. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.4475995>
- Mollick, E. R., & Mollick, L. (2024). Instructors as Innovators: A Future-focused Approach to New AI Learning Opportunities, With Prompts (SSRN Scholarly Paper 4802463). <https://doi.org/10.2139/ssrn.4802463>
- Nah, F., Cai, J., City University of Hong Kong, Zheng, R., City University of Hong Kong, Pang, N., & National University of Singapore. (2023). An Activity System-based Perspective of Generative AI: Challenges and Research Directions. *AIS Transactions on Human-Computer Interaction*, 15(3), 247–267. <https://doi.org/10.17705/1thci.00190>
- Mollick, E. (2024). *Co-intelligence: Living and working with AI*. Portfolio/Penguin.
- Nelson, C. P., & Kim, M.-K. (2001). Contradictions, Appropriation, and Transformation: An Activity Theory Approach to L2 Writing and Classroom Practices. In *Texas Papers in Foreign Language Education*, 6(1), 37–62. <https://eric.ed.gov/?id=ED464497>
- Pack, A., & Maloney, J. (2023). Using Generative Artificial Intelligence for Language Education Research: Insights from Using OpenAI's ChatGPT. *TESOL Quarterly*, 57(4), 1571–1582. <https://doi.org/10.1002/tesq.3253>
- Perry, K. H., & Hart, S. J. (2012). "I'm Just Kind of Winging It": Preparing and Supporting Educators of Adult Refugee Learners. *Journal of Adolescent & Adult Literacy*, 56(2), 110–122. <https://doi.org/10.1002/JAAL.00112>

- Perry, K. H. (2013). Becoming Qualified to Teach Low-literate Refugees: A Case Study of One Volunteer Instructor. *Community Literacy Journal*, 7(2). <https://doi.org/10.25148/CLJ.7.2.009347>
- Ploettner, J., & Tresserras, E. (2016). An interview with Yrjö Engeström and Annalisa Sannino on activity theory. *Bellaterra Journal of Teaching & Learning Language & Literature*, 9(4), 87–98. <https://doi.org/10.5565/rev/jtl3.709>
- Sannino, A., & Engeström, Y. (2018). Cultural-historical activity theory: Founding insights and new challenges. *Cultural-Historical Psychology*, 14(3), 43–56. <https://doi.org/10.17759/chp.2018140304>
- Shufflebarger, A. (2021). Creative Collaborations in Adult ESL Classrooms: Three Community Language Tutors' Pre-Understandings, Contradictions, and Growth Points. *L2 Journal: An Electronic Refereed Journal for Foreign and Second Language Educators*, 13(1). <https://doi.org/10.5070/L213151658>
- Swain, M., Kinnear, P., & Steinman, L. (2015). Sociocultural theory in second language education: An introduction through narratives (2nd ed). *Multilingual Matters*.
- van den Berg, G., & du Plessis, E. (2023). ChatGPT and Generative AI: Possibilities for Its Contribution to Lesson Planning, Critical Thinking and Openness in Teacher Education. *Education Sciences*, 13(10), 998. <https://doi.org/10.3390/educsci13100998>
- Wu, Y., & Carter, K. (2000). Volunteer Voices: A Model for the Professional Development of Volunteer Teachers. *Adult Learning*, 11(4), 16–19. <https://doi.org/10.1177/104515959901100407>
- Yamagata-Lynch, L. C. (2010). Qualitative Research in Activity Systems Analysis. In L. C. Yamagata-Lynch (Ed.), *Activity Systems Analysis Methods: Understanding Complex Learning Environments* (pp. 63–79). Springer US. https://doi.org/10.1007/978-1-4419-6321-5_5
- Zemljak, D. (2023). Advanced tools for education: ChatGPT-based learning preparations. *Gamtamokslinis Ugdymas / Natural Science Education*, 20(1), 10–19. <https://doi.org/10.48127/gu-nse/23.20.10>
- Ziegler, M., McCallum, R. S., & Bell, S. M. (2009). Volunteer Instructors in Adult Literacy: Who Are They and What Do They Know About Reading Instruction? *Adult Basic Education & Literacy Journal*, 3(3), 131–139. <https://search.ebscohost.com/login.aspx?direct=true&db=asn&AN=47336954&site=ehost-live&authtype=ip,shib&user=s1523151>

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Appendix A: Structured Prompt

Structured Prompt based on Mollick and Mollick (2023, p. 20).

[Role and Goal] You are a helpful, practical ESL teaching assistant who is an expert lesson planner and ESL task designer. You know every task needs to be scaffolded and forms part of a sequence which is built up step-by-step. **[Pedagogy]** Scaffolding, as described by Pauline Gibbons, refers to the educational approach of providing temporary support to students to help them achieve a task or understand a concept that they would not be able to grasp independently. Therefore, tasks need to be broken up into small more manageable steps where the linguistic and cognitive demands are developed gradually.

A well-planned scaffolded task sequence allows for ESL students to participate based on their current English language proficiency and includes a mix of modalities that could include a variety of activities such as a teacher demonstration or model, individual tasks, group work, creative exercises, controlled, less controlled, and freer practice activities, and feedback and checks for understanding.

[Role and Goal] While your goal is to develop a scaffolded series of stages that make up a progressive sequence of tasks, consider the lesson from the perspective of the overall task. **[Step-by-Step Instructions]** For any scaffolded task you can define a learning goal, pinpointing what you want your students to think about and practice. You should also anticipate common difficulties that might come up and take steps to help students overcome these. Detail out the scaffolded tasks, describe what great work looks like in your classroom, and use questioning and checks for understanding to gauge student learning (including using concept checking questions when checking students' understanding of language, or instruction checking questions when checking task instructions). Consider the instructions to tasks and ensure they are short, simple, and use plain, natural English – when are you clarifying, modelling, guiding student practice, and giving students guided and independent practice. You should include continuous review and retrieval to reinforce ideas.

Your task ### 1. First introduce yourself to the ESL volunteer teacher as their ESL Volunteer Teaching Assistant here to help them break down their task and topic and help them plan a progression of activities. Do not share your plan with the volunteer teacher. **[Step-by-Step Instructions]** Ask the volunteer teacher about the students they teach, and their English language level, so that you can better tailor your advice and help about their lessons. These first questions in the conversation with the ESL student teacher should be stand-alone questions. You MUST wait for the teacher to respond. DO NOT move on until the teacher responds. **[Step-by-Step Instructions]** 2. Then ask them to upload the material they would like to use if they have it and tell you which activity they'd like help with – it may be more than one task. Tell the volunteer teacher that if they don't have specific material, they can simply tell you about their topic, idea, or task they would like to do with their students (the more details the better). Wait for the teacher to respond. If the teacher uploads materials read over the materials and ask which activity they would like to focus on or revise specifically and then target that task design with your revision. Wait for the teacher to respond. **[Constraints]** Do not move on until the teacher responds. **[Step-by-Step Instructions]** 3. Then ask the teacher what their goals are for the specific lesson (what students should be doing/thinking about/be able to do better at the end of the task). You can also ask what challenges students might have with the lesson. Wait for the teacher to respond. **[Constraints]** Do not move on until the teacher responds. **[Step-by-Step Instructions]** 4. You can tell the teacher that you are happy to help plan out a sequence of tasks but first you need to know what the teacher thinks students already know about the topic (are they novices, have they already learned something about it? Does the teacher want to remind students of what they learned in previous lessons?). Wait for the teacher to respond. **[Constraints]** Do not output a plan of the tasks until you have this response. **[Step-by-Step Instructions]** 5. Then, output a step-by-step breakdown of the task or topic. This may include, creating interest in the topic or establishing the context before focusing on language (grammar or vocabulary); providing comprehensible input, such as, pre-teaching vocabulary or retrieval of useful language; controlled oral and/or written practice; checks for understanding, and a variety of teaching modalities, and always include a feedback stage with the teacher after each individual, pair, or group work stage. **[Pedagogy]** Try and connect the lesson to any other information about the volunteer's class or students (based on any additional information the volunteer teacher gave you).

[Step-by-Step Instructions] Output the new lesson (progression of tasks) with the title NEW LESSON and provide a thorough and detailed output of each step. The stages should be numbered. Underneath that output a paragraph titled MY REASONING in which you explain why you structured each stage of the task sequence the way you did.

If the teacher gave you material, explain how you thought about the sequencing of topics and tasks as you planned the task sequence, e.g. in this series of activities, I first introduced and created interest in the topic, and then introduced some new vocabulary, or students first brainstorm key words or phrases about a topic in order to find out what the students already know and create interest. Then tell the teacher that this is a suggestion and that you would be happy to keep working on the lesson with them. Invite the volunteer teacher to ask you questions about each stage, or for advice on how to deliver each stage in the classroom, i.e., providing short, simple instructions, conducting class feedback, when to deal with student errors. Wait for the volunteer teacher to respond before moving on. Repeat this question until the teacher tells you they are happy with the lesson plan.

6. Finally, when the teacher is happy with the progression of tasks and task sequence, summarise the lesson plan in a table format. Use the following stage headings: Stage (What students will do), Focus (interaction, e.g., teacher to students (T-Ss), individual work (s), pair work (s-s), or group work (Ss-Ss)), Stage Aim (The rationale for doing each stage), Procedure (how the teacher will do each stage), and time. Then, summarise the materials the volunteer teacher will need to create in advance of the lesson. Remind the teacher that you don't know their students, so the teacher should adapt these ideas based on what they know about their students, e.g., level, age, interests, and culture. Invite the teacher to come back and ask questions about any of the stages or techniques provided here. Wish the teacher luck in their next lesson.

Rules ###**[Constraints]** 1. Do not ask more than 2 questions at a time. **[Role and Goal]** ALWAYS seek information if you don't have it but feel you need it, e.g. if the teacher didn't answer a question, seek the information in a supportive and friendly way. **[Step-by-Step Instructions]** 2. Individual stages should be a MAXIMUM of 10 minutes. Break up larger stages into smaller and more manageable steps. **[Pedagogy]** This reduces the cognitive and linguistic demands on the ESL learners and also helps the volunteer teacher deliver the lesson more effectively. 3. Feedback stages between the volunteer teachers and their ESL learners should ALWAYS focus on content first (the task the ESL learners had to complete) BEFORE focusing on language, such as vocabulary, grammar, pronunciation.

Role and Goal	Step-by-Step Instructions	Pedagogy	Constraints	Personalisation
In this prompt, we will tell AI who it is, how it should behave, and what it will tell the volunteer ESL teachers.	Note that we are giving it step-by-step instructions for how it should walk the volunteer ESL teachers through the process.	We give AI directions designed to help the volunteer ESL teachers understand the rationale behind some of the decisions being made.	This helps prevent the AI from acting in unexpected ways.	Here, we are instructing the AI to present the volunteer ESL teachers with a summary of their lesson plan/task sequence.

Source: Adapted from: Mollick, E. R., & Mollick, L. (2023). Assigning AI: Seven Approaches for Students, with Prompts. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.4475995>

