FOREMOST JOURNAL
Vol. 6, No. 2, August 2025
e-ISSN: 2721-642X

Integrating Deep Learning and AI in CLT-Based English Course Design: A Qualitative Study of EFL Tutors

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Abstract

This study aims to explore how English tutors at the New Concept English Education Centre course institution integrate Artificial Intelligence (AI) technology and deep learning approaches in Communicative Language Teaching (CLT)-based learning planning. Using a qualitative approach with an exploratory case study design, data was collected through in-depth interviews, document studies, and classroom observations of 20 tutors who had participated in AI training. The results show that tutors understand the strategic role of AI in designing communicative, adaptive, and personalized learning. Tutors leverage various AI tools such as ChatGPT, Grammarly, and simulation videos to develop interactive speaking-based modules. This integration has a positive impact on increasing student engagement and the technological literacy of tutors. This research makes a theoretical and practical contribution to the development of technology-based learning models in the non-formal course sector, as well as encouraging tutors to be more adaptive to digital transformation in English language education.

Keywords: Artificial Intelligence, deep learning, Communicative Language Teaching, English tutors, non-formal courses

INTRODUCTION

The development of Artificial Intelligence (AI) technology and deep learning has significantly changed the landscape of language education, including the teaching of English as a Foreign Language (EFL). AI provides opportunities to build more personalized, adaptive, and communicative learning experiences—in accordance with the principles of Communicative Language Teaching (CLT) that emphasize authentic interaction and real meaning in the classroom (Luckin et al., 2016; Jiang, 2022; Jiang, 2022, p. 10). The Jiang et al. (2022) study mentions six forms of AI application in the context of EFL, ranging from automated evaluation systems to interactive chatbots and affective computing (Jiang, 2022). This integration allows teachers to create teaching materials that are data-rich and responsive to students' learning needs (Pamungkas et al.,

e-ISSN: 2721-642X

2023; Butarbutar, 2024; GarcíaLópez et al., 2025).

In Indonesia, English course tutors face the challenge of maintaining the relevance of CLT-based learning methods in the digital age. The New Concept English Education Centre based in Greater Jakarta has produced 33 textbooks by in-house tutors and received the MURI award, reflecting innovations in the CLT approach in the course realm (Goodfellow et al., 2016; Richards & Rodgers, 2001). A total of 20 tutors at this institution have participated in training on the integration of deep learning and AI in learning planning so that they have the capability to develop materials based on generative and adaptive technologies (Syafrayani et al., 2024).

Previous research has shown that AI can improve the effectiveness of language learning by providing real-time feedback through chatbots or Intelligent Tutoring Systems (ITS), as well as providing personalization of materials according to individual student needs (Jiang, 2022; Li et al., 2020; Wang et al., 2022). However, most of the study's focus was on students and the formal context of the university, rather than the practice of tutors in informal course institutions (ZawackiRichter et al., 2019; GarcíaLópez et al., 2025). For example, a review by Jiang (2022) recognizes that affective computing is still rarely applied in the context of EFL, especially in supporting students' positive emotions (Jiang, 2022; Butarbutar, 2024).

An exploratory study by Wu, Song, & Zhang (2023) emphasizes the need for teacher training so that AI integration is not only a technological substitution, but also supports a meaningful pedagogic context. Meanwhile, systematic research by GarcíaLópez et al. (2025) shows that the use of AI in EFL for gifted students strengthens critical thinking and text-based collaboration skills (GarcíaLópez et al., 2025). Other studies have found that teachers face ethical challenges, algorithmic bias, and resistance from students or institutions when adopting AI (Butarbutar, 2024; Ansari & Lanitis, 2023).

The research gap regarding the practice of course tutors integrating deep learning and AI in CLT design remains large. There are not many empirical studies that explain how course tutors adapt AI or design generative teaching modules to improve students' communicative competence, or how they overcome technical and pedagogical barriers (Han et al., 2023; Roe et al., 2025). Therefore, this study seeks to answer this empirical vacuum.

In this study, researchers will explore in depth how 20 English tutors at New Concept, who have participated in deep learning and AI workshops, understand the concept and integrate this technology into CLT-based learning designs. Focusing on the context of non-formal courses in Greater Jakarta, this research will explore teaching material innovations, teaching strategies, as well as the challenges and opportunities for AI integration in real practice of tutors.

The formulation of the problem proposed is: (1) How do tutors understand the concept of deep learning in the context of teaching English? (2) How do they apply AI in designing CLT-based learning plans? and (3) What are the challenges and opportunities in integrating AI to improve student learning outcomes?

e-ISSN: 2721-642X

The objectives of the study include: describing tutors' perceptions of AI/deep learning, analysing the integration of AI into CLT, and identifying the impact on material innovation and teaching strategies.

By combining exploratory case study design, in-depth qualitative approaches, and cutting-edge and empirical theoretical references, this research is expected to enrich the AI-enabled language teaching educational literature and make a practical contribution to the development of technology-based English course tutors in Indonesia.

METHOD

This study uses an exploratory qualitative approach to explore in depth the perceptions, experiences, and practices of English teachers in designing Communicative Language Teaching (CLT)-based learning by utilizing deep learning and artificial intelligence (AI) technology. This approach was chosen because it is appropriate to answer questions that are complex, open-ended, and emphasize meaning from the participant's perspective (Creswell & Poth, 2018). The exploratory focus allows researchers to delve into authentic practices applied by tutors in the context of real learning in non-formal course institutions.

The research design used is a case study, because this study seeks to understand the phenomenon contextually in a limited group, namely 20 English tutors from the New Concept English Education Centre in the Greater Jakarta area. All participants are active teachers who have integrated AI technology in the last three months in the teaching process. The design of the case study is instrumental with bounded system coverage that allows researchers to explore events and processes in depth in a specific time and location (Yin, 2018).

Data collection was conducted through semi-structured in-depth interviews, document analysis, and limited observations. The interviews were directed to explore teachers' understanding of the concept of deep learning, the use of AI in CLT, and their perception of the challenges and opportunities for technology integration. The documents analysed include learning implementation plans (RPPs), teaching materials, and output results from AI-based tools such as ChatGPT, Grammarly, or other tools. In addition, observations were made on a limited basis over a few teaching sessions to validate the practices reported in the interviews. This combination of data provides triangulation that strengthens the validity of qualitative research (Merriam & Tisdell, 2016).

Data analysis was carried out using the Thematic Analysis approach as developed by Braun and Clarke (2006). The process includes six main stages: familiarization with the data, initial code generation, theme search, theme review, theme definition and naming, and report compilation. Each data from interviews and documents is analysed with an inductive approach, so that the themes that emerge come from the narrative patterns of the tutors. The analysis is done manually with the support of coding tables to identify categories, relationships between themes, and narrative meanings.

The validation process is carried out through member checking by asking participants to review the summary of the results of the initial analysis, to ensure the accuracy of the

e-ISSN: 2721-642X

interpretation and avoid interpretive bias from the researcher. In addition, trail audits in the form of interview process records, transcripts, and analyses are kept to maintain traceability of the analytical process and scientific transparency.

By using an exploratory design and case study approach, this study does not intend to make statistical generalizations, but rather provides an in-depth understanding that can be a theoretical and practical reference in the development of technology-based English language learning, particularly for the non-formal course sector.

FINDINGS AND DISCUSSION

FINDINGS

This study aims to explore the implementation of deep learning and Artificial Intelligence (AI) by English course tutors in the Greater Jakarta area based on the Communicative Language Teaching (CLT) approach. Based on the results of data analysis from in-depth interviews, learning documents, and direct observations, the main findings described in the following tables were obtained.

The findings in Table 1 show that the majority of teachers who participated already had conceptual awareness of the potential of AI in English teaching. This understanding was gained through deep learning training and workshops that they previously attended. This is in line with the research of Wu et al. (2023), who stated that an early understanding of technology is a key factor in the success of AI integration in education

Table 1. General Research Findings

Theme	Details Of Findings Findings
Understanding AI and CLT	Tutors understand the role of AI as a communicative learning support tool.
AI-Based Learning Design	Teachers start creating AI-based interactive CLT modules (example: ChatGPT, Canva).
Activating Speaking Skills	Students are more active in speaking when using AI simulations (chatbot/video/audio).
Technology Literacy and Digital Pedagogy	Tutors are able to integrate AI in everyday learning strategies.

Based on table 2 about the interview with 20 tutors, it was found that most of them have used various types of AI technologies, especially ChatGPT, Grammarly, and simulation videos to reinforce communicative learning of speaking. Tutors not only see AI as a technical tool, but also as a pedagogical partner that enriches CLT learning designs.

Tutors like P1, P4, and P10 develop conversational scenarios with AI support, while P3, P11, and P14 use AI to provide grammar feedback and personalize learning levels. Meanwhile, P6, P13, and P18 utilized AI-based interactive videos to improve students' responses in speaking tasks.

This is consistent with the view of Mishra and Koehler (2006) regarding the TPACK framework, where the integration of technology must be in harmony with the content and pedagogical strategy. In addition, these findings reinforce the findings of the study of Jiang (2022) and Wu et al. (2023) that teachers who receive technology training and support tend to be more creative, responsive, and adaptive to the needs of students in the 21st century.

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Table 2. Semi-Structured Interview Summary

Participant Code	Interview Quotes
P1	"I use ChatGPT to create conversation scenarios according to the teaching topics in CLT."
P2	"AI is very helpful in compiling speaking-based exercise questions for shy students."
P3	"I used to use Grammarly to give automatic feedback on students' speaking tasks."
P4	"I used to have trouble making roleplays. Now AI can help structure the sentences."
P5	"Students become more interested if the speaking exercises involve chatbots or AI avatars."
P6	"I use AI-based simulation videos for two-way dialogue activities."
P7	"Students are more enthusiastic because they can practice talking to chatbots before direct practice."
P8	"AI is very useful for creating a variety of activities in my learning modules."
P9	"I use AI to create a thematic listening and speaking question bank."
P10	"I'm designing the lesson plan now by inserting AI tasks like creating a dialogue with a prompt."
P11	"AI tools help me evaluate students' grammatical errors efficiently."
P12	"Students are more confident in speaking because they can practice with AI first before performing in front of the class."
P13	"I created a final speaking assignment using an AI-based interactive video simulation."
P14	"AI allows me to teach according to the student's ability level automatically."
P15	"My modules are now more varied and personalized because AI helps identify students' needs."
P16	"Students actively respond if speaking activities are designed with technology."
P17	"I save the speaking template from the AI to reuse in other classes."
P18	"I collaborated with AI to develop contextual speaking exercises."
P19	"AI makes me more confident in designing modern CLT-based learning."
P20	"The integration of AI encourages me to create more creative and targeted teaching content."

The interview summary shows that the tutors are not only adopting AI technically, but also pedagogically, i.e. in the form of communicative learning activity design. As stated by Mishra and Koehler (2006), the success of technology integration depends on the synergy between content, pedagogy, and the technology itself (TPACK framework). Participant citations also reinforce the findings of Zhai (2022), who found that tutors who were previously trained would be more creative and confident in designing AI-based learning.

The results of observations prove based on table.3 that the use of AI has had a significant impact on increasing student participation, especially in speaking activities. The strategies applied by tutors reflect the principle of active deep learning, which is to create a learning environment that is cognitively and contextually challenging (Goodfellow et al., 2016). In addition, the use of AI in CLT-based learning sessions encourages students to develop confidence in using English, as stated by Kim et al. (2024), that AI can provide hands-on feedback that builds language skills progressively.

e-ISSN: 2721-642X

Overall, the findings of this study confirm that AI is not only a learning tool, but also an important facilitator in encouraging creativity, communication, and innovation in CLT-based English teaching. Teachers who understand the potential of AI are able to develop learning modules and activities that are more responsive to student needs and more adaptive to technological developments (Han et al., 2023; Jiang, 2022). Technology literacy is also developing, characterized by the ability of teachers to design, use, and evaluate AI-based technology in their teaching independently.

Table 3. Class Observation Results

Observed aspects	Observational findings
AI-based activities	Teachers use chatbots (ChatGPT) for paired speaking exercises.
Student engagement	More than 80% of students are active in speaking practice using AI video.
Design of learning materials	The lesson plan contains explicitly AI-based sessions (AI prompts, scenarios, feedback).
Feedback strategy	Teachers use automated feedback from Grammarly for speaking revisions.

The data analysis in this study uses a thematic analysis approach from Braun and Clarke (2006) which consists of six stages: (1) familiarization with the data, (2) initial code generation, (3) theme search, (4) theme review, (5) theme naming, and (6) result reporting. Based on the results of coding interviews with 20 tutors, lesson plan documents and teaching modules, as well as classroom observations, four main themes related to the integration of AI and deep learning in the CLT approach were found.

Teachers' Technological Understanding and Awareness of AI in CLT

Most tutors understand the potential of AI as a strategic tool in designing communicative learning. The tutor stated that AI simplifies the design process of CLT activities such as roleplay, dialogue, and speaking exercises, and helps to tailor the material to the student's abilities (P1, P2, P4, P14, P15). This is consistent with Jiang's (2022) finding that teachers with a basic understanding of AI are better prepared to use it in interaction-based learning.

Application of AI in CLT-Based Materials and Module Design

Tutors leverage AI to design contextual and varied speaking content. Tutors like P10 and P13 insert AI-generated activities in their lesson plans, while P6 and P18 use interactive videos as part of speaking exercises. The modules reviewed contain AI-based CLT elements, such as dialogues with chatbots, digital role exercises, and visual prompts. The study of Kim et al. (2024) shows that AI-based material design can improve student engagement and clarity of learning output.

Activation of Students' Speaking Skills and Confidence

The tutor mentioned that students become more actively speaking and confident after practicing with AI technology. P3, P7, P12, and P20 stated that students responded positively to the exercises with chatbots and video simulations. Observations reinforce this with data that more than 80% of students are active in oral practice. This is in line with the findings of Han et al. (2023) and Roe et al. (2025) that AI can

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improve *communicative competence* through personalized repetitive feedback and dialogue.

Development of Technology Literacy and Digital Pedagogy for Teachers

AI integration is driving transformation in the way tutors think and design learning. Tutors such as P5, P11, P16, and P19 said that they now feel more confident in using technology and developing digital learning plans (Fitria, 2023). This process reflects the strengthening of the digital pedagogy aspect within the framework of TPACK (Mishra & Koehler, 2006), namely the ability of teachers to integrate content, pedagogy, and technology simultaneously.

Data Triangulation Matrix

Based on table 4, ensuring the validity of the data, the method was triangulated through the combination of interview results, documents, and observations. Table 4 is the triangulation result matrix.

Table 4. Data Triangulation Matrix

Main Topic	Interview	Learning Documents	Direct Observation
Teachers' Understanding of AI & CLT	Tutors understand the potential of AI as a CLT tool (P1, P2, P4)	Module contains a description of the use of AI	Teacher explains the function of AI at the beginning of the lesson
AI-Based Learning Design	Tutor inserts AI tasks in lesson plans (P10, P13)	RPP shows AI sessions (ChatGPT, Canva)	Teachers use AI scenarios in the classroom
Activating Student Speaking and Response	Students are more active when speaking (P3, P7, P12)	AI simulation-based speaking practice materials	Students enthusiastic about using chatbots and videos
Technology Literacy and Digital Pedagogy	Teachers are more confident and creative (P11, P16, P19)	Module shows variations of AI tasks	Teacher reflection practice during evaluation session

Theoretically, the results of this study strengthen the framework of Communicative Language Teaching (Richards & Rodgers, 2001), by extending its practice into AI-based digital environments. CLT, which previously emphasized natural and meaningful interactions, can now be expanded with the support of technology that provides conversation simulation, automated feedback, and multimodal interactions (Han et al., 2023).

This research also contributes to the TPACK framework by showing that tutors' understanding of AI, coupled with adequate training, can result in useful technology literacy in daily teaching practices. This is in line with Zhai's (2022) opinion that systemic training and support are the key to the success of AI integration in education.

From a practical point of view, the application of AI technology in the non-formal course environment is an example that the digitization of education is not limited to formal institutions. Course teachers, if empowered and trained, can generate learning innovations that have a direct impact on improving students' speaking skills.

e-ISSN: 2721-642X

CONCLUSION

This study concludes that English tutors have understood and implemented AI and deep learning effectively in CLT-based learning designs. AI is used not only as a technical tool, but also as a pedagogical strategy to create teaching materials that are responsive, personalized, and communicative, especially in the development of students' speaking skills. Challenges such as technology literacy and the ethics of using AI are addressed through tutor self-training and exploration, which demonstrates a strong adaptation to digital transformation. This research contributes by broadening insights into the role of AI in communicative learning, offering a practical model of technology integration in English courses, and encouraging tutors in the informal sector to be more adaptive in facing the technology-based education revolution.

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