

EFFECTS OF INTEGRATING COMMUNICATIVE LANGUAGE  
TEACHING APPROACH WITH ARTIFICIAL INTELLIGENCE  
TECHNOLOGY ON ENHANCING ENGLISH SPEAKING OF  
NATIONAL PRIMARY SCHOOL STUDENTS IN  
YUNNAN PROVINCE

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A thesis paper submitted in partial fulfillment of the requirements  
for Master of Education Program in Teaching English  
as an International Language  
Academic Year 2025  
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Title                    Effects of Integrating Communicative Language Teaching  
Approach with Artificial Intelligence Technology on Enhancing  
English Speaking of National Primary School Students  
in Yunnan Province  
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
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## ABSTRACT

The integration of Artificial Intelligence (AI) into English language instruction has gained momentum in recent years, offering new possibilities for enhancing students' speaking proficiency, particularly in under-resourced regions. This study investigates the effectiveness of integrating Communicative Language Teaching (CLT) with AI-supported tools to improve the English speaking of Grade 6 students at a public primary school in Yunnan Province, China, and also explores students' satisfaction with this approach and its influence on motivation and engagement. Employing a mix-method with quantitative and qualitative design, data were collected through pre- and post-tests and a structured satisfaction questionnaire following a four-week intervention with 35 participants.

Results revealed significant improvement in students' English speaking. Post-test scores were considerably higher than pre-test scores, confirming the positive effectiveness of integrating Communicative Language Teaching (CLT) with Artificial Intelligence (AI) on enhancing English speaking of Grade 6 students. Moreover, the results showed that students' satisfaction with the integration of CLT and AI technology in English classroom are in moderate to high level. These findings

highlight the potential of combining AI with communicative pedagogy to foster oral language development and learner motivation in primary education. The study offers practical insights for educators and policymakers seeking innovative, scalable solutions in resource-constrained settings and encourages the integration of technology-enhanced methodologies into curricula for long-term improvement in language education equity.

**Keywords:** Artificial Intelligence, Communicative Language Teaching, English Speaking, Technology-Enhanced Learning

## Acknowledgement

This paper marks the end of a long and arduous learning journey, and also marks the end of my master's journey. Looking back, I deeply feel my own growth and gains. Thank you to all the teachers for their support and help during this journey, which made my master's career smooth and successful!

I am particularly grateful to my advisor. From topic selection and proposal, to research, writing, and publication, she has always illuminated the lighthouse for me with meticulousness and patience, pouring valuable suggestions and enabling me to successfully complete my paper.

However, the endpoint is also a new starting point. The end of the master's stage is not a pause in learning, but a prelude to deeper and broader exploration. In the future, I will continue to climb new heights with the critical thinking ability, academic perspective, and inner resilience that this experience has given me. May I never forget my original intention, live up to my trust, and refract the light and heat I have drawn here into new light, illuminating the long road ahead.

Zhao Qin

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# Chapter 1

## Introduction

### Research Background

English is one of the most widely spoken languages in the world and serves as an essential medium for global communication, education, and professional advancement (Nunan, 2021). Its significance as an international lingua franca has grown in the context of globalization, making English a critical skill for learners worldwide. Mastery of English is not only an academic requirement but also a gateway to future opportunities in an increasingly interconnected world (Richards, 2021). However, many students, particularly those in resource-poor areas, encounter significant challenges in developing practical language skills, especially speaking, which is essential for effective communication.

According to recent educational reports and assessment summaries, English-speaking proficiency among primary school students in underdeveloped regions of China has shown relatively slow improvement, with oral communication and pronunciation remaining persistent difficulties (Li & Zhao, 2022; Zhang et al., 2021). In Yunnan Province, comparative analyses of standardized primary school English assessments indicate that although students' overall English performance has improved slightly in recent years, speaking skills continue to lag behind other language components (Yunnan Provincial Education Bureau, 2021, 2022, 2023).

Over the past three years (2021–2023), national primary school English assessments in Yunnan Province have demonstrated a gradual upward trend in students' English-speaking proficiency. In 2021, the average speaking score among primary school students was 58.2 out of 100, with only 42% of students meeting the national proficiency standards for English speaking (Yunnan Provincial Education Bureau, 2021). In 2022, students' performance showed a modest improvement, as the average speaking score increased to 60.5 and the proportion of students achieving the national standard rose to 46% (Yunnan Provincial Education Bureau,

2022). By 2023, this upward trend continued, with the average speaking score reaching 63.1 and approximately 50% of students meeting the national English-speaking proficiency requirements (Yunnan Provincial Education Bureau, 2023).

Despite this steady improvement, the assessment data reveal a critical concern: more than half of primary school students in Yunnan Province still fail to reach the expected national standards for English speaking. This finding suggests that existing instructional approaches and learning environments may not be sufficiently effective in addressing students' oral communication difficulties, particularly in under-resourced educational contexts.

One important factor contributing to these challenges is students' limited exposure to English outside the classroom. Learners in rural and less-developed areas often have few opportunities to engage in authentic English communication in their daily lives, which can slow the development of fluency and reduce speaking confidence (Nurteteng, Nursalim & Lengkoan, 2024). In addition, many students experience speaking anxiety due to insufficient practice and fear of making mistakes, leading to reluctance to participate in oral activities. A survey conducted among primary school students in Yunnan Province in 2023 indicated that over 65% of students reported discomfort when speaking English, primarily due to a lack of confidence and fear of negative evaluation from peers (Yunnan Provincial Education Bureau, 2023). Furthermore, limited learning interest, ineffective learning habits, and misconceptions about the relevance of English to students' everyday lives may further undermine motivation and engagement in the language learning process (Seven, 2020).

With the rapid development of educational technology, Artificial Intelligence (AI) has increasingly been applied in language education. AI technology can support personalized learning by analyzing learners' performance data and providing targeted instructional feedback (Chen & Wu, 2023; Liu, 2022). In oral English instruction, AI-based tools—such as speech recognition systems, automated pronunciation evaluation, and real-time feedback mechanisms—have been shown to enhance students' speaking practice and learning efficiency (Kuddus, 2022; Zou et al., 2021).

Research suggests that AI-supported language learning environments can increase opportunities for repeated oral practice and provide immediate corrective feedback, which are particularly beneficial for young learners. However, rural schools often face barriers to adopting such technologies due to limited infrastructure, insufficient funding, and a lack of teacher training in educational technology (Guan, 2023; Kolog et al., 2022).

Despite these constraints, AI demonstrates strong potential for improving oral English instruction by simulating authentic communicative scenarios and offering individualized support for learners. A pilot study conducted in Yunnan Province in 2023 reported that students who participated in AI-integrated English speaking instruction showed an average increase of 12% in speaking proficiency after three months of implementation, highlighting the potential effectiveness of AI-assisted approaches in improving oral language outcomes (Yunnan Provincial Education Bureau, 2023).

Communicative Language Teaching (CLT) is a widely recognized language teaching approach that emphasizes interaction and meaningful communication as the primary means of developing language proficiency (Richards, 2021; Savignon, 2020). Although CLT has been promoted in many educational contexts, its classroom implementation remains challenging. Teachers may lack sufficient training or practical experience in designing communicative tasks, and classroom conditions may limit opportunities for sustained interaction (Littlewood, 2020; Larsen-Freeman, 2021). In many primary schools in Yunnan Province, English instruction continues to rely heavily on grammar-focused and examination-oriented practices, reducing opportunities for authentic oral communication. A teacher survey conducted in Yunnan indicated that only 27% of primary school English teachers felt confident in implementing CLT-based instructional strategies effectively (Wang, 2022).

In addition, limited teaching materials and technical support in resource-poor areas further constrain the effective application of CLT (Wang, 2022). Students with weak language foundations or low confidence may also participate less actively in communicative activities, resulting in uneven learning outcomes (Lou, 2023).

Classroom-based research in rural Yunnan has shown that although student participation in CLT-oriented lessons may initially be low, the integration of AI-assisted interactive tools can significantly enhance engagement. One study reported a 40% increase in student participation when AI-supported communicative activities were incorporated into CLT classrooms (Yunnan Provincial Education Bureau, 2023).

This study focuses on national primary school students in Yunnan Province, a region located in southwestern China where educational resources—particularly in English education—remain relatively limited (Li & Zhao, 2022; Zhang et al., 2021). Despite ongoing national curriculum reforms, insufficient infrastructure and a shortage of well-trained English teachers continue to hinder the development of students' oral proficiency. Integrating AI technology with the CLT approach offers a promising solution by providing structured, interactive, and feedback-driven speaking practice for learners.

Accordingly, this research aims to explore the effectiveness of combining CLT with AI technology in improving the English-speaking ability of primary school students in Yunnan Province. The study seeks to assess students' current speaking proficiency, develop and validate an AI-supported CLT instructional model, and examine its advantages and challenges in practical classroom application (Yang, 2023; Zhang, 2023). By integrating the strengths of AI technology and CLT, this research aims to provide empirical evidence and practical guidance for improving oral English instruction in under-resourced regions, thereby contributing to educational equity and the sustainable development of English language education (Chen & Wu, 2023; Wang et al., 2023).

## **Statement of the Problem**

In China, English has been a core subject in the compulsory education system and was formally incorporated into the national curriculum starting from the third grade of primary school, continuing throughout the entire basic education stage (Bai & Zhou, 2024; Zhou & He, 2025). However, primary English education in China tends to emphasize knowledge acquisition over practical language ability, with spoken

English instruction being particularly weak. The curriculum design and assessment systems remain focused on written knowledge, with exams primarily testing vocabulary, grammar, and reading comprehension, while speaking skills are often overlooked. As a result, teachers concentrate more on grammar explanation and written drills, with limited arrangements for students to practice oral English. Interactive speaking activities such as role-plays or group discussions are rare in the classroom. Students are accustomed to completing fill-in-the-blank exercises and memorizing vocabulary, but they lack opportunities to organize language and express opinions in real-life contexts.

Furthermore, classroom instruction is often highly scripted and lacks a communicative orientation. As Li (2024) pointed out, in many primary schools, English classes follow a fixed pattern in which teachers explain texts line by line, students read aloud, and then copy or memorize vocabulary and sentences. Interactive forms of learning such as role-playing, task-based dialogues, or language games are seldom implemented. Even when textbooks include activities like “Pair Work” or “Let’s talk,” these are frequently skipped or simplified due to time constraints or teacher-centered approaches. In such exam-driven classroom environments, students tend to perceive English as a test-taking tool rather than a medium of communication. Their language learning becomes mechanical, with little emphasis on practical application (Li, 2024).

In addition, teacher-related factors also hinder the development of speaking instruction. Xiao and Zheng (2021) noted that many primary school English teachers lack systematic training in oral language teaching. This issue is especially common in non-metropolitan or rural areas, where some teachers are not English majors and have limited pronunciation and communicative competence. These teachers often struggle to effectively guide students in authentic spoken interaction. To maintain classroom order, they prefer lecture-based instruction and avoid allowing students to express themselves freely, which may introduce unpredictability into classroom management. As a result, students' opportunities for language output are further constrained (Xiao & Zheng, 2021).

In under-resourced regions such as Yunnan, the challenges facing oral English instruction in primary schools are even more pronounced. On the one hand, some schools suffer from a shortage of qualified teachers and a low level of teacher specialization, making it difficult to implement communicative language teaching effectively. On the other hand, the integration of AI and other information technologies into classroom instruction remains at a rudimentary stage. Issues such as insufficient hardware, lack of teacher training, and a disconnect between educational technology and practical teaching all hinder the widespread adoption of modern teaching tools. Additionally, tight classroom schedules and poorly structured curriculum design further restrict the implementation of speaking instruction. These factors collectively result in outdated teaching methods, limited learning outcomes, and low student engagement.

Given the convergence of national and regional challenges, this study aims to explore a feasible pedagogical innovation: the integration of communicative language teaching (CLT) with artificial intelligence (AI) technologies in primary English-speaking instruction. CLT emphasizes language use through authentic communicative contexts, while AI tools such as automatic speech recognition, virtual dialogue, and personalized feedback can provide rich learning environments that supplement conventional classroom practices (Sun, 2023; Tai & Chen, 2024). In China, the English Curriculum Standards for Compulsory Education (2022 Edition) highlight competence-oriented goals and emphasize learners' ability to use English to communicate meaningfully in context, which implies expected outcomes related to intelligible pronunciation, functional fluency, and interactive communication (Cai, 2024). However, research on communicative approaches in under-resourced school contexts suggests that teachers often face practical constraints (e.g., limited training, materials, and classroom support), which may restrict sustained communicative practice and hinder the attainment of these expected oral outcomes (Fang et al., 2023).

At the same time, recent empirical studies in the Chinese EFL context indicate that AI-supported language learning can facilitate speaking development by increasing opportunities for practice, reducing performance pressure, and providing timely feedback that supports pronunciation and overall speaking performance (Qiao & Zhao, 2023; Sun, 2023). Moreover, evidence from elementary-level settings shows that generative AI chatbots can promote EFL learners' speaking skills and help alleviate speaking anxiety through coherent, contextualized interaction (Tai & Chen, 2024). Despite these promising findings, there remains a clear research gap regarding how AI-supported tools can be systematically aligned with CLT principles to help primary school learners particularly those in underdeveloped regions such as Yunnan narrow the gap between current speaking performance and curriculum-expected outcomes. Therefore, this study focuses on sixth-grade students in national primary schools in Yunnan Province, aiming to empirically examine the impact of an integrated CLT-AI model on students' English-speaking development and to provide practical and pedagogical references for English education in rural areas.

### **Research Objectives**

1. To assess the effectiveness of integrating Communicative Language Teaching (CLT) with Artificial Intelligence (AI) on enhancing English speaking of Grade 6 students.

2. To investigate students' satisfaction with the integration of CLT and AI technology in English classroom.

### **Research Questions**

1. How does integrating Communicative Language Teaching (CLT) with Artificial Intelligence (AI) enhance the English speaking of students?

2. What is the level of student satisfaction with the integration of CLT and AI in English classroom?

## Significance of the Study

This study focuses on integrating the Communicative Language Teaching (CLT) approach with Artificial Intelligence (AI) technology in Grade 6 English instruction at national primary schools in Yunnan Province, aiming to enhance students' English-speaking proficiency. The significance of this research lies in the following three areas:

Firstly, in terms of optimizing instructional strategies, this study, grounded in classroom observations and intervention-based teaching in three national primary schools in Yunnan, empirically explores how the CLT+AI integration can improve students' English-speaking output. By collecting and analyzing pre- and post-intervention speaking assessment data, AI-driven pronunciation practice logs, and teacher reflections, the study identifies workable classroom models and pedagogical strategies such as using AI for speech recognition-based feedback and designing meaningful communicative tasks. These outcomes offer concrete solutions to existing challenges such as teacher-centered instruction and insufficient student speaking practice.

Secondly, with respect to teacher training and pedagogical development, the findings of this study through case summaries and practical observations can serve as valuable content for in-service teacher training and professional development programs. Drawing on interview data and teacher journals, the study highlights common cognitive and technical barriers encountered during CLT and AI integration and puts forward recommendations for improvement. These include designing effective task-based oral activities, leveraging AI platforms for individualized feedback, and scaffolding students' engagement in communicative exchanges. These strategies are intended to improve teachers' conceptual understanding of CLT and their ability to implement technology-enhanced speaking instruction effectively.

Thirdly, in terms of curriculum innovation and educational equity, this study is particularly relevant to rural and under-resourced schools in Yunnan Province. The pedagogical model and technological scaffolds proposed herein can inform curriculum and resource planning at the regional education administration level. By providing empirical evidence on how CLT+AI integration enhances students' fluency,

confidence, and participation, the study advocates for the strategic use of AI to compensate for gaps in teaching capacity and to enhance oral language instruction sustainably. It also encourages curriculum designers to systematically embed oral language development into learning outcomes, thereby promoting a shift from passive knowledge acquisition to active language use.

It is worth noting that all conclusions drawn in this study are firmly based on empirical teaching data, teacher feedback, and indicators of students' oral language development. The study deliberately avoids overstating the capabilities of technology; instead, it emphasizes the situated, partial effectiveness of CLT+AI integration under specific teaching conditions, appropriate teacher preparation, and curricular alignment. The core objective is to provide frontline educators with practical, implementable, and effective speaking instruction solutions that can be gradually adopted in real-world classroom contexts. In sum, this study not only responds to structural challenges in primary school English speaking instruction but also contributes actionable strategies for teacher development, classroom innovation, and resource allocation—ultimately supporting more equitable and higher-quality English education in underserved regions.

## **Scope of the Study**

### **Population and the Sample Group**

#### **Population**

The participants in this study were Grade 6 students enrolled in the PEP English Course during the 2024 academic year at Nation Primary School. The total number of students was 145, distributed across four classes as follows: Class 1 consisted of 35 students, Class 2 included 35 students, Class 3 had 40 students, and Class 4 comprised 35 students.

#### **The Sample Group**

The sample group in this study consists of Grade 6 students enrolled in the PEP English Curriculum (People's Education Press English) course during the academic year 2024 at National Primary School. The selection of participants was

conducted using Cluster Random Sampling, where one classroom was randomly chosen from the four Grade 6 classes in the school. Through this method, Class 2 was selected as the study sample.

Class 2 comprises 35 students, including both male and female students, all of whom are in the same grade but demonstrate varying levels of English proficiency. The students in this class have been identified as having a diverse range of English-speaking abilities, with some demonstrating strong oral proficiency while others face difficulties in fluency, pronunciation, and confidence in speaking English. This diversity allows for a more comprehensive evaluation of the effectiveness of integrating AI technology with the Communicative Language Teaching (CLT) approach across different learner levels.

By selecting a single classroom with a mixed-proficiency student group, this study ensures that all participants share similar learning environments, teaching resources, and instructional methods, thus minimizing external variables that may influence learning outcomes. This setup allows for a more accurate assessment of how AI-enhanced CLT strategies can support students with varied language abilities in improving their English speaking

To clearly define the instructional scope during the intervention period, the teaching content in this study was restricted to the PEP English textbook (People's Education Press), namely the Experimental Textbook for Compulsory Education Curriculum Standards, English (PEP). The instructional intervention was implemented within Grade 6, Volume 2, Unit 2 "Last Weekend", ensuring consistency in teaching objectives, language input, and classroom tasks across participants.

During the intervention, the core teaching focus was on speaking-related vocabulary, sentence patterns, and classroom communicative tasks aligned with the unit objectives. Specifically, the lessons covered key verb phrases and simple past tense expressions related to weekend activities, such as cleaned my room, washed my clothes, stayed at home, watched TV, read a book, saw a film, had a cold, slept, as well as time expressions including yesterday, the day before yesterday, last night/last weekend. The target communicative sentence patterns included: "How

was your weekend? It was...”; “What did you do (last weekend)?” “I ...”; “Did you ...?” “Yes, I did./No, I didn’t.” and related follow-up questions (e.g., “Did you do anything else?”).

In addition to conventional CLT-based classroom activities (e.g., pair work, dialogue reading, role reading, and communicative tasks), AI-assisted role-play speaking practice was incorporated as a structured practice component. Students used an AI tool (on student pads) to conduct guided oral interaction by applying the target vocabulary and sentence patterns in simulated dialogues. Therefore, the intervention scope was clearly bounded to Unit 2 speaking tasks and the AI-supported CLT role-play activities designed for this unit, which served as the primary instructional content examined in the study.

#### **The Variable**

**Independent Variable is:** the integrating of Communicative Language Teaching Approach with Artificial Intelligence Technology (AI)

**Dependent Variable is:** English Speaking

#### **Definitions of Key Terms**

**Communicative Language Teaching (CLT):** The statement "CLT r refers to an approach to language teaching that develops learners’ ability to communicate meaningfully by engaging them in authentic, purposeful interaction. It emphasizes the use of real-life situations, interactive activities, and task-based learning to promote fluency and communicative competence (Richards & Rodgers, 2014). In the present study, CLT is adopted as the core pedagogical framework to guide the design of speaking-focused classroom tasks and to ensure that instructional activities are communication-driven rather than form-driven. Recent discussions of CLT in classroom practice further stress that communicative teaching requires teachers to intentionally create interactional opportunities and to support learners’ meaning-making through classroom procedures and discourse management (Littlewood, 2020; Rose & Galloway, 2024).

Roles of the Teacher and Learners within the CLT Framework.

To align the instructional design with CLT principles, this study explicitly defines the roles of teachers and learners during the intervention.

**Teacher roles in CLT.** The teacher functions primarily as a facilitator of communication rather than a transmitter of knowledge. Specifically, the teacher (a) designs meaningful communicative situations and provides task goals and contextual support without dominating classroom talk; (b) organizes interaction through appropriate grouping (pair/group work) and sequences tasks from more controlled practice to freer communication; (c) monitors learners' language use during interaction and provides feedback mainly after communication, prioritizing meaning before form; and (d) acts as a co-communicator or supporter in certain activities to scaffold participation, reduce learners' anxiety, and lower power distance in the classroom (Littlewood, 2020; Rose & Galloway, 2024).

**Learner roles in CLT.** Students are expected to participate as active communicators. They (a) engage in authentic communication rather than merely responding to teacher prompts; (b) collaborate with peers through interaction and negotiation of meaning; (c) take risks in language production where communicative success is prioritized initially over perfect accuracy; and (d) assume responsibility for learning by making choices in task completion and language use, demonstrating developing autonomy (Littlewood, 2020; Rose & Galloway, 2024).

These explicit role definitions strengthen the theoretical grounding of the teaching steps below and clarify how the CLT–AI integration is pedagogically motivated rather than merely activity-based.

#### Instructional Content Context

As the textbook used in this semester, the instructional content is based on the PEP English textbook (People's Education Press), which is developed in accordance with the English Curriculum Standards for Compulsory Education (2022 Edition). The textbook sequence follows a "Topic–Function–Structure–Task" progression to support students' communicative language use. The intervention activities were implemented within the selected units/topics so that students could

complete practical speaking tasks using target vocabulary and structures required by the curriculum standards (Ministry of Education of the People's Republic of China, 2022). There are three steps:

#### Step 1: Role-Play

Role-playing serves as a captivating technique within the Communicative Language Teaching (CLT) approach, offering students the opportunity to engage in communication within diverse settings or social contexts. It involves simulated scenarios where both the teacher and students assume roles and interact as if in real-life situations. As textbook in this semester, the main content of this semester consists of 4 teaching units and 2 review units. Each unit is divided into A, B, C three parts. It's based on the topic, with communicative function and language structure as the main thread, gradually guiding students to use communicative language teaching (CLT) to complete practical language tasks. Topic- Function- Structure -Task. According to Flores et al. (2017), role-playing is frequently utilized by CLT proponents to augment language speaking opportunities and foster collaboration among learners. Typically conducted in pairs or groups, follow different topic to do, role-playing focuses on enhancing students' communicative skills within specific settings and conditions, making it a valuable addition to English language learning under the CLT framework.

#### Step 2: Interview

Interview activities serve as an effective method to enhance students' speaking skills in English instruction. In this approach, students take on the role of interviewer while their classmates become the interviewees, fostering face-to-face conversations between peers. The interviewer poses questions and seeks information and explanations from the interviewee regarding challenges encountered in speaking skills. Follow the textbook unit choose one of it. Through these interviews, students gather valuable insights from their peers, enabling them to evaluate and improve their English speaking collaboratively. This feedback facilitates prompt problem-solving by the teacher to address any identified issues swiftly (Hedge, T. 2000).

### Step 3: Scavenger Hunt

The scavenger hunt is an engaging activity aimed at enhancing students' speaking skills through various interactive games such as puzzles, rock-paper-scissors, matching games, scrambled sentences, and ball throwing. These diverse activities not only make learning enjoyable but also help reinforce language learning through drills, retention, and repetition, thereby improving memory retention. Moreover, participating in scavenger hunt activities encourages students to produce new words and phrases in sentences, thereby fostering language production. Whether conducted indoors or outdoors with peers, scavenger hunts create a lively and social learning environment (Carr, Palmer, & Hagel, 2015).

English speaking refers to students' ability to communicate orally in English to express meaning appropriately in context. In this study, English speaking focuses on learners' spoken expression ability as demonstrated in classroom communicative tasks and assessed through standardized speaking tests and teacher evaluation (Brown, 2021). Importantly, this study conceptualizes speaking performance in a way that is consistent with the curriculum-based vocabulary requirements in Table 1.1, especially Level 2, which emphasizes the ability to use vocabulary in specific contexts to describe things, behaviors, processes, and characteristics, and to express main information and ideas related to a topic (Ministry of Education of the People's Republic of China, 2022). Therefore, improvement in English speaking in this study includes not only linguistic accuracy and fluency, but also students' ability to select and use vocabulary confidently and appropriately to accomplish communicative tasks aligned with the unit topic and required language functions. See table 1.1:

**Table 1.1** Vocabulary knowledge content requirements

Level	Content Requirements
Level 1	<ol style="list-style-type: none"> <li>1. Know that words are made up of letters;</li> <li>2. Understand the meaning of words with the help of pictures and objects;</li> <li>3. Say words and phrases based on visual or auditory cues such as pictures, movements, animations, sounds, etc.;</li> <li>4. Learn vocabulary based on the pronunciation, form, and meaning of words, and understand the meaning of words in context.</li> </ol>
Level 2	<ol style="list-style-type: none"> <li>1. Understand the meaning of vocabulary in context and gradually accumulate vocabulary through use;</li> <li>2. In a specific context, use vocabulary to describe things, behaviors, processes, and characteristics, and express the main information and ideas related to the topic;</li> <li>3. Able to initially use about 500 words (see appendix 3), to communicate and express on prescribed topics. In addition, students can be exposed to and learn 100-300 words within the scope of third-level vocabulary and related topics according to the actual situation, as well as a certain number of idioms or fixed collocations.</li> </ol>
Level 3	<ol style="list-style-type: none"> <li>1. Understand that English vocabulary includes words, phrases, idioms, fixed collocations and other forms;</li> <li>2. Understand and comprehend the basic meaning of words, as well as their meaning, part of speech and function in specific contexts and texts;</li> <li>3. By identifying word roots and affixes, we can identify prefixes, suffixes and their meanings in words;</li> <li>4. In a specific context, according to different topics, use vocabulary to name things, describe things, behaviors, processes and characteristics, explain concepts, and express main information and opinions related to the topic;</li> </ol>

Table 1.1 (Continued)

Level	Content Requirements
	5. Learn and use about 600 words to communicate and express around related topics (see appendix 3). In addition, you can contact and learn 100~300 words within related topics according to the actual situation, as well as a certain number of idioms or fixed collocations.

**Artificial Intelligence (AI):** AI refers to technology that simulates human intelligence processes, capable of performing tasks such as learning, reasoning, problem-solving, perception, and language understanding. Applications of AI in education include personalized learning path recommendations, automated grading and feedback, and virtual tutoring (Chen & Wu, 2023; Liu, 2022).

**AI Tools:** In this study, AI tools (Talk Berry) refer to various AI technologies used in language teaching, such as language learning applications. These tools use speech recognition technology to evaluate students' pronunciation, provide personalized learning feedback through intelligent algorithms, and enhance students' speaking abilities by simulating real-life conversational scenarios (Johnson & Krajcik, 2021). The use of AI tools aims to enhance students' learning experiences, providing instant feedback and continuous practice opportunities, thereby improving their speaking skills. This study employs the following AI tools.

**Integrating CLT with AI** refers to the instructional approach that combines the principles of Communicative Language Teaching (CLT) with the use of artificial intelligence technology, such as the Talk Berry application, to support and enhance students' English speaking practice. In this approach, classroom activities involve teacher-led speaking practice, pair work, and interactive communication tasks that encourage students to use English meaningfully in real-life contexts. In addition, students engage in conversations with an AI tutor through the Talk Berry application, which provides real-time feedback on pronunciation, grammar, and vocabulary usage.

This integration allows students to practice speaking more frequently, receive immediate feedback, and develop greater fluency, accuracy, and confidence in English communication both inside and outside the classroom.

**Satisfaction** refers to the students' pleasant feeling that they get when they study in class which focuses on two dimensions: classroom activities and AI tools and learning outcomes.

**Students** refer to the students Grade 6 who studied PEP English Course academe year 2025.

**Primary School** refers to Nation Primary School that is a Government School located in Yunnan Province.

## Conceptual Framework

The conceptual framework of this study illustrates the hypothesized causal relationship between an integrated instructional model—Communicative Language Teaching (CLT) combined with Artificial Intelligence (AI)—and the enhancement of Grade 6 students' English speaking in national primary schools in Yunnan Province. The independent variable (CLT+AI) is operationalized as a communication-driven instructional strategy in which students engage in meaning-focused tasks (e.g., pair work, role-play, interviews, and situational dialogues) supported by AI tools such as automatic speech recognition, interactive speaking simulations, and real-time feedback that increase opportunities for repeated oral practice and individualized support.

To strengthen the CLT grounding of the framework, teacher and learner roles are explicitly specified. In line with contemporary CLT/TBLT perspectives, teachers function primarily as facilitators who design meaningful communicative situations, organize interaction through grouping and task sequencing (from more controlled to freer practice), monitor learners' language use during communication, and provide feedback after interaction with an initial emphasis on meaning before form. Learners function as active communicators, participating in authentic peer interaction,

negotiating meaning, taking risks in language production, and assuming greater responsibility for task completion and language choices.

The dependent variable is students' English speaking performance, conceptualized as a curriculum-aligned construct that includes fluency, pronunciation/comprehensibility, accuracy, and communicative confidence. Importantly, the expected learning outcomes are anchored in the English Curriculum Standards for Compulsory Education (2022 Edition), which emphasize competence-oriented communication and require learners (at the relevant level) to use vocabulary and language resources appropriately in context to express main information and ideas related to a topic.

The framework assumes that the CLT+AI model improves speaking outcomes through key learning mechanisms: (a) increased meaningful speaking opportunities and peer interaction; (b) more individualized practice and immediate feedback enabled by AI; and (c) reduced speaking anxiety and improved willingness to communicate due to supportive interaction and lower performance pressure.

In addition to speaking performance, learner satisfaction is conceptualized as students' overall perceived evaluation of the CLT+AI instructional intervention. In this study, satisfaction is reflected in three key aspects: (a) students' satisfaction with the design and implementation of classroom communicative activities, (b) students' satisfaction with the usability and support provided by AI-based tools during speaking practice, and (c) students' perceived learning outcomes, such as perceived improvement in speaking ability, confidence, and engagement. It is hypothesized that the CLT+AI model can enhance learner satisfaction by increasing meaningful interaction, providing timely support and feedback, and enabling learners to perceive clearer progress in their speaking development.

Overall, this conceptualization underpins the study's investigation into how an integrated CLT+AI approach can address limitations in traditional English instruction and support speaking development in under-resourced educational contexts.

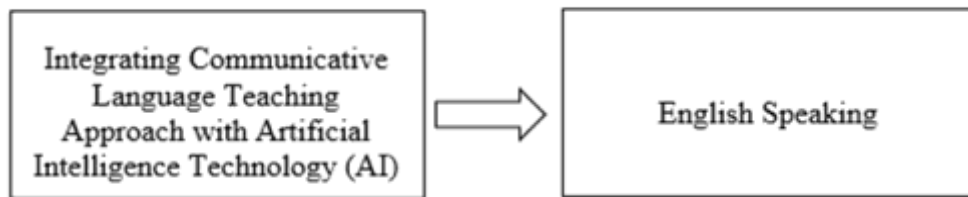


Figure 1.1 Conceptual Framework

## Chapter 2

### Literature Review

The literature review in this study aims to provide a comprehensive overview of the existing research and theoretical frameworks related to the integration of Communicative Language Teaching (CLT) and Artificial Intelligence (AI) in the context of improving English speaking among primary school students in Yunnan Province. This section serves to:

**Establish the Theoretical Foundation:** By reviewing relevant theories and models, the literature review lays the groundwork for understanding the principles and practices of CLT and AI in language education. It highlights how these approaches can be effectively combined to enhance language learning outcomes.

**Identify Research Gaps:** Through a thorough examination of existing studies, the review identifies gaps and limitations in current research. This helps to justify the need for further investigation and provides a rationale for the specific focus of this study.

**Contextualize the Study:** The review situates the research within the broader context of educational practices in Yunnan Province and globally. It discusses the unique challenges faced by students and teachers in resource-limited regions and how AI can be leveraged to address these challenges.

**Inform Methodological Choices:** Insights from the literature review inform the methodological choices made in this study. It provides evidence-based strategies for implementing CLT and AI in the classroom and offers guidance on how to measure and evaluate the effectiveness of these approaches.

**Support the Research Objectives:** By summarizing key findings from previous studies, the literature review supports the research objectives and questions outlined in this thesis. It demonstrates the potential benefits of integrating CLT and AI and sets the stage for the empirical investigation that follows.

The literature review is structured into several sections, each addressing a specific aspect of the research topic:

Implementation of the PEP English Curriculum: This section examines the current state of the PEP English Curriculum in national primary schools, highlighting its objectives, content, and implementation challenges.

Communicative Language Teaching (CLT) and Its Application: Here, the core principles and practical applications of CLT are discussed, emphasizing its role in promoting interactive and communicative language use.

Artificial Intelligence (AI) in Language Education: This part explores the role of AI in enhancing language teaching and learning, focusing on its potential to provide personalized learning experiences and support CLT practices.

The Importance of Speaking Communication: The significance of English speaking in primary school English education is highlighted, along with common challenges and effective strategies for improvement.

Related Research: Finally, the review summarizes existing research on the integration of CLT and AI, both in China and internationally, and discusses the specific context of Yunnan Province.

By synthesizing these areas of research, the literature review provides a robust framework for understanding the theoretical and practical dimensions of the study. It sets the stage for the detailed investigation that follows, aiming to contribute new insights and practical solutions to the field of language education.

## **Implementation of the PEP English Curriculum in National Primary Schools**

### **Introduction to the PEP English Curriculum**

The PEP English Curriculum (People's Education Press English) is a nationally recognized English textbook used in primary schools across China. Compiled and published by the People's Education Press, it serves as the core English curriculum resource for primary education, covering all grades from third to sixth. Since the Ministry of Education of the People's Republic of China introduced English as a compulsory course in primary schools in 2001, the PEP English textbook has become the standard material in most schools. This curriculum not only aims to impart

linguistic knowledge but also focuses on improving students' language application skills and intercultural communication abilities by designing authentic learning contexts and incorporating diverse cultural content (Tang, 2022).

The choice of the PEP textbook as the foundation for research is based on its advantages of standardization and widespread usage. As a nationally endorsed curriculum, the PEP textbook is developed under the guidance of the Ministry of Education, with content that aligns closely with the National English Curriculum Standards. This ensures consistency with national educational goals. Such standardization guarantees the textbook's quality and provides a uniform basis for researchers to evaluate teaching outcomes and student performance across the country (Wang, Weng, & Li, 2020). The extensive use of this textbook offers researchers abundant data, enabling them to analyze both the strengths and challenges in English teaching.

Additionally, the PEP curriculum emphasizes students' language application abilities, with its design rooted in the Communicative Language Teaching (CLT) approach. This method aims to help students master language skills by engaging them in real-life communication contexts. The textbook combines rich vocabulary and grammar knowledge with contextualized dialogues and narratives, encouraging students to apply language in actual communication. For instance, the "Story Time" section includes vivid stories and illustrations that help students practice speaking in authentic language environments. This task-based design aligns with modern language learning trends, which emphasize the practical use of language through tasks and interactive activities, rather than simply memorizing grammar rules (Dandan, 2021; Zou, 2023). Such an approach not only enhances students' speaking abilities but also strengthens their long-term retention and understanding of the language.

Moreover, the PEP curriculum incorporates cultural components to foster students' intercultural communication skills. These cultural elements cover not only holidays and daily life in English-speaking countries but also the use of language in different cultural contexts. Through this approach, students develop intercultural

awareness while learning English, which broadens their global perspectives (Tang, 2022). Zou's (2023) research indicates that the intercultural content in the PEP curriculum helps improve students' language proficiency and cultural sensitivity, preparing them for future international exchanges. In today's globalized world, fostering intercultural communication skills has become one of the essential goals of language education.

The PEP curriculum not only provides students with a rich array of language learning resources but also offers valuable data for researchers. For example, Hu et al. (2024) found that students' foreign language anxiety is closely related to their oral expression abilities when learning through the PEP curriculum. This insight informs the optimization of teaching design. Furthermore, research suggests that integrating Task-Based Language Teaching (TBLT) with the PEP curriculum effectively enhances classroom interaction, increases student engagement, and improves their language application abilities (Li & Thomas, 2023). Therefore, while the PEP curriculum enhances students' language skills, it also offers a foundation for researchers to explore teaching effectiveness and improvement strategies.

The selection of the PEP curriculum as a research foundation is justified not only by its status as a standardized textbook widely used in China's primary English education but also because it reflects national expectations for the future of English education. By conducting research on the PEP course, scholars can gain a deeper understanding of current issues in primary English education, such as how to effectively improve students' oral expression and intercultural communication skills. The curriculum's structure and content also provide theoretical support for further exploration and improvement in primary English education, making educational reforms more evidence-based.

### **Course Objectives and Content of PEP**

In terms of course objectives and content, the PEP curriculum is designed to help students master and apply English language skills, particularly in oral communication and intercultural exchange, by immersing them in authentic learning contexts. The textbook employs a variety of tools, such as images, stories, and

dialogues, to engage students' interest and help them apply linguistic knowledge in real-life communication (as shown in Figure 2.1). Tang (2022) noted that the PEP curriculum not only focuses on imparting linguistic knowledge but also enhances students' language expression and cultural understanding through contextualized design and authentic cultural backgrounds. The primary objective of this design is to guide students in adapting to the demands of intercultural communication, preparing them for future global interactions by exposing them to diverse cultural and social contexts.



**Figure 2.1** Excerpts of Pictures, Stories, and Dialogue Scenes from the PEP Textbook

Additionally, Dandan (2021) further explored the application of the picture book teaching method in the PEP English curriculum. The study points out that picture books, when combined with the performative cultural teaching approach, offer rich imagery and story-based contexts, allowing students to engage in language practice within specific scenarios (as illustrated in Figure 2.2). The research indicates

that this teaching method not only increases students' interest in reading but also significantly enhances their language expression skills. By incorporating performance and interaction, students can use English in a fun and engaging learning environment, thereby increasing both the effectiveness and the appeal of language learning.

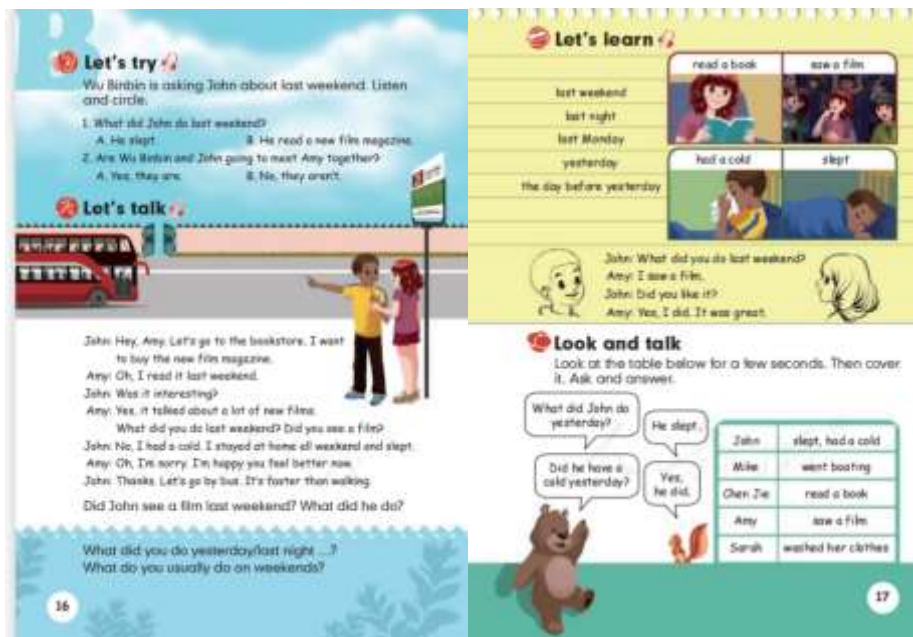


Figure 2.2 Application of Picture Book Teaching Methods in the PEP English Curriculum

Although the PEP curriculum has achieved significant success in vocabulary instruction, Jian (2022) suggests that to further enhance students' oral expression abilities, it is still necessary to integrate more interactive tasks and activities that enable students to apply the language in real communicative situations. Moving forward, future curriculum designs should focus more on providing opportunities for oral practice through Task-Based Language Teaching (TBLT), thereby improving students' language application skills and boosting their confidence in communication.

From a multilingual education perspective, Zou (2023) further argues that the PEP curriculum should not only focus on teaching language skills but also consider students' socio-cultural backgrounds and practical needs. This approach will better prepare them for effective intercultural communication within the context of globalization. The development of intercultural communication skills is of great significance for students' future growth. Therefore, curriculum design must go beyond simply imparting linguistic knowledge and take into account cultural contexts and international demands, ensuring that students can navigate future global exchanges with ease.

In summary, the PEP English curriculum seeks to enhance students' speaking expression and intercultural communication skills through multiple approaches, including contextualized teaching, the incorporation of picture books, and interactive tasks. These educational objectives not only meet students' needs for language acquisition but also build their confidence and ability to use language in practical situations. By aligning with global cultural developments, the PEP curriculum provides students with a well-rounded language learning platform, equipping them to handle the challenges of intercultural communication in the future.

### **Challenges in Implementation of PEP**

Although the PEP English curriculum provides students with a structured framework for learning English and ample opportunities for speaking practice, there are several challenges encountered during its implementation. These challenges primarily relate to teachers' instructional methods, insufficient classroom interaction, students' learning anxiety, and limited teaching resources. These issues not only hinder the development of student's English speaking but also limit the comprehensive and effective implementation of the curriculum.

First, the lack of variety in teaching methods is a common problem. Wang, Weng, and Li (2020) highlight that many English teachers in Chinese primary schools continue to rely on traditional teacher-centered approaches, where classroom instruction is dominated by teacher-led explanations, and student participation remains minimal. This approach, which focuses on lecture-based teaching, limits

student interaction, leaving them in a passive role. In particular, students have few opportunities to engage in authentic speaking practice and dialogue. While this method may be effective in teaching grammar and vocabulary, it falls short in promoting speaking proficiency, which requires more interactive and practical application (Wang, Weng, & Li, 2020). Research indicates that a lack of interaction in teaching methods makes it difficult to stimulate students' interest and motivation, especially in the context of real-life oral communication, where participation is essential for improvement.

Secondly, the relationship between teaching methods and foreign language anxiety is another important issue. Hu, Zhang, and McGeown (2024) found that many students experience significant anxiety, particularly during oral expression, which negatively impacts their performance. Due to a lack of confidence, students are often hesitant to actively participate in oral activities for fear of making mistakes. This anxiety not only affects their performance but also has a detrimental effect on their overall attitude towards learning. Studies have shown that interactive and supportive classroom environments can help reduce students' foreign language anxiety, enabling them to express themselves more confidently. However, traditional teacher-centered approaches often lack this supportive element, leading to unresolved anxiety issues in the classroom (Hu, Zhang, & McGeown, 2024).

To address this issue, Task-Based Language Teaching (TBLT) has been identified as an effective alternative. Li and Thomas (2023) suggest that TBLT, by incorporating authentic language tasks, engages students in completing tasks in real-world contexts, thereby increasing their participation and language application skills. TBLT not only offers more opportunities for oral practice but also reduces students' fear of making mistakes through its task-driven learning approach, which helps alleviate foreign language anxiety. However, research indicates that many teachers lack a deep understanding of TBLT and struggle to implement it effectively in the classroom. This underscores the importance of providing teachers with appropriate training and support, particularly in integrating task-based approaches into practical teaching (Li & Thomas, 2023).

The lack of teacher training is another critical factor contributing to the suboptimal implementation of innovative teaching methods. Luo et al. (2020) found that many primary school teachers encounter difficulties when adopting new teaching methods due to insufficient training and inadequate resource support. Professional development opportunities for teachers are limited, making it challenging for them to keep up with the latest pedagogical strategies, especially in the area of oral language instruction. Consequently, teachers tend to revert to traditional methods in practice, which hinders the effective application of new approaches (Luo et al., 2020). Therefore, improving the teacher training system and providing more professional development opportunities, particularly in the use of interactive and student-centered teaching methods, is essential to overcoming this issue.

Moreover, the lack of classroom interaction is another limiting factor. Yang and Chen (2020) suggest that the Flipped Classroom model can significantly improve classroom interaction by providing students with more opportunities to participate. By preparing before class and engaging in task-based activities during class, students can become more active participants in classroom interactions, especially in oral practice. However, many schools face challenges in effectively implementing this model due to limited resources and technological infrastructure. In some regions, insufficient access to educational technology prevents teachers from fully utilizing interactive teaching methods, which further limits classroom interaction and student engagement (Yang & Chen, 2020).

In summary, the implementation of the PEP English curriculum faces multiple challenges, including the lack of variety in teaching methods, insufficient classroom interaction, students' foreign language anxiety, and limitations in teacher training and resources. To effectively address these issues, teachers need more training and support to help them master interactive teaching methods, especially Task-Based Language Teaching (TBLT). Additionally, improving the classroom environment, increasing opportunities for interaction, and reducing students' anxiety are key to enhancing their English speaking. Strengthening professional development for

teachers, improving the allocation of teaching resources, and promoting the use of innovative teaching methods can provide the necessary support to ensure the successful implementation of the PEP curriculum.

#### **Integration of the PEP English Curriculum with CLT:**

The PEP English curriculum provides foundational opportunities for language practice, especially in grammar and vocabulary, for students in Chinese primary schools. However, the curriculum design lacks sufficient interaction and practical language application, particularly in English speaking expression. In contrast, Communicative Language Teaching (CLT) centers on tasks and authentic communication, emphasizing the improvement of students' language use through interaction and task-based activities. Integrating CLT with the PEP curriculum thus becomes an effective approach to addressing current teaching challenges and bridging gaps in oral practice and classroom interaction.

##### **1) Characteristics and Potential of CLT**

The core of Communicative Language Teaching (CLT) lies in promoting language learning through tasks and authentic communicative scenarios, focusing on the practical use of language in real-life contexts rather than on mere accumulation of grammar and vocabulary. Zhang and Adamson (2019) argue that CLT is particularly well-suited to complement the PEP curriculum, especially in the area of oral language instruction. The PEP curriculum's oral training heavily relies on written exercises and teacher-led instruction, whereas CLT can introduce authentic dialogue scenarios and task-based activities, providing students with more opportunities to use language in real situations. This enhances their engagement and practical language application skills (Zhang & Adamson, 2019). Through CLT, teachers can design role-playing activities, simulated dialogues, and other interactive tasks that allow students to practice speaking in real-life contexts, thereby fostering their English speaking.

However, despite the theoretical potential of CLT, its implementation in Chinese primary schools still faces significant challenges. Luo et al. (2020) found that while many teachers recognize the advantages of CLT, they often struggle to implement it effectively due to insufficient understanding of communicative teaching

methods. In addition, limited teaching resources and ingrained traditional teaching models further hinder the adoption of CLT, making it difficult for teachers to design interactive, task-based activities. As a result, CLT often fails to achieve its full potential in practical classroom settings (Luo et al., 2020).

### 2) Integration of CLT with the PEP Curriculum

Integrating CLT with the PEP curriculum, particularly in oral training, can offer students more opportunities for practical language use. Xiao and Zheng (2021) propose that by incorporating activity-based teaching methods into the PEP curriculum, students can practice speaking in authentic language contexts. This teaching approach enhances classroom interaction through group activities, games, and other forms of task-based learning, allowing students to acquire language skills in a relaxed environment. This informal atmosphere not only increases students' interest in learning but also improves their oral expression and practical language application by simulating real-world communication scenarios (Xiao & Zheng, 2021).

Furthermore, Yang and Chen (2020) suggest that the Flipped Classroom Approach can further strengthen the integration of CLT with the PEP curriculum. In this approach, students learn foundational knowledge independently before class, allowing more classroom time to focus on interactive communication and task-based activities. This teaching model compensates for the PEP curriculum's shortcomings, particularly in oral practice. By mastering vocabulary and grammar through pre-class self-study, students can devote classroom time to task-based activities and oral communication, thereby significantly improving their speaking skills (Yang & Chen, 2020). This combination allows students to apply language in authentic scenarios, moving beyond theoretical knowledge and written exercises.

### 3) Alignment of CLT with Student Needs

At the primary school level, where cognitive development is still ongoing, students are more likely to grasp language knowledge through interactive and contextualized learning activities. Compared to traditional grammar instruction, CLT offers a learning model that is more suited to young learners. Luo et al. (2020) emphasize that task-based activities and interactive learning environments stimulate

students' interest in language learning, allowing them to express themselves naturally in a supportive environment. Through authentic communicative scenarios, students can internalize the language knowledge they acquire, which positively impacts their long-term language development.

However, there remain significant challenges in implementing CLT in primary schools. Li and Thomas (2023) note that although Task-Based Language Teaching (TBLT) has shown great potential in improving student engagement and oral proficiency, many teachers lack the training needed to design and implement effective task-based activities. This limits the practical application of CLT, with much classroom teaching still centered around traditional grammar and vocabulary instruction. Therefore, improving teachers' understanding of CLT and providing them with the necessary teaching resources and training are crucial for the effective implementation of CLT (Li & Thomas, 2023).

#### 4) Current Challenges and Future Improvements

Although CLT and the PEP curriculum complement each other in theory, numerous challenges remain in the practical application of CLT in Chinese primary schools. First, teachers' understanding and application of CLT are still inadequate. Many teachers continue to rely on traditional, teacher-centered instruction with limited student interaction (Luo et al., 2020). Second, due to limited teaching resources, particularly in remote areas, schools often lack the necessary equipment and tools to support interactive and communicative activities. Moreover, the exam-oriented education system in China leads teachers to focus primarily on teaching grammar and vocabulary, often neglecting the development of students' oral communication skills (Zhang & Adamson, 2019).

Hu et al. (2024) also highlight that foreign language anxiety is a common issue among primary school students in China, particularly during oral expression. Many students experience a lack of confidence and fear of making mistakes in classrooms that lack interaction and real communication opportunities. This anxiety discourages students from participating in oral activities, further limiting their language development. Introducing CLT can help create a more supportive learning

environment, reducing students' anxiety and increasing their active participation in class (Hu, Zhang, & McGeown, 2024).

#### 5) Future Directions and Recommendations

To effectively integrate CLT with the PEP curriculum, teacher training and support are essential. Luo et al. (2020) emphasize that teachers need to learn not only how to design task-based activities but also how to guide students in meaningful classroom interactions. In addition, policymakers should provide more resources and training opportunities, such as developing teaching materials suited to CLT and offering professional development focused on classroom management and interactive lesson design. With this support, teachers can confidently apply CLT in their classrooms, improving both teaching outcomes and student engagement.

In conclusion, integrating the communicative tasks of CLT with the PEP curriculum can enhance students' oral expression, increase classroom interaction, and boost student engagement. By using task-based and contextualized communication activities, students can not only acquire language knowledge but also apply it effectively in real-life situations. Providing stronger teacher training and resource support can overcome current challenges, offering more efficient solutions for primary English education.

## **Communicative Language Teaching (CLT)**

The Core Concepts of CLT and Its Integration with Modern Technology

### 1) CLT Approach: Interactive Tasks and Student-Centered Teaching.

Communicative Language Teaching (CLT) emphasizes the enhancement of students' language abilities through authentic communicative tasks, particularly in English speaking. Unlike traditional grammar-translation methods, CLT focuses on allowing students to practice language in real contexts, thereby improving their fluency and confidence. Richards and Rodgers (2014) explain that the core of CLT lies in the functional use of language, where students learn to use it in real-life situations by completing tasks (Qasserras, 2023). For instance, teachers can design activities

such as role-playing, group discussions, and collaborative projects to facilitate language acquisition through interaction.

The CLT approach is particularly well-suited to young learners in primary schools because it reduces the pressure of learning through interactive tasks, thereby increasing students' interest and participation. Adem and Berkessa (2022) found that student-centered teaching tasks enable teachers to guide students in language learning within a relaxed environment, making them more confident in expressing themselves. Furthermore, task-based activities such as situational simulations and group collaboration are effective in helping primary school students apply their language knowledge in real-life communication settings (Pitikornpuangpetch & Suwanarak, 2021).

## 2) AI Language Learning Applications:

### Personalized Feedback and Enhanced Interaction

Recent advances in Artificial Intelligence (AI) technology have provided new tools for the implementation of CLT. AI language learning applications enhance students' learning outcomes by offering immediate feedback and promoting interaction, particularly in speaking and listening. For example, AI-driven speech recognition software can correct students' pronunciation errors in real time, helping them improve both fluency and accuracy during practice (Yan, 2023). This technology not only extends practice opportunities beyond the traditional classroom but also delivers personalized learning feedback tailored to each student's progress.

AI technology also enhances flexibility in language learning by supporting mobile applications and online platforms. These Mobile-Assisted Language Learning (MALL) systems offer continuous support for students during independent study, thereby increasing the flexibility of learning. Jiang et al. (2021) demonstrated that AI technology significantly improved students' linguistic complexity in flipped classrooms, particularly in speaking. By using AI-supported learning applications, students can receive real-time feedback on their speech, suggestions for vocabulary use, and grammar corrections. These technological tools make the implementation

of CLT more effective by fostering interactive language practice. In this study, the AI tool is Talk Berry application. Here is the function:

1) Diversified target languages.

We have added British pronunciation, Korean, and Spanish to the target language, allowing you to better understand the language and culture of different regions while practicing speaking!

2) 4 interesting AI role-playing games.

In order to make your practice process livelier and more interesting, we have added four AI role-playing games: psychologist, Buddha, Little Berry (suitable for children's scenarios), and Lion King.

Whether adults, students, or children, they can find the most suitable AI character partners on TalkBerry.

AI-Assisted Speaking Practice in the class

Introduction to Talk Berry:

The teacher demonstrates how to use the Talk Berry application by selecting a virtual tutor and engaging in a basic conversation.

Student Practice with AI Tutor:

Students are asked to log into the Talk Berry application on their devices.

Each student selects a virtual tutor and begins a conversation using the day's vocabulary and sentence structures.

The AI tutor provides real-time feedback on pronunciation, grammar, and vocabulary usage. For example:

If a student mispronounces a word, the AI tutor will highlight the error and provide the correct pronunciation.

If a student struggles to find the right word, the AI tutor will suggest appropriate vocabulary.

Students are encouraged to engage in a 5–10-minute conversation with the AI tutor, focusing on fluency and accuracy.

Peer Observation and Feedback:

After practicing with the AI tutor, students return to their pairs.

Each student shares their experience with their partner, discussing any feedback they received from the AI tutor.

Partners provide additional feedback and encouragement, focusing on areas of improvement.

Specific Strategies Suitable for Primary School English Teaching:

In primary school English classrooms, Communicative Language Teaching (CLT) offers a variety of interactive teaching strategies that simulate real communication scenarios. These strategies help students enhance their language application skills by emphasizing the practical use of language rather than focusing solely on memorizing grammar rules. The goal is to help students acquire language naturally in meaningful contexts through interaction, cooperation, and task-based activities, thus increasing their fluency and confidence.

Task-Based Learning (TBLT) is an integral part of CLT. By designing tasks based on real-life situations, students are required to use language to solve problems rather than simply completing textbook exercises. Pitikornpuangpetch and Suwanarak (2021) suggested that engaging students in tasks provides a meaningful learning environment where language skills are naturally improved through interaction. These tasks often include information gap activities, group projects, and role-play. By completing these tasks, students not only gain language knowledge but also develop critical thinking and problem-solving skills. In the primary school context, task-based learning effectively stimulates students' interest, helping them maintain motivation in language learning over time.

Role-playing is another common activity in CLT classrooms. By assigning students different roles and simulating daily conversational scenarios, role-play allows students to practice their speaking skills in a controlled and supportive classroom environment. Hassan et al. (2021) found that role-play activities not only improve students' fluency but also boost their confidence, as they can practice new vocabulary and grammar in realistic situations. These activities provide a more

authentic communication environment, where students can apply practical language skills and deepen their understanding of cultural contexts (Luo et al., 2020).

Group discussions and collaborative learning are core strategies within CLT. Through collaboration and discussion, students become more actively engaged in classroom interactions and learn new ways to express themselves from their peers. Group discussions also enable students to adapt their language use in various communication contexts, helping them apply language skills in diverse settings. Pitikornpuangpetch and Suwanarak (2021) emphasized that collaborative learning fosters teamwork while providing more opportunities for oral practice, which is crucial for developing confident speakers.

Information gap activities are another commonly used strategy in CLT. These activities require students to exchange information to complete a task, encouraging communication and deepening their understanding of vocabulary and grammar. Through asking questions and providing explanations, students strengthen their communication skills and improve both their language accuracy and fluency.

In summary, CLT offers a wide range of interactive teaching strategies for primary school English instruction. By incorporating task-based activities, role-playing, and group discussions, students not only enhance their language abilities but also develop teamwork and problem-solving skills. These strategies encourage students to use language in practical contexts, thus improving their overall learning outcomes.

#### Integration of AI Technology with CLT:

With the rapid advancement of Artificial Intelligence (AI) technology, new possibilities have emerged for the application of CLT. Integrating AI with CLT not only enhances classroom interaction but also provides personalized learning support through customized feedback and speech recognition technology. This combination is particularly effective for improving students' speaking skills and intercultural communication.

AI-driven speech recognition technology plays a pivotal role in CLT classrooms. This technology can instantly capture students' speech and provide personalized feedback on pronunciation, grammar, and intonation. By correcting

pronunciation errors and helping students improve fluency, AI enables more effective language practice. Xia et al. (2024) noted that AI technology simulates real communicative scenarios through interactive dialogue systems, allowing students to practice language in a more natural setting. For instance, AI-driven speech recognition tools provide immediate feedback on pronunciation, enabling students to make gradual improvements without feeling frustrated by mistakes.

Virtual language tutors are another important AI application. These tutors, powered by AI-based dialogue systems, provide personalized speaking practice for students. Virtual tutors simulate various roles, guiding students through conversations in different contexts. Shoukat et al. (2024) explained that virtual tutors offer real-time feedback and simulate diverse communicative scenarios, enhancing students' intercultural communication skills (Luo et al., 2020). Virtual language tutors provide 24/7 support, allowing students to practice language anytime and anywhere, thus greatly increasing learning flexibility and autonomy.

In addition, AI technology can assist teachers by analyzing students' progress through data-driven insights. By examining learning behaviors, AI systems can offer detailed information about students' progress and help teachers design more personalized lesson plans. AI can identify students' weaknesses in speaking or grammar, providing targeted teaching strategies to improve classroom instruction. Shoukat et al. (2024) emphasized that AI, through its personalized feedback systems, helps students improve fluency while providing teachers with actionable data to enhance teaching effectiveness.

AI-driven chatbots are another tool that enhances classroom interaction. Chatbots engage students in simulated conversations, allowing them to practice language in informal, low-pressure settings. Unlike traditional classroom exercises, chatbots create a non-judgmental environment where students can express themselves freely without fear of making mistakes. This helps reduce language anxiety and increases student participation. Research by Luo et al. (2020) showed that AI-driven chat-bots are effective in lowering students' anxiety during speaking practice, allowing for more natural conversations and improved communication.

In conclusion, the integration of AI technology with CLT improves language learning by offering personalized feedback and fostering classroom interaction through tools like virtual language tutors and AI-driven chatbots. This combination effectively reduces students' anxiety and allows them to practice language in authentic contexts, resulting in improved learning outcomes. As AI technology continues to advance, it is expected to play an increasingly important role in primary school English education.

### **Artificial Intelligence (AI)**

The rapid development of artificial intelligence (AI) has significantly impacted educational practices, offering transformative opportunities for language instruction. As a branch of computer science, AI enables machines to simulate human intelligence, learn from interactions, and make adaptive decisions (X. Chen et al., 2020). In the context of language education, AI-assisted tools such as intelligent tutoring systems, speech recognition software, and adaptive learning platforms have increasingly been used to support personalized learning and language skill development (Huang & Tan, 2023).

AI has shown particular promise in language learning, especially in improving learners' oral proficiency, vocabulary, grammar, and engagement. For instance, tools like ChatGPT have been applied to provide automated feedback, suggest grammatical corrections, and simulate interactive dialogues, which contribute to learners' speaking performance and writing fluency (Fang et al., 2023; Fitria, 2023). According to Xu et al. (2022), AI tools incorporating speech recognition features enhanced learner interaction and improved spoken language fluency (Xu et al., 2023). Similarly, studies by Ebadi and Amini (2022) demonstrated that AI-supported environments increase learner motivation and engagement, both of which are crucial for sustained oral language development (Ebadi & Amini, 2024).

Several meta-analyses and empirical studies have confirmed the effectiveness of AI in supporting various aspects of second language acquisition. Zheng et al. (2021), in a meta-analysis of 24 studies, found that AI interventions had a more

substantial effect on learning achievement than on learner perception. Junaidi (2020) and El Shazly (2021) further evidenced that AI-assisted speaking tools significantly improved learners' pronunciation, fluency, and confidence in spoken English tasks. In particular, AI applications helped learners engage more actively in speaking activities and reduced their hesitation when participating in oral interactions (Junaidi, 2020; Zheng et al., 2023).

Despite the growing number of studies on AI-assisted language learning, most research has focused on specific skills such as vocabulary (Hsu et al., 2024), grammar (Kim, 2019), or writing (Utami & Winarni, 2023), while relatively fewer studies have examined the holistic impact of AI on young EFL learners' overall oral proficiency, particularly in resource-limited regions such as rural areas in China. Moreover, the integration of AI with communicative approaches, such as the Communicative Language Teaching (CLT) method, remains underexplored.

Given this gap, the present study seeks to investigate the combined effects of CLT and AI in enhancing oral English skills among sixth-grade primary school students in Yunnan Province. This approach not only emphasizes interactive and learner-centered communication, as advocated by CLT, but also leverages the personalized and adaptive features of AI tools to support differentiated oral practice and feedback. The findings of this study aim to contribute to a more nuanced understanding of how technology-enhanced pedagogy can be effectively implemented in under-resourced EFL contexts.

## **The Importance of English Speaking**

### **The Importance of English Speaking in Primary School**

In primary school, English speaking plays a crucial role in students' future academic and professional development. It is not just about acquiring language skills but also providing a vital tool for success in academic, social, and professional settings. Good speaking skills enable students to communicate more effectively with teachers and peers in their daily learning and lay a solid foundation for higher-level academic activities and future career environments. Ibna Seraj and Habil (2021)

highlighted that speaking communication skills are among the most critical for English as a Foreign Language (EFL) learners, especially in a globalized world where proficiency in English speaking helps students adapt to international work environments. This ability supports students in overcoming language barriers and integrating into multicultural and multilingual settings.

Furthermore, Robert and Meenakshi (2022) emphasized that strong speaking proficiency encourages students to actively participate in classroom discussions and gives them a competitive edge in future careers. In international companies, fluency in English allows individuals to confidently express ideas, collaborate with teams, and communicate effectively in cross-border projects. Thus, English speaking proficiency is not only essential for academic success but also a key competency in the global job market.

#### **Common Issues and Solutions:**

Despite the growing importance of English speaking, many students in primary school English classes face challenges in developing their speaking skills. One common issue is a lack of confidence. Many students experience anxiety when speaking in class, fearing mistakes. This leads to low participation and slower progress in oral proficiency. Saragih and Kembaren (2024) found that EFL learners often show significant language anxiety during oral expression due to low confidence, which negatively impacts their learning outcomes.

Artificial Intelligence (AI) offers innovative solutions to these challenges. Zou et al. (2023) explained that AI supports students in oral practice by providing personalized exercises. With AI-driven speech recognition systems, students receive immediate feedback and pronunciation corrections, allowing them to practice speaking with less pressure, reducing anxiety and boosting confidence. AI also offers personalized learning paths based on students' progress, helping them target areas like pronunciation, grammar, and fluency more effectively. Shoukat et al. (2024) found that AI-driven tools, such as simulated dialogues and role-play activities, significantly improve students' speaking abilities in real communication scenarios.

In addition to AI, Task-Based Language Teaching (TBLT) is an effective approach for enhancing speaking proficiency. Sholeh et al. (2021) note that task-based learning incorporating role-play and interactive tasks allows students to practice language in real-world contexts. This method not only increases classroom participation but also builds students' confidence and fluency in speaking communication.

#### **Criteria for Assessing Speaking Proficiency:**

When assessing students' English Speaking, the common criteria include fluency, accuracy, pronunciation, and vocabulary mastery. These criteria help teachers comprehensively evaluate students' strengths and weaknesses in oral expression and tailor improvement plans accordingly.

Fluency refers to how naturally and smoothly students can express their ideas without frequent pauses or repetition. Annisa and Wariyati (2023) argued that fluency is a key indicator of students' language competence and impacts their confidence in real-life communication.

Accuracy focuses on the correct use of grammar and vocabulary. Nurdin (2020) emphasized that accuracy is especially important in formal communication, as mistakes in grammar or vocabulary can affect clarity and comprehension. For young learners, improving grammatical and lexical accuracy is a critical aspect of oral language development.

Pronunciation is another essential factor. Seraj and Habil (2021) noted that AI technologies, such as speech recognition, can assess students' pronunciation and provide instant feedback, helping them improve over time. Xiao and Zheng (2021) also found that task-based activities, combined with pronunciation training, can significantly enhance students' clarity in speech.

Vocabulary mastery is vital for effective oral communication. Shalaby (2023) explained that a strong command of vocabulary directly influences students' ability to express themselves. Regular vocabulary training and task-based activities can significantly improve students' vocabulary knowledge, thereby enhancing their overall oral proficiency.

In summary, English speaking is a fundamental component of primary school English education. Strong speaking skills not only benefit students in their academic performance but also prepare them for future academic and professional challenges. However, students often struggle with confidence and participation in oral practice. The introduction of AI technology provides personalized solutions to these challenges. Additionally, by assessing fluency, accuracy, pronunciation, and vocabulary mastery, teachers can gain a comprehensive understanding of students' speaking abilities and guide them toward improving their language skills.

### **Related Research**

Current Research on CLT and AI in China and International Contexts:

In both domestic and international studies on language teaching, Communicative Language Teaching (CLT) has been widely recognized as an effective method for improving students' communicative abilities. Qasserras (2023), in a systematic review, highlighted that CLT, through task-based learning and contextualized communication activities, effectively enhances students' speaking expression and communicative skills. This method not only increases student engagement but also helps students apply their knowledge in real-world language environments. However, despite its global success, Dos Santos (2020) emphasized that the practical application of CLT often falls short of expectations due to teachers' limited understanding of CLT theory. This issue is particularly pronounced in regions with limited teaching resources, where insufficient teacher training can hinder CLT implementation.

At the same time, Artificial Intelligence (AI) is emerging as a new tool in language education, offering innovative ways to support CLT. Huang et al. (2023) reviewed trends in AI in education and highlighted how AI can complement CLT by using technologies such as speech recognition, natural language processing, and personalized feedback. AI can correct students' pronunciation errors in real time and provide tailored learning paths, offering students additional opportunities for practice outside of traditional classroom settings. Dewi and Setiana (2020) conducted an

empirical study showing that AI-assisted CLT significantly improves students' speaking proficiency, particularly among those who feel pressured in traditional classrooms. These students were able to participate in conversations and complete tasks with more confidence when using AI-assisted systems.

Similarly, Semerikov et al. (2021), through a critical review, analyzed the application of AI in language education and concluded that AI not only enhances students' learning experiences but also equips teachers with advanced tools and feedback mechanisms. Their study emphasized that combining AI with CLT can address the limitations of traditional classroom instruction, particularly in meeting students' individualized learning needs.

Liang et al. (2023), in a systematic review, further explored the role of AI in language education. They highlighted that AI-assisted CLT provides more effective learning pathways, especially in resource-limited regions. The technology offers students increased opportunities for simulated dialogues, real-time feedback, and personalized practice, helping them overcome traditional classroom challenges.

#### Critical Analysis of Existing Studies:

While current research across both Chinese and international contexts generally supports the integration of Communicative Language Teaching (CLT) and Artificial Intelligence (AI) in improving learners' oral English skills, several critical observations emerge. First, although many studies have emphasized the potential of AI-enhanced CLT to support learner engagement and oral performance, most of these findings are based on short-term experimental conditions (Javaid, 2024). There remains a lack of empirical evidence on long-term retention, real-world language transfer, and sustained communicative development.

Second, research in Chinese educational contexts, while increasingly adopting AI tools, often emphasizes technical functionality—such as automated feedback or pronunciation assessment—yet gives limited attention to whether these tools are integrated meaningfully within authentic, communicative classroom tasks, which is the essence of CLT. Conversely, as highlighted in broader literature reviews, international studies tend to examine both pedagogical and cultural dimensions,

such as the importance of teacher training, learner autonomy, and affective filters in successfully integrating AI with communicative tasks (L. Chen et al., 2020).

Moreover, while many studies report positive student outcomes, few critically reflect on the risks of overreliance on AI, including reduced peer-to-peer interaction, diminished teacher-student rapport, or learners' uncritical trust in machine-generated feedback. These issues are especially pertinent in low-resource or rural settings, where teacher preparedness and digital literacy may be insufficient to support meaningful implementation (Alharbi, 2021).

Finally, a persistent gap in the literature is the lack of comparative studies between traditional CLT classrooms and AI-enhanced CLT approaches. Without controlled comparisons, it remains unclear whether observed learning gains are due to communicative pedagogy, the novelty of AI, or the synergy of both. This research gap justifies the present study's focus on empirically testing the integrated effects of AI and CLT in the context of primary school oral English instruction in Yunnan Province, where technological constraints and instructional limitations are prominent concerns (Adem & Berkessa, 2022).

#### The Specific Context of Yunnan Province:

Yunnan Province, as a region with a high concentration of ethnic minorities, faces unique educational challenges compared to other parts of China. Ai (2024) noted that ethnic minority students in Yunnan encounter dual language transfer issues, as they must learn both Mandarin and English, which adds complexity to their language learning process. Moreover, a lack of teaching resources, outdated equipment, and inadequate infrastructure have resulted in lower levels of English language teaching effectiveness in Yunnan.

In this context, AI-assisted CLT offers a promising solution for language education. Crompton et al. (2024) argued that the introduction of AI technology allows teachers to remotely manage courses and use AI systems to provide real-time feedback, addressing the shortage of teachers and insufficient teaching resources. Similarly, Yang and Kyun (2022) reviewed the literature on AI in education and

concluded that AI can support student learning without the need for direct teacher supervision, particularly in developing speaking and listening skills.

In Yunnan's ethnic minority regions, AI-assisted CLT has distinct advantages. AI technology provides personalized learning support, reducing the pressure and anxiety students typically experience in language learning. Wang (2022) explored the use of AI-assisted teaching in remote areas and found that AI not only increases students' motivation to learn but also helps them improve fundamental English skills, particularly pronunciation and grammar accuracy.

In summary, this research introduces an innovative approach by integrating CLT with AI technology, particularly in resource-constrained regions like Yunnan Province. Unlike previous studies, this research not only explores how AI can be introduced in areas with limited resources but also proposes a model for remote teacher support through AI technology, helping to address teacher shortages. Chang and Wang (2024) demonstrated that by applying the CIPP model, AI-supported language teaching can significantly improve teaching quality and provide more learning opportunities for students in remote regions.

Additionally, this study provides empirical data on how AI technology can be implemented in Yunnan Province to address the specific challenges faced by ethnic minority students in learning languages. Zhang (2024) emphasized that AI technology, through virtual dialogue systems, enhances students' oral proficiency by providing real-time feedback, effectively alleviating the bottlenecks in language learning that are often present in traditional teaching methods.

In conclusion, this research fills a gap in the existing literature by exploring the feasibility of promoting AI-supported CLT in resource-limited areas such as Yunnan Province. It provides theoretical foundations and practical insights for educational reform in similar regions.

# Chapter 3

## Research Method

This study employed a pre-experimental one-group pretest–posttest design. One intact class was randomly selected from four available classes using random sampling. The same group of participants was assessed before and after the instructional intervention. However, participants were not randomly assigned to experimental and control groups, and no control or comparison group was included. The researcher followed the steps outlined below:

1. Population and Sample
2. Research Tools
3. Data Collection Methods
4. Data Analysis Methods

### Population and Sample

#### Population

The research population of this study were Grade 6 students from a national primary school in Yunnan Province, all of whom are enrolled in the PEP English curriculum for the 2024 academic year. These students received the same standardized English instruction as part of the national curriculum, ensuring consistency in their learning background and exposure to language education. A total of 145 students participated in the study, all of whom were taught using the Communicative Language Teaching (CLT) approach combined with AI technology.

Within this group, students shared a common classroom environment and curriculum structure, but their English proficiency levels vary, ranging from beginners with limited oral fluency to more proficient speakers. Despite these differences, all students experienced the same instructional methods, materials, and learning objectives, allowing for a controlled evaluation of the effectiveness of AI-assisted CLT strategies in enhancing English speaking skill.

### Sample

Cluster random sampling was adopted to select one intact Grade 6 class from four available classes. This method was considered appropriate because students were already organized into intact classes, and random selection at the individual level was not feasible in the school setting.

The sample was Class 2, consisting of 35 mix level students, received instruction through the CLT approach combined with AI technology.

### Research Tools

This study utilized the following research tools to support the implementation of the instructional intervention and the collection of data, in order to evaluate the effects of integrating the Communicative Language Teaching (CLT) approach with Artificial Intelligence (AI) on Grade 6 students' English speaking in National Primary School.

#### 1. The 4 Lesson Plans

Four lesson plans were developed to operationalize the CLT+AI intervention in a consistent and replicable manner. The lesson plans were based on the PEP English textbook for Grade 6 (People's Education Press) used in the school and specified the exact teaching content implemented during the intervention period. Each lesson plan clearly stated (a) the unit/topic and targeted language focus (e.g., key vocabulary and sentence patterns required in the unit), (b) CLT-based communicative procedures (e.g., pair work, role-play, interview-style interaction, and situational dialogues), (c) the integration of AI-supported speaking practice (e.g., AI role-play or interactive speaking simulation with immediate feedback), and (d) the teacher and learner roles in accordance with CLT principles (teacher as facilitator/organizer/monitor and students as active communicators in peer interaction). This ensured that the intervention was theoretically grounded in CLT and systematically supported by AI tools rather than being merely activity-based or technology-driven.

## 2. Speaking tasks

Pre- post speaking tasks were administered to the same group of participants before and after the CLT+AI intervention. These tests were used to measure changes in students' English speaking performance, which served as the dependent variable of the study. To ensure alignment with the study's operational definition of English speaking, the speaking tests assessed key components of oral performance, including fluency, pronunciation/comprehensibility, accuracy, and communicative confidence. A consistent scoring rubric and rating procedure were applied across both tests to ensure comparability between pre-intervention and post-intervention performance. The pre-test established the baseline speaking level of the sample, while the post-test provided evidence of any measurable change following the intervention, which is consistent with the one-group pretest–posttest research design

## 3. Questionnaire

A structured questionnaire was used to collect participants' background characteristics and perceptions that are closely related to the CLT+AI intervention. In addition to basic demographic information, the questionnaire included background items that help contextualize the findings and reduce concerns about potential confounding variables. These items covered students' (a) interactive English learning engagement (e.g., frequency of pair/group speaking practice), (b) self-assessed speaking proficiency, (c) access to digital devices and learning conditions (e.g., availability of student pads or smartphones for learning), and (d) prior experience using AI tools for English learning.

In line with the study's research objectives, the questionnaire also measured learner satisfaction as students' perceived evaluation of the CLT+AI intervention. Satisfaction was assessed across dimensions directly related to the instructional implementation and outcomes, including (a) satisfaction with classroom communicative activities, (b) satisfaction with AI tools and their usability/support during speaking practice, and (c) perceived learning outcomes (e.g., perceived improvement in speaking ability, confidence, and engagement). This design ensured that the questionnaire content was aligned with the variables under investigation and

provided interpretable evidence for understanding how learners perceived the intervention and its effectiveness.

## 1. The 4 Lesson Plans

### 1.1 The Lesson Plan Design

#### 1) To align the lesson plans with the course syllabus

The lesson plans were systematically designed to align with the objectives and content of the grade 6 English syllabus. They emphasized the development of speaking proficiency through practical language application and the integration of interactive, real-world scenarios.

#### 2) To select the scope for this research

The scope of this research included enhancing students' English speaking by targeting two key areas: fluency and vocabulary usage. The lesson plans incorporated interactive classroom activities and AI-based personalized feedback, ensuring a focused approach to achieving these objectives.

#### 3) To validate and refine the lesson plans

The draft lesson plans underwent a validation process involving three specialists, including experts in English language teaching methodology and AI educational tools, to ensure content validity. The Index of Item-Objective Congruence (IOC) statistical method is employed for this purpose.

The content is evaluated using the following scale:

+1 = The component was relevant to the research topics.

0 = The relevance of the content was uncertain.

-1 = The content was not relevant to the research topics “The Effects of Integrating Communicative Language Teaching Approach with Artificial Intelligence Technology (AI) on Enhancing English Speaking of National Primary School Students in Yunnan Province”

Lesson items with an IOC score of 0.67-1.00 were considered valid and retained. Items scoring below 0.5 were revised or removed, following Taweerat's (2000) guidelines. Finalized lesson plans achieved a minimum IOC score of 0.67 or

above based on the consensus of the three experts. The average IOC value of the lesson plans in this study was 0.82.

### 1.2 Lesson Content and Arrangement

#### 1) Duration and Structure

Total Duration: 16 hours.

Schedule: 4 sessions per week, each 45 minutes, over 4 weeks.

#### 2) Teaching Modules

Fluency Practice:

The students were asked to participate in role-playing activities that simulate real-life scenarios, such as holiday dialogues or weekend life to enhance their ability to speak fluently and confidently.

Vocabulary Building:

The students focused on acquiring high-frequency vocabulary through task-based learning activities. They practiced applying the newly acquired words during classroom exercises and interactive discussions.

### 1.3 Lesson Implementation Features

#### 1) Interactivity

The lessons incorporated interactive classroom strategies, such as group discussions, role-playing tasks, and collaborative problem-solving activities, to promote communicative competence and active engagement.

#### 2) Personalized Feedback

The integration of AI technology allowed for real-time feedback on students' fluency and vocabulary use. This feedback helped students address specific deficiencies and track their progress effectively.

#### 3) Evaluation and Continuous Improvement

The lessons were evaluated based on student performance and feedback. Adjustments were made as necessary to ensure alignment with research objectives and to enhance the overall learning experience.

#### 1.4 Research Relevance

This lesson plan design directly aligned with the study's objective of assessing the effectiveness of integrating Communicative Language Teaching (CLT) with AI technology to improve students' speaking proficiency. By targeting fluency and vocabulary usage through interactive and scenario-based methods, the lesson plans provided a robust framework for achieving the intended learning outcomes.

### **2. Speaking Tasks (Pre-task and post-task)**

#### 2.1 Pre-task and Post-task Design and Validation

To measure students' English Speaking development within a one-group pretest–posttest design, this study employed two parallel speaking tasks (a pre-task and a post-task) as the research instrument to elicit learners' oral production. Each task required students to perform role-play and apply target vocabulary in context. Students' spoken output was audio-recorded and later assessed using an analytic speaking rubric.

##### 1) Align task objectives with intended learning outcomes

The learning objectives were analyzed to ensure alignment between the speaking tasks and the intended outcomes of the CLT+AI intervention. A task specification table was developed to map each task component to the target unit/topic and the communicative behaviors expected in the lesson plans. The main assessed dimensions included fluency and vocabulary use in context (i.e., appropriate selection and use of target words/phrases to express meaning during interaction).

##### 2) Develop the pre-task and post-task

Two parallel speaking tasks were drafted to assess students' oral performance before and after the intervention. Both tasks were designed to reflect CLT principles by requiring learners to communicate meaningfully in a role-play scenario rather than merely producing isolated sentences. The tasks elicited students' ability to use the unit-based vocabulary and sentence patterns appropriately while maintaining interaction. The pre-task established a baseline, and

the post-task used a comparable task type and difficulty level to allow meaningful comparison of students' speaking performance over time.

### 3) Expert validation of task content and rubric relevance

The speaking tasks and the analytic speaking rubric were submitted to three specialists for content validation. The specialists' feedback was used to examine whether (a) the task prompts and required role-play interaction were appropriate for Grade 6 learners, (b) the tasks adequately elicited the intended speaking constructs (especially fluency and vocabulary use in context), and (c) the rubric descriptors were clear and matched the constructs assessed in the tasks.

### 4) Revise the tasks based on expert feedback

Revisions were made in response to specialists' comments to improve the clarity, relevance, and appropriateness of the task prompts and performance requirements. Adjustments focused on enhancing the communicative authenticity of the role-play situations, ensuring that the vocabulary demands were consistent with the lesson content, and refining instructions so that students clearly understood what to do during the interaction.

### 5) Examine and report content validity (IOC)

Content validity was examined using the Index of Item–Objective Congruence (IOC) procedure, following Taweerat (2000). The three specialists evaluated the congruence between each task component/rubric criterion and the intended learning objectives using the following scale:

+1 = clearly related to the learning objectives

0 = unclear relation to the learning objectives

-1 = not related to the learning objectives

Task components/criteria with IOC values between 0.67 and 1.00 were retained, while those below 0.67 were revised or removed. Based on the specialists' evaluation, the finalized speaking tasks achieved strong content validity, with an average IOC of 0.84.

#### 6) Pilot the achievement test to assess reliability

The revised speaking task and the associated analytic speaking rubric were piloted with 35 Grade 6 students (male and female) who were not included in the main sample group. The pilot participants represented mixed speaking proficiency levels, including students with stronger oral performance as well as those experiencing difficulties in fluency, pronunciation, and speaking confidence. This diversity provided an appropriate context for examining the performance consistency of the instrument.

To assess the reliability of the speaking task, the internal consistency of the rubric-based scores was examined using Cronbach's alpha, adopting  $\alpha \geq .70$  as the criterion for acceptable reliability. Based on the pilot results and rater observations, minor revisions were made to improve the clarity of task instructions and to refine rubric descriptors where necessary, ensuring that the speaking task could elicit learners' oral production effectively and that the rating criteria could be applied consistently.

#### 7) Administer the speaking task to the sample group (Revised)

After piloting and revision, the finalized speaking task was administered to the sample group of Grade 6 students participating in the study. In line with the one-group pretest–posttest design, the same group completed the speaking task before and after the CLT+AI instructional intervention. Participants' oral production was audio-recorded and rated using the analytic speaking rubric. The pre-task scores served as baseline measures of students' speaking performance, while the post-task scores were used to determine changes in English speaking following the intervention, thereby providing evidence of the instructional impact of integrating CLT with AI technology.

### 3. Questionnaire

#### 3.1 Questionnaire Design

##### 1) Obtain Permission to Use an Existing Measurement Scale

Permission was obtained to adapt an existing satisfaction measurement scale for evaluating students' perceptions and attitudes towards the

Communicative Language Teaching (CLT) approach integrated with Artificial Intelligence (AI) technology. The selection of this scale was based on its relevance to the study objectives and its proven reliability in assessing teaching effectiveness.

#### 2) Adaptation and Translation of the Measurement Scale

The selected scale, which utilizes a 5-point Likert scale, was adapted from Liu et al. (2025) to reflect the specific context of this research. It was translated into both English and Chinese using a back-translation method to ensure linguistic accuracy and cultural appropriateness. Two bilingual experts with Master's degrees in English linguistics were invited to assist in the translation and back-translation process. Additionally, a panel of reviewers compared the original and back-translated versions to ensure conceptual and cultural equivalence.

#### 3) Validation by Specialists

The questionnaire was presented to three specialists, including experts in English language teaching methodology and AI educational tools. The validation process involved a detailed review to ensure that each questionnaire item aligns with the study's objectives. The following aspects are evaluated:

- The relevance of questionnaire items to the integration of CLT and AI.
- The clarity and appropriateness of the item phrasing.
- The coverage of all key dimensions of teaching methods and outcomes.

#### 4) Revision Based on Specialists Feedback

Revisions were made based on the specialists' comments and suggestions to improve the clarity, relevance, and appropriateness of the questionnaire items. The validation process adopted the Index of Item–Objective Congruence (IOC) to examine the alignment between each item and the intended measurement objectives. In this study, the questionnaire was designed to measure learner satisfaction across three dimensions: (a) satisfaction with classroom communicative activities, (b) satisfaction with AI tools and their usability/support, and (c) perceived learning outcomes.

Each specialist evaluated every item using the following IOC scale:

+1 = The item is clearly congruent with the specified objective.

0 = It is unclear whether the item is congruent with the specified objective.

-1 = The item is not congruent with the specified objective.

Following Taweerat's (2000) guidelines, items with IOC values between 0.67 and 1.00 were retained, whereas items scoring below 0.67 were revised or removed. After revision, the IOC values for the questionnaire items ranged from 0.67 to 1.00, with an average IOC of 0.89, indicating satisfactory content validity and suggesting that the questionnaire items were appropriate for assessing learner satisfaction in relation to the CLT+AI instructional intervention.

#### 5) Structure of the questionnaire

Part 1. Basic Information (2 items)

Part 2. Evaluation of Teaching Methods (8 items)

Part 3. Evaluation of Learning Outcomes (5 items)

Part 4. Open-Ended Questions (3 items)

Scoring and Data Analysis (Likert Scale Evaluation)

Rating Scale:

4.51 – 5.00 means the level of opinion shows very satisfied

3.51 – 4.50 means the level of opinion shows satisfied

2.51 – 3.50 means the level of opinion shows moderately satisfied

1.51 – 2.50 means the level of opinion shows dissatisfied

1.00 – 1.50 means the level of opinion shows very dissatisfied

Reliability Testing: Internal consistency was assessed using Cronbach's Alpha. The questionnaire reliability assessment through Cronbach's alpha coefficient produced a result of 0.87 which indicated strong internal consistency between the items.

Since the researcher also served as the instructor and the rater, the possibility of experimenter effect and rater bias cannot be entirely ruled out. However, this issue was addressed by using audio-recorded speaking tasks, analytic

rubrics, and consistent assessment procedures across pretest and posttest. The limitation is acknowledged and suggests the use of independent raters in future studies. Also, to reduce response bias, the questionnaire was administered anonymously, and students were informed that their responses would not affect their grades.

## Data Collection Methods

### 1. Schedule

Pre-task (Baseline Measurement): Before the instructional intervention, participants completed a speaking task to establish baseline data on their English Speaking performance. The task required students to produce oral output through role-play and vocabulary use in context. Students' speech was audio-recorded for later assessment.

Intervention (4 weeks): The sample group received instruction through an integrated CLT+AI instructional model for four weeks. The intervention incorporated CLT-based communicative activities (e.g., pair work, role-play, interview-style interaction, and situational dialogues) supported by AI tools (e.g., interactive speaking simulation and immediate feedback) to increase meaningful speaking opportunities and individualized practice.

Post-task and Questionnaire: At the end of the four-week intervention, the same participants completed a parallel speaking task comparable in type and difficulty to the pre-task. The post-task was also audio-recorded and rated using the same analytic rubric and procedures. In addition, a questionnaire was administered to collect students' perceptions and satisfaction regarding the CLT+AI instructional activities, AI tool use, and perceived learning outcomes.

### 2. Data Sources

Speaking Task Performance Data: Speaking data were obtained from students' audio-recorded performance on the pre-task and post-task and were rated using an analytic speaking rubric. The primary measured dimensions included fluency and

vocabulary use in context (i.e., appropriate selection and application of target vocabulary during interaction).

Questionnaire Data: Questionnaire data included (a) responses to structured items measuring students' satisfaction with classroom communicative activities, AI tool use/usability, and perceived learning outcomes, and (b) responses to open-ended questions that elicited students' opinions and suggestions regarding their learning experience.

### 3. Threats to Validity and Control Measures

Because the researcher served as the instructor during the intervention and also rated the speaking tasks, potential threats to internal validity such as experimenter effect and rater bias cannot be completely ruled out. To mitigate these threats, all speaking tasks were audio-recorded and assessed using an analytic rubric with consistent assessment procedures applied across the pre-task and post-task (e.g., identical rating criteria, scoring process, and administration conditions). This limitation is acknowledged, and future studies are recommended to involve independent raters and conduct inter-rater reliability checks where feasible.

To reduce response bias in the questionnaire data, the questionnaire was administered anonymously, and students were informed that their responses would remain confidential and would not affect their grades or classroom evaluation.

## Data Analysis Methods

### 1. Quantitative Analysis

A paired-samples t-test was conducted to compare students' speaking performance scores between the pre-task and post-task and to determine whether the observed changes were statistically significant.

To contextualize learner perceptions, descriptive statistics (e.g., frequencies, percentages, means, and standard deviations) were used to summarize questionnaire responses related to students' satisfaction with classroom activities, AI tools, and perceived learning outcomes.

Classification of proficiency levels: To examine performance patterns across different baseline abilities, students were classified into High, Moderate, and Low proficiency groups based on pre-task speaking scores. Specifically, participants were divided into three groups using percentile cutoffs: High proficiency (top 33% of pre-task scores), Moderate proficiency (middle 34%), and Low proficiency (bottom 33%). This baseline-based classification provided a clear and replicable criterion for grouping and allowed interpretation of results across proficiency levels.

## 2. Qualitative Analysis

Qualitative data from students' open-ended questionnaire responses were analyzed using thematic analysis following Braun and Clarke's phases. First, the researcher familiarized herself with the responses through repeated reading and note-taking. Second, initial codes were generated to capture meaningful units related to the study focus (e.g., perceptions of classroom communicative activities, AI tool use, and perceived learning outcomes). Third, codes were collated into potential themes by identifying recurring patterns across participants. Fourth, themes were reviewed and refined to ensure coherence and clear distinctions between themes. Fifth, themes were defined and named, and representative excerpts were selected to illustrate each theme and support the interpretation of students' perceptions.

# Chapter 4

## Data Analysis Results

This chapter presented the findings from the study on the Effects of integrating Communicative Language Teaching (CLT) Approach with Artificial Intelligence (AI) Technology on Enhancing English Speaking of National Primary School students in Yunnan Province. The results were divided into the following sections:

1. General Characteristics of the Sample
2. Pre-Test and Post-Test Results
3. Students' Satisfaction Results
4. Summary of Findings

### **General Characteristics of the Sample**

This section described the demographic data and initial English speaking levels of the sample.

#### **Sample Distribution**

The study involved 35 Grade 6 students from a National Primary School in Yunnan Province.

**Table 4.1** General Characteristics of the Sample

Demographic Information	Number	Percentage
<b>Gender</b>		
Male	18	51.40
Female	17	48.61
<b>Interest level in learning English Speaking</b>		
Very interested	15	42.92
Moderately interested	13	37.14
Slightly interested	5	14.31
Not at all interested	2	5.70
<b>Total</b>	<b>35</b>	<b>100</b>

According to the data in Table 4.1, the study sample consisted of 35 students with a nearly balanced gender distribution 18 males (51.4%) and 17 females (48.6%). This balance enhances the representativeness and fairness of the study, allowing for more generalizable findings across genders in the context of English-speaking instruction.

In terms of interest in learning English speaking, most students showed a positive attitude: 42.9% were highly interested and 37.1% moderately interested, totaling 80%. This indicates strong overall motivation, which supports the effective implementation of the CLT-AI teaching approach. However, 20% of students reported low interest, suggesting the need for targeted strategies-such as incorporating real-life scenarios or increasing classroom interaction-to better engage and motivate them.

Overall, these findings provide clear direction for the study, highlighting the importance of leveraging students' existing motivation while addressing the needs of less engaged learners to ensure inclusive and effective instruction.

## Pre-Test and Post-Test Results

To evaluate the effectiveness of the CLT-AI approach, students' pre-test and post-test results were compared based on fluency and vocabulary usage. Each student was assessed before and after the intervention. The maximum total score was 20 points. To facilitate analysis, the pre-test scores were categorized into three proficiency levels. Specifically, students scoring 0–13 were classified as low level, those scoring 14–16 as medium level, and those scoring 17–20 as high level which was evaluated using a rubric adapted from the ACTFL Proficiency Guidelines (2024).

**Table 4.2 Summary of Pre-Test and Post-Test Scores**

	Mean Score	SD	Level
Pre-test	14.74	2.09	Medium
Post-test	17.11	1.77	High

The results in Table 4.3 revealed an improvement in students' performance following the implementation of the CLT-AI instructional approach. The mean score increased from 14.74 in the pre-test to 17.11 in the post-test, representing a notable gain of 2.37 points on a 20-point scale. This improvement highlights the effectiveness of integrating Communicative Language Teaching (CLT) with artificial intelligence tools in enhancing students' English speaking. Furthermore, the standard deviation (SD) decreased slightly from 2.09 to 1.77 indicating a reduction in score variability among students after the intervention. This suggested that, in addition to improving overall performance, the intervention may have contributed to a more consistent level of proficiency across the student group. These results reinforce the pedagogical value of combining CLT strategies with AI-driven feedback mechanisms.

Paired Samples Test:

**Table 4.3** Paired Samples Test

Pair	Mean Difference	SD	Std. Error Mean	95% Confidence Interval of the Difference	t	df	Sig. (2-tailed)
Pre-Post	2.457	1.400	0.237	1.976 – 2.938	10.380	34	0.000

The results from table 4.4 revealed a significant increase in post-test scores (Mdiff = 2.457, SD = 1.400), with a 95% confidence interval ranging from 1.976 to 2.938. The t-value of 10.380 with 34 degrees of freedom was highly significant ( $p < .001$ ), indicating that the improvement was not due to chance. These findings demonstrated that the integration of Communicative Language Teaching with Artificial Intelligence tools effectively enhanced students' English speaking, providing consistent learning gains across the sample and confirming the positive impact of this pedagogical intervention on English language learning outcomes.

### Students' Satisfaction Results

#### The quantitative data from the questionnaire

The quantitative data obtained from the questionnaire were analyzed to determine students' levels of satisfaction and perceptions toward using AI tools for learning English. Descriptive statistics, including means and standard deviations, were used to interpret the results. The interpretation of mean scores followed the criteria proposed by Leekitwattana (2012), which classify the levels of opinion as follows;

4.51 – 5.00 means the level of opinion shows very satisfied

3.51 – 4.50 means the level of opinion shows satisfied

2.51 – 3.50 means the level of opinion shows moderately satisfied

1.51 – 2.50 means the level of opinion shows dissatisfied

1.00 – 1.50 means the level of opinion shows very dissatisfied

The findings from the quantitative analysis are presented in the following section.

**Table 4.4** Students' Satisfaction towards the integration of CLT and AI in the English classroom

Items	Mean	SD	Student Satisfaction Level
<b>Classroom Activities and AI Tools</b>			
1. Interactive classroom activities (e.g., group collaboration or role-playing) have increased my interest in learning English.	3.11	0.90	moderately satisfied
2. AI tools (e.g., role playing dialogue) have helped me improve my English speaking.	3.11	0.90	moderately satisfied
3. Interactive classroom activities have made me feel more confident in expressing my ideas in English.	3.06	0.97	moderately satisfied
4. The vocabulary learning features in AI tools have helped me remember more new words.	3.11	0.93	moderately satisfied
5. Practicing pronunciation with AI tools has improved my understanding of where my pronunciation is incorrect.	3.23	0.77	moderately satisfied
6. I have learned many new words through classroom games or task-based activities.	3.20	0.95	moderately satisfied
7. AI tool has helped me identify which words require more practice.	3.06	1.02	moderately satisfied
8. Teacher-provided interactive guidance (e.g., error correction) has made it easier for me to speak English	3.23	0.94	moderately satisfied

Table 4.4 (Continued)

Items	Mean	SD	Student Satisfaction Level
<b>Learning Outcomes</b>			
9. How satisfied are you with the improvement in your English pronunciation?	3.80	1.13	satisfied
10. How satisfied are you with the number of new words you have learned in the classroom?	3.91	0.92	satisfied
11. How satisfied are you with the real-time feedback provided by AI tools (e.g., pronunciation correction)?	3.83	1.10	satisfied
12. After practicing with classroom activities and AI tools, how natural do you feel using English for tasks like asking for directions, shopping, or chatting?	3.80	1.08	satisfied
13. Do you feel that classroom activities and AI tools have increased your confidence in expressing yourself in English?	3.97	1.15	satisfied
<b>Total</b>	<b>3.41</b>	<b>0.98</b>	<b>moderately satisfied</b>

From Table 4.5, the results showed the students have a moderate satisfaction level (Mean = 3.41, SD = 0.98) when it comes to integrating CLT and AI in the classroom. The research results presented two primary sections that analyze Classroom Activities and AI Tools and then the students' Learning Outcomes. The students showed average satisfaction levels with their learning experience through Classroom Activities and AI Tools since their scores fell between 3.06 and 3.23.

Students found that their English learning became more engaging through interactive classroom activities combined with AI tools which provided role-playing dialogues, vocabulary features and pronunciation feedback. The combination of AI tool pronunciation practice ( $M = 3.23$ ,  $SD = 0.77$ ) and teacher-led interactive feedback ( $M = 3.23$ ,  $SD = 0.94$ ) achieved the highest satisfaction levels among students because they found both methods valuable for their learning. Students showed less satisfaction with AI word identification for practice needs ( $M = 3.06$ ,  $SD = 1.02$ ) and interactive classroom activities for building confidence in idea expression ( $M = 3.06$ ,  $SD = 0.97$ ). Students understand the advantages of AI classroom practices yet require better AI tools which should deliver personalized support for vocabulary and fluency development.

Students demonstrated greater satisfaction level with the Learning Outcomes section because the scores reached between 3.80 and 3.97. Students demonstrated high satisfaction with all items in this category because they felt positive about the results of combining CLT with AI. Students showed the highest satisfaction with the statement that classroom activities and AI tools made them more confident in English speaking ( $M = 3.97$ ,  $SD = 1.15$ ). The students demonstrated high satisfaction with their vocabulary development ( $M = 3.91$ ,  $SD = 0.92$ ) and pronunciation improvement ( $M = 3.80$ ,  $SD = 1.13$ ). The research demonstrates that CLT and AI integration enables students to develop practical language abilities through interactive classroom activities, which lead to better vocabulary skills, pronunciation and increased communication self-assurance.

Students expressed a moderate satisfaction level about their learning experience through CLT and AI-supported activities, although they showed improved results because of this educational method. Even though the students have proved this method to be more beneficial, their needs to be better implementation of AI tools in the classroom activities to ensure enhancement of their English learning outcomes.

### **Students' Opinion from Open-Ended Responses**

In addition to quantitative findings, qualitative data were collected to gain deeper insights into students' perceptions of using AI tools and classroom activities in English learning. Thirty-five students responded to three open-ended questions focusing on (1) their favorite features of AI tools, (2) challenges encountered when using AI tools, and (3) helpful classroom activities. The responses were analyzed using thematic analysis, which involved identifying recurring patterns and organizing them into overarching themes. The findings were presented below according to each question.

#### **1. Favorite Features of AI Tools for Learning English**

The analysis revealed four major themes: (1) enjoyment and engagement, (2) improvement in speaking and pronunciation, (3) usefulness of instant feedback, and (4) confidence building.

##### **Theme 1: Enjoyment and Engagement**

Many students stated that AI tools made English learning fun, interactive, and motivating. The game-like or conversational features of AI encouraged them to practice more frequently.

"The language tutors are fun and make learning easier." (Students 1, 4)

"I enjoy chat with AI because it is fun and no time limit." (Student 6)

"AI tutors make me have more interest in learning English." (Student 7)

"The AI tools are fun and make learning easier." (Students 19, 21, 22)

"I enjoy chat with AI because I can repeat and learn." (Student 5)

##### **Theme 2: Improvement in Speaking and Pronunciation**

Many participants reported that AI tools helped them speak more clearly and fluently through pronunciation correction and conversational practice.

"Pronunciation correction because it helps me speak clearly." (Students 3, 27, 29, 32, 35)

"AI tools improved my English speaking." (Students 11, 13, 15, 23, 24)

"I enjoyed chat with AI because I feel my English speaking get better." (Students 12, 17)

“AI reading practice helps me read aloud better.” (Student 34)

### **Theme 3: Usefulness of Instant Feedback**

Students appreciated AI’s ability to provide immediate feedback, which allowed them to identify and correct mistakes quickly.

“I like the instant feedback; it shows me my mistakes quickly.” (Students 9, 16, 20, 33)

“Instant feedback helps me see what I did wrong and improve fast.”  
(Paraphrased idea from repeated responses)

### **Theme 4: Confidence Building**

Several students mentioned that AI tools made them feel more confident and comfortable when practicing English.

“AI tutors make me more confident.” (Students 10, 31)

“I enjoyed chat with AI because I feel my English speaking get better.”  
(Students 12, 17)

“AI tutors make me have more interest in learning English.” (Student 7)

In summary, students favored AI features that made learning enjoyable, interactive, and supportive, especially those that improved their speaking abilities and self-confidence.

## **2. Challenges or Problems Encountered When Using AI Tools**

Analysis of students’ responses identified four main themes: (1) difficulty levels and comprehension, (2) technical problems, (3) limitations of AI understanding, and (4) feedback speed.

### **Theme 1: Difficulty Levels and Comprehension**

Some students found that the AI tasks were not well-matched to their proficiency, being either too easy or too difficult. Others noted that confusing AI instructions caused misunderstanding.

“Some activities are too hard or too easy.” (Students 2, 4, 14, 19, 26, 28)

“I get confused by the AI instructions sometimes.” (Students 8, 10, 35)

### **Theme 2: Technical Problems**

Several students experienced technical issues, particularly internet instability that interrupted AI use.

“Internet problems stop the AI tools from working.” (Students 5, 11, 16, 17, 22, 30, 32)

### **Theme 3: Limitations of AI Understanding**

A common challenge was that AI sometimes failed to recognize students’ pronunciation, which led to communication breakdowns.

“Sometimes the AI doesn't understand my pronunciation.” (Students 3, 7, 15, 23, 24, 25)

### **Theme 4: Feedback Speed and Overload**

A few participants mentioned that AI provided feedback too quickly, making it difficult to follow or learn effectively.

“The feedback is too fast and I can’t follow it well.” (Students 12, 18, 20, 29, 31, 33, 34)

These findings suggest that while students valued AI’s usefulness, technical limitations, comprehension issues, and feedback timing posed challenges that occasionally disrupted learning.

## **3. Helpful Classroom Activities for Learning English**

The responses revealed five major themes: (1) vocabulary games, (2) question and answer practice, (3) role-playing, (4) group discussion, and (5) presentation activities.

### **Theme 1: Vocabulary Games**

Many students enjoyed vocabulary games that made remembering new words easier and more engaging.

“Vocabulary games make remembering words easier.” (Students 1, 3, 7, 9, 15, 27)

### **Theme 2: Question and Answer Practice**

Students frequently mentioned Q&A activities as effective for improving listening and speaking skills.

“Question and answer activities improve my listening and speaking.”  
(Students 4, 6, 12, 13, 28, 29, 31, 34)

### **Theme 3: Role-Playing**

Role-playing was valued because it allowed students to practice real-life communication in meaningful contexts.

“Role-playing because it lets me use real conversations.” (Students 8, 11, 16, 17, 18, 24)

### **Theme 4: Group Discussions**

Several students found group discussions helpful for building confidence and fluency through peer interaction.

“Group discussions help me speak more confidently.” (Students 2, 14, 21, 25, 32)

### **Theme 5: Presentation Activities**

Some students preferred presentation tasks that encouraged public speaking and structured language use.

“I like presenting in front of the class.” (Students 19, 30, 33, 35)

Overall, students appreciated classroom activities that promoted active participation, practical communication, and vocabulary development, which complemented their use of AI tools.

In summary, the thematic analysis across the three questions revealed that students valued AI tools for making learning enjoyable, interactive, and effective in improving speaking and pronunciation. However, they also faced challenges related to technical problems, AI comprehension, and fast feedback. Regarding classroom activities, learners preferred interactive and communicative tasks such as vocabulary games, Q&A practice, role-playing, and group discussions. These findings suggest that combining AI-supported learning with interactive classroom strategies can enhance students’ engagement, confidence, and overall language development.

## Summary of Findings

This study found that integrating the Communicative Language Teaching (CLT) approach with Artificial Intelligence (AI) tools had a significant positive impact on the English speaking performance of Grade 6 students in a national primary school in Yunnan Province. The research sample included 35 students with a nearly balanced gender distribution (51.4% male and 48.6% female), which provided a solid basis for the generalizability of the findings. At the same time, the majority of students demonstrated high interest in learning English speaking, with 80% reporting that they were “moderately interested” or “very interested,” reflecting an overall positive learning attitude. However, the pre-test results revealed differences in students’ initial English-speaking proficiency: 20% of the students were at a low level, 45.7% at a medium level, and 34.3% at a high level. This indicates that although most students were strongly motivated, their initial speaking abilities varied considerably, which underscores the need to adopt differentiated strategies within the CLT–AI integrated instruction to address the learning needs of students at different proficiency levels.

Most importantly, students demonstrated clear progress when comparing pre-test and post-test results. A paired samples t-test revealed that students’ average speaking scores increased significantly from 14.74 to 17.11 (an improvement of 2.37 points on a 20-point scale), while the standard deviation decreased from 2.09 to 1.77. This not only indicated that overall speaking performance improved significantly but also that the variability among students’ results was reduced, reflecting more consistent learning outcomes. The improvement can be attributed to the integration of CLT with AI tools (specifically TalkBerry), particularly its vocabulary learning features, instant pronunciation correction, and simulated dialogue practices. Talk Berry’s speech recognition and real-time feedback provided students with individualized guidance, enabling them to consolidate target vocabulary and improve pronunciation through interactive and game-based activities, thereby enhancing their speaking proficiency effectively.

In summary, this study highlights the dual advantages of the CLT-AI teaching model: on the one hand, it reduced individual differences and improved the overall consistency of language learning outcomes; on the other hand, it effectively stimulated students' learning interest, with particularly notable benefits observed among students. Therefore, this model not only has practical significance for improving primary school students' English-speaking abilities but also provides the ways for promoting English education reform and AI-assisted teaching in resource-limited contexts.

## Chapter 5

### Conclusion, Discussion, and Recommendations

This chapter presents the discussion of the results, conclusion and recommendations based on the effects of integrating the Communicative Language Teaching (CLT) approach with Artificial Intelligence (AI) technology to enhance the English speaking of national primary school students in Yunnan Province.

#### Conclusion

In recent years, the integration of Communicative Language Teaching (CLT) and Artificial Intelligence (AI) in language education has gained increasing attention as an innovative pedagogical strategy, particularly in under-resourced regions. This study assessed the effectiveness of combining CLT and AI technology in enhancing the English speaking of Grade 6 students in a national primary school in Yunnan Province, and examined students' satisfaction with this approach. A four-week intervention, involving AI-supported speaking practice and communicative tasks, was conducted with 35 participants. Data were collected through pre- and post-tests and a structured satisfaction questionnaire.

The results demonstrated that the integration of CLT with AI tools significantly improved students' speaking performance. The post-test scores showed substantial gains in fluency and vocabulary usage, indicating that the combination of real-time AI feedback and interactive communicative activities created a more effective and engaging language learning experience. This is particularly meaningful in rural school contexts, where traditional instruction often lacks immediacy and personalization.

In addition, students reported a moderate level of satisfaction with the CLT+AI integrated approach. The AI tool was especially valued for its instant pronunciation feedback, while communicative tasks such as interviews and role-playing contributed to increased motivation and enjoyment. More than 85% of the

students indicated improved speaking confidence and reduced anxiety, further supporting the role of AI-enhanced CLT in fostering learner engagement.

The findings suggest that CLT and AI integration can offer a flexible, student-centered instructional model that not only enhances speaking proficiency but also enriches the classroom environment. In regions where educational resources and teaching capacity are limited, this blended model provides a feasible alternative to promote equitable language learning outcomes. Moreover, the use of AI tools such as TalkBerry can help address challenges related to teacher feedback and speaking opportunities, allowing students to practice in an autonomous and supportive setting.

Overall, the study could contribute benefits for language educators, policymakers, and curriculum developers seeking to improve English instruction in primary education. As the education sector continues to explore AI applications, this research supports the notion that AI, when strategically combined with communicative pedagogy, can bridge resource gaps and advance oral language instruction in a sustainable and learner-friendly manner.

## Discussion

This discussion addresses two research objectives: the first evaluates the effectiveness of integrating Communicative Language Teaching (CLT) with Artificial Intelligence (AI) in enhancing vocabulary proficiency among Grade 6 students, and the second investigates student satisfaction with this integrated instructional approach. The interpretation of findings is informed by both descriptive and inferential statistical results, and contextualized through relevant literature.

The findings for Research Objective 1 demonstrate a clear improvement in students' English speaking following participation in CLT lessons supported by AI tools. Post-test scores ( $M = 17.11$ ,  $SD = 1.77$ ) notably exceeded pre-test scores ( $M = 14.74$ ,  $SD = 2.09$ ) on a 20-point scale, indicating measurable gains in lexical competence. These results are consistent with previous studies that highlight how combining interactive pedagogy with real-time AI feedback enhances language

learning outcomes. For instance, Zou et al. (2021) noted that AI-based feedback helps learners refine their pronunciation and word selection, while Yan (2023) emphasized that AI-assisted instruction fosters autonomous and authentic learning environments aligned with CLT principles.

Trends observed in this study further support the role of AI-assisted CLT in addressing core challenges in oral language education. Fluency improvement among students mirrors the findings of Zondag (2023), who noted that interactive tasks such as interviews and simulations foster smoother and more confident speech production (Zondag, 2023). Likewise, the enhancement of vocabulary acquisition through dynamic, real-world dialogues aligns with research by Hassan et al. (2021), who demonstrated that the integration of digital tools into communicative tasks enables deeper lexical retention and contextual application. In this study, the use of the Talk Berry AI system provided both structured repetition and contextual feedback, contributing to students' expanded active vocabulary and improved fluency (Hassan et al., 2021).

The combination of CLT and AI not only enhanced language outcomes but also addressed pedagogical limitations in traditional classrooms such as insufficient feedback, limited speaking time, and high learner anxiety. The structured use of AI provided immediate, non-judgmental guidance, while CLT principles ensured that language use remained meaningful and student-centered.

In response to Research Objective 2, the results revealed that students exhibited moderate level of satisfaction with the use of CLT and AI in their English classes. However, more than 85% of respondents reported that the AI-supported learning process enhanced their engagement, accuracy, and enjoyment compared to traditional instruction. These responses affirmed the motivational potential of combining communicative pedagogy with digital tools, particularly for younger learners who benefit from interactive and autonomous language practice.

This finding is corroborated by Dewi and Setiana (2020), who found that AI-supported learners expressed higher satisfaction and self-perceived progress (Dewi & Setiana, 2020). Similarly, Huang et al. (2023) emphasized the role of individualized AI

feedback in sustaining motivation across diverse learning contexts (Huang & Tan, 2023). Crompton et al. (2024) also highlighted how AI integration is particularly beneficial in under-resourced settings, where technology supplements limited human interaction by offering immediate, targeted feedback and personalized learning scaffolds (Crompton et al., 2024). In the present study, students valued the freedom to practice speaking without fear of correction, reinforcing the potential of AI tools to reduce affective barriers and improve classroom morale.

The positive reception of communicative tasks echoes Nurjanah et al. (2024), who asserted that CLT activities promote deeper cognitive engagement and real-world language application. Role-plays, problem-solving games, and task-based dialogues created a dynamic environment that students found both stimulating and relevant to their lives, thereby increasing intrinsic motivation and overall satisfaction.

In conclusion, the integration of CLT with AI tools not only enhanced the measurable language outcomes of young English learners but also created an enjoyable and personalized learning experience. The findings suggest that technology-supported communicative approaches are well-positioned to address the evolving needs of learners in primary education, particularly in regions with limited access to high-quality speaking instruction.

## **Recommendations**

Based on the findings of this study, the following recommendations are proposed to support the effective use of a CLT+AI instructional model in primary English Speaking instruction, particularly in under-resourced contexts.

1. Extend AI-supported speaking practice as a structured supplement to classroom interaction.

The results suggest that AI-assisted practice (e.g., speech recognition and real-time feedback) can support learners' oral production by providing additional opportunities for repeated practice and individualized feedback. Future implementations may consider incorporating AI tools as a planned component of

speaking instruction (rather than optional use), with clear task goals and alignment to the target language of each unit.

2. Strengthen the alignment between communicative tasks and targeted speaking dimensions.

To make instructional effects more visible across different aspects of speaking, communicative tasks may be designed to explicitly target specific dimensions (e.g., fluency, vocabulary use, pronunciation, and creative language use). For example, role-play and interview tasks can be used to elicit extended turns and negotiation of meaning, while follow-up reflection and guided rehearsal can support improvement in pronunciation and accuracy.

3. Enhance teacher professional development to reduce instructor effect and improve implementation fidelity.

Because the effectiveness of CLT+AI integration may depend on teachers' pedagogical expertise and technological readiness, teacher training should be treated as a key condition for replicable implementation. Professional development may focus on (a) CLT principles and teacher/learner roles, (b) interactive task design and sequencing from controlled to freer practice, and (c) practical management of AI-based platforms (e.g., setting task prompts, interpreting feedback, and integrating AI practice into classroom routines). Establishing shared procedures can help minimize variability in instructional outcomes across different teachers and contexts.

4. Prioritize contextualized vocabulary use within meaningful communication.

Given that vocabulary-related improvement was particularly evident, future instructional designs may continue to emphasize vocabulary enrichment through contextualized speaking tasks rather than isolated memorization. AI tools can be used to provide repeated retrieval practice and immediate feedback, while classroom tasks ensure that vocabulary is used purposefully to express meaning and complete communicative goals.

5. Create a supportive interactional climate to promote willingness to communicate.

CLT+AI approaches are likely to be more effective when learners feel safe to take risks in speaking. Teachers may therefore adopt classroom practices that value effort and communication over perfection, encourage peer support, and provide feedback that prioritizes meaning before form. Such a learning environment can help reduce speaking anxiety and increase participation in communicative tasks.

6. Improve the feasibility and equity of AI-supported instruction through practical access planning.

Since access to devices and stable connectivity can influence the effectiveness of AI-supported learning, future studies and implementations may consider feasible access arrangements (e.g., shared devices, scheduled use, or offline-compatible activities where possible). Clarifying minimum technical conditions can help reduce confounding effects related to unequal access and improve the transferability of the instructional model to rural or resource-limited settings.

### **Implications**

The findings of this research hold important implications for multiple stakeholders involved in English language education:

**For Teachers:** The study highlights the potential of AI-supported CLT methods in enhancing students' vocabulary performance. Teachers can leverage AI not only as an evaluative tool but also as an interactive learning partner, encouraging more individualized and self-paced practice.

**For School Administrators:** Investment in AI-related infrastructure and teacher training programs will be key to the successful implementation of this model. Administrators should prioritize allocating resources and offering institutional support to facilitate technology integration into English instruction.

**For Curriculum Developers:** English curricula should be redesigned to integrate AI-assisted communicative activities that promote authentic language use and provide instant formative feedback, aligning with the communicative goals of language learning.

For Policymakers: In addressing educational disparities, policymakers should advocate for initiatives that incorporate innovative, technology-enhanced teaching strategies such as AI-supported CLT, particularly in rural or underserved areas.

Overall, applying these findings can contribute to building more dynamic, student-centered, and effective English learning environments that better prepare students for real-world communication challenges.

### **Suggestions for Future Research**

While this study has provided valuable insights into the integration of Communicative Language Teaching (CLT) with Artificial Intelligence (AI) technology in primary education, further research is necessary to deepen and broaden the understanding of this innovative approach. Future studies should consider adopting longitudinal designs to explore the long-term effects of AI-assisted CLT interventions on students' vocabulary learning, self-efficacy, and learner autonomy across multiple academic years. Additionally, replicating the study across diverse regions, age groups, and educational contexts would help assess the generalizability of the findings and uncover context-specific factors influencing the effectiveness of the intervention.

Beyond quantitative measures, integrating qualitative approaches such as interviews, reflective journals, and classroom observations could provide richer and more nuanced insights into students' experiences, perceptions, and engagement in AI-supported communicative learning environments.

Moreover, future research could undertake comparative analyses of different AI tools to determine how various applications impact language development, offering practical guidance for selecting and optimizing technological resources based on learners' needs. Exploring teachers' experiences and challenges in implementing AI-enhanced CLT methods also warrants attention, as understanding their perspectives would be critical for identifying practical barriers, informing professional development programs, and establishing best practices for integrating technology into communicative language instruction. By pursuing these directions, future studies can contribute to a more comprehensive and context-sensitive understanding of how technology and communicative pedagogy can jointly advance English language education, particularly within the primary school setting.

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## Appendices

## Appendix A

List of Specialists and Letters of Specialists Invitation  
for IOC Verification

### Specialists for IOC Verification

NO	Name	Position/Office
1.	ดร.ฐานันวรินทร์ โฆษิตพิพัฒน์	คณะบริหารธุรกิจ มหาวิทยาลัยกรุงธนบุรี
2.	ดร.สากล ศรีวันทา	คณะบริหารธุรกิจ มหาวิทยาลัยกรุงธนบุรี
3.	ดร.สัมฤทธิ์ ยศสมศักดิ์	คณะรัฐศาสตร์และนิติศาสตร์ มหาวิทยาลัยบูรพา

## Appendix B

Official Letter

ที่ อว ๐๖๔๓.๑๔/ว



มหาวิทยาลัยราชภัฏบ้านสมเด็จเจ้าพระยา  
๑๐๖๑ ถนนอิสรภาพ แขวงหิรัญรูจี  
เขตธนบุรี กรุงเทพมหานคร ๑๐๖๐๐

๕ มกราคม ๒๕๖๙

เรื่อง ขอเชิญเป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือวิจัย

เรียน ดร.ฐนันวรินทร์ โฆচিতพิพัฒน์

สิ่งที่ส่งมาด้วย แบบสอบถาม ๑ ชุด

ด้วย Miss Zhao Qin ปัจจุบันกำลังทำวิทยานิพนธ์ เรื่อง “The Effect of Integrating Communicative Language Teaching Approach with Artificial Intelligence Technology (AI) on Enhancing English Speaking of National Primary School Students in Yunnan Province” ตามหลักสูตรครุศาสตรมหาบัณฑิต สาขาการสอนภาษาอังกฤษในฐานะภาษาสากล ของมหาวิทยาลัยราชภัฏบ้านสมเด็จเจ้าพระยา

คณะกรรมการบริหารหลักสูตรฯ ได้พิจารณาเห็นว่า ท่านเป็นผู้เชี่ยวชาญที่มีความรู้ความสามารถที่จะให้คำแนะนำอันเป็นประโยชน์ต่อการสร้างเครื่องมือวิจัยของนักศึกษาได้เป็นอย่างดี

จึงเรียนมาเพื่อโปรดพิจารณาให้เกียรติเป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือวิจัยดังกล่าว ขอขอบคุณอย่างสูงมา ณ โอกาสนี้

ขอแสดงความนับถือ

(ผู้ช่วยศาสตราจารย์ ดร.ธนภัทร จันทรเจริญ)  
รองคณบดีปฏิบัติราชการแทนคณบดีบัณฑิตวิทยาลัย

บัณฑิตวิทยาลัย

โทรศัพท์ ๐-๒๔๗๓-๗๐๐๐ ต่อ ๑๘๑๐

โทรสาร ๐-๒๔๗๓-๗๐๐๐ ต่อ ๑๘๑๐

ที่ อว ๐๖๔๓.๓๔/ ๓



มหาวิทยาลัยราชภัฏบ้านสมเด็จเจ้าพระยา  
๓๐๖๑ ถนนอิสรภาพ แขวงหิรัญรูจี  
เขตธนบุรี กรุงเทพมหานคร ๑๐๖๐๐

๕ มกราคม ๒๕๖๔

เรื่อง ขอเชิญเป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือวิจัย

เรียน ดร.สากุล ศรีวันทา

สิ่งที่ส่งมาด้วย แบบสอบถาม ๑ ชุด

ด้วย Miss Zhao Qin ปัจจุบันกำลังทำวิทยานิพนธ์ เรื่อง “The Effect of Integrating Communicative Language Teaching Approach with Artificial Intelligence Technology (AI) on Enhancing English Speaking of National Primary School Students in Yunnan Province” ตามหลักสูตรครุศาสตรมหาบัณฑิต สาขาการสอนภาษาอังกฤษในฐานะภาษาสากล ของมหาวิทยาลัยราชภัฏบ้านสมเด็จเจ้าพระยา

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ขอแสดงความนับถือ

(ผู้ช่วยศาสตราจารย์ ดร.ธนภัทร จันทร์เจริญ)  
รองคณบดีปฏิบัติราชการแทนคณบดีบัณฑิตวิทยาลัย

บัณฑิตวิทยาลัย

โทรศัพท์ ๐-๒๔๗๓-๗๐๐๐ ต่อ ๑๘๑๐

โทรสาร ๐-๒๔๗๓-๗๐๐๐ ต่อ ๑๘๑๐



ที่ อว ๐๖๔๓.๑๔/ ๑๒๐

มหาวิทยาลัยราชภัฏบ้านสมเด็จเจ้าพระยา  
๑๐๖๑ ถนนอิสรภาพ แขวงหิรัญรูจี  
เขตธนบุรี กรุงเทพมหานคร ๑๐๖๐๐

๕ มกราคม ๒๕๖๔

เรื่อง ขอเชิญเป็นผู้เชี่ยวชาญตรวจสอบเครื่องมือวิจัย

เรียน ดร.สัมฤทธิ์ ยศสมศักดิ์

สิ่งที่ส่งมาด้วย แบบสอบถาม ๓ ชุด

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ขอแสดงความนับถือ

(ผู้ช่วยศาสตราจารย์ ดร.ธนภัทร จันทร์เจริญ)  
รองคณบดีปฏิบัติราชการแทนคณบดีบัณฑิตวิทยาลัย

บัณฑิตวิทยาลัย

โทรศัพท์ ๐-๒๔๗๓-๗๐๐๐ ต่อ ๑๘๑๐

โทรสาร ๐-๒๔๗๓-๗๐๐๐ ต่อ ๑๘๑๐

## Appendix C

### Research Instrument

## Appendix I

### Questionnaire

同学们，大家好！

本问卷旨在研究“交际语言教学法 (CLT) 结合人工智能 (AI) 技术对小学六年级学生英语口语能力的影响”。通过了解您对课堂活动、AI工具和学习成果的感受。由此本次研究的目的如下：

1. 制定组织良好且结构清晰的课程计划，以促进学生英语口语能力的提升。
2. 评估交际语言教学法 (CLT) 与人工智能 (AI) 技术结合应用对六年级学生英语口语能力的影响效果。
3. 调查学生对在英语课堂中应用CLT和AI技术的满意度。

本问卷不会影响您的成绩，所有回答仅用于学术研究且严格保密，请根据真实感受填写。感谢您的合作！

Dear students,

This questionnaire aims to investigate "The Effects of Integrating Communicative Language Teaching (CLT) with Artificial Intelligence (AI) Technology on Enhancing English Speaking of Grade 6 Students." Through this survey, we seek to understand your perceptions of classroom activities, AI tools, and learning outcomes. The objectives of this study are as follows:

1. To develop well-organized and structured lesson plans that promote English Speaking.
2. To assess the effectiveness of integrating Communicative Language Teaching (CLT) with Artificial Intelligence (AI) on the English speaking of Grade 6 students.
3. To investigate student's satisfaction on the application of CLT and AI technology in English classroom.

This questionnaire will not affect your academic performance, and all

responses will be used exclusively for academic research and kept strictly confidential. Please answer based on your genuine experiences. Thank you for your cooperation!

### 第一部分：基本信息

1. 你的性别是？

男

女

2. 你对学习英语口语的兴趣如何？

非常感兴趣 😄

感兴趣 😊

一般 😐

不感兴趣 😞

### Part 1: Basic Information

1. Please indicate your gender:

Male

Female

2. How interested are you in learning English speaking skills?

Very interested 😄

Moderately interested 😊

Slightly interested 😐

Not at all interested 😞

## 第二部分：课堂活动和AI工具评价

请根据您的课堂体验评价以下陈述，用1到5分评分（1 = 完全不同意，5 = 完全同意）。

1. 课堂活动（如小组合作或角色扮演）让我更喜欢学英语。

1  2  3  4  5

2. AI工具（如帮助练习发音的软件）让我说英语更流利。

1  2  3  4  5

3. 课堂活动让我更敢用英语表达自己的想法。

1  2  3  4  5

4. AI工具里的单词学习功能让我记住了更多新单词。

1  2  3  4  5

5. 用AI工具练习发音让我更清楚地知道哪里发音不对。

1  2  3  4  5

6. 通过课堂上的游戏或任务，我学到了很多新单词。

1  2  3  4  5

7. AI词汇测试让我知道哪些单词需要更多练习。

1  2  3  4  5

8. 老师的互动指导（如帮忙纠正错误）让我更容易开口说英语。

1  2  3  4  5

## Part 2: Evaluation of Classroom Activities and AI Tools

Please evaluate the following statements based on your classroom experience, using a scale of 1 to 5 (1 = Strongly Disagree, 5 = Strongly Agree).

1. Interactive classroom activities (e.g., group collaboration or role-playing) have increased my interest in learning English.

1  2  3  4  5

2. AI tools (e.g., pronunciation practice software) have helped me improve my English fluency.

1  2  3  4  5

3. Interactive classroom activities have made me feel more confident in expressing my ideas in English.

1  2  3  4  5

4. The vocabulary learning features in AI tools have helped me remember more new words.

1  2  3  4  5

5. Practicing pronunciation with AI tools has improved my understanding of where my pronunciation is incorrect.

1  2  3  4  5

6. I have learned many new words through classroom games or task-based activities.

1  2  3  4  5

7. AI vocabulary tests have helped me identify which words require more practice.

1  2  3  4  5

8. Teacher-provided interactive guidance (e.g., error correction) has made it easier for me to speak English.

1  2  3  4  5

### 第三部分：学习成果评价

请评价以下教学成果，用1到5分评分（1 = 非常不满意，5 = 非常满意）。

1. 你对自己英语发音的提高满意吗？

1  2  3  4  5

2. 你对课堂上学到的新单词数量满意吗？

1  2  3  4  5

3. 你对AI工具给你的即时反馈（如发音纠正）满意吗？

1  2  3  4  5

4. 你觉得通过课堂活动和AI工具练习后，能更自然地用英语问路、购物或聊天吗？

1  2  3  4  5

5. 你觉得课堂活动和AI工具让你更有信心用英语表达自己吗？

1  2  3  4  5

### Part 3: Evaluation of Learning Outcomes

Please evaluate the following learning outcomes using a scale of 1 to 5 (1 = Very Dissatisfied, 5 = Very Satisfied).

1. How satisfied are you with the improvement in your English pronunciation?

1  2  3  4  5

2. How satisfied are you with the number of new words you have learned in the classroom?

1  2  3  4  5

3. How satisfied are you with the real-time feedback provided by AI tools (e.g., pronunciation correction)?

1  2  3  4  5

4. After practicing with classroom activities and AI tools, how natural do you feel using English for tasks like asking for directions, shopping, or chatting?

1  2  3  4  5

5. Do you feel that classroom activities and AI tools have increased your confidence in expressing yourself in English?

1  2  3  4  5

### 第四部分：开放性问题

1. 在课堂上用AI工具学习英语时，你最喜欢哪些功能？为什么？

(请填写回答：\_\_\_\_\_)

2. 在用AI工具和课堂活动学英语时，你遇到过什么问题？

(请填写回答：\_\_\_\_\_)

3. 你觉得哪些课堂活动对学英语帮助最大？可以举个例子吗？

(请填写回答：\_\_\_\_\_)

#### Part 4: Open-Ended Questions

1. Describe your favorite features of AI tools for learning English in the classroom. Why do you like them?

(Please provide your answer: \_\_\_\_\_)

2. Explain any challenges or problems you have encountered when using AI tools and classroom activities to learn English.

(Please provide your answer: \_\_\_\_\_)

3. Which classroom activities have been the most helpful for learning English? Provide an example.

(Please provide your answer: \_\_\_\_\_)

## Appendix II

### Lesson Plan Design

The textbook used by the research institute is the Experimental Textbook for Compulsory Education Curriculum Standards, English (PEP), co-written by People's Education Press and Lingo Media International Group in Canada. According to the requirements of the National English Curriculum Standards, combined with the age characteristics and cognitive patterns of primary school students in different age groups, this set of textbooks comprehensively plans and scientifically and reasonably allocates the teaching objectives of the first and second levels to different grades, focusing on the cultivation of students' listening, speaking, reading, and writing skills in each stage, with clear and gradual goals, to ensure that students achieve the expected comprehensive language use level upon graduation. In terms of achieving language skills, this textbook follows the principle of prioritizing listening and speaking while keeping up with reading and writing. Through a combination of Communicative Language Teaching (CLT) with Artificial Intelligence (AI) to enhance the speaking skills for students.

This unit is the second unit in the second volume of English for Grade 6 published by the People's Education Press. The topic of the unit is "Last Weekend".

This unit provides sentence structures about weekend activities by presenting different scenarios. There are three sections: Part A, Part B and Part C. Part A includes four sessions of phrases and situational dialogues, a total of two lessons. The first lesson showed the activities of Chen Jie and Mike last weekend, eliciting the sentence pattern How was your weekend? In the first lesson, John and Amy shared their activities last weekend and continued to learn the sentence pattern What did you do? I ...Did you...? Yes, I did./ No, I didn't. In the second lesson, John and Amy discussed movie magazines and presented the sentence pattern Was it interesting? Did you see a film?

Unit 2 Last weekend-let's talk			
Teacher (教师)		Type (课型)	A Let's learn & Do a survey and report
Teaching material (教材)	PEP Grade 6	Period (课时)	Period 1 - 45min
Teaching Model 教学设计			
Contents of teaching (教学内容)	<p><b>Vocabulary:</b> cleaned my room, washed my clothes, stayed at home, watched TV.</p> <p>Complementary words: before, last, have-had, see-saw, sleep-slept, read-read.</p> <p>Sentence pattern: How was your weekend? What did you do last weekend?</p>		
Analysis of the teaching material (教材分析)	<p>This lesson is the first lesson of the second unit of the second volume of the sixth grade textbook published by the People's Education Press. Focusing on the topic Last Weekend?, we mainly learn past tense verb phrases cleaned my room, washed my clothes, stayed at home, watched TV and sentence patterns How was your weekend? It was...What did you do? I... through dialogue.</p>		
Aims of teaching (教学目标)	<ol style="list-style-type: none"> <li>1. Be able to learn new vocabulary and sentence pattern.</li> <li>2. Get to know how to do Role-play with AI tool to practice dialog.</li> </ol>		
Emphasis on teaching (教学重点)	<ol style="list-style-type: none"> <li>(1) Able to listen, speak, read and write phrases:</li> <li>(2) Able to listen, speak and use sentence patterns How was your weekend? It was good. What did you do? I ...</li> <li>(3) Be able to understand that the regular form of past tense verbs is to add -ed at the end of the word.</li> <li>(4) Be able to use the above phrases to describe what the characters did in the past time.</li> </ol>		

Unit 2 Last weekend-let's talk			
Teacher (教师)		Type (课型)	A Let's learn & Do a survey and report
Teaching material (教材)	PEP Grade 6	Period (课时)	Period 1 - 45min
Ideas of design (设计思路)	Encourage the students 1.To practice vocabulary. 2. To build a sentence by following: How was your weekend? It was good. What did you do? I ... 3.Use AI tool Role-play to practice dialog.		
Teaching process (教学流程)			
	Activities of teachers (教师活动)	Activities of students (学生活动)	

Unit 2 Last weekend-let's talk			
Teacher (教师)		Type (课型)	A Let's learn & Do a survey and report
Teaching material (教材)	PEP Grade 6	Period (课时)	Period 1 - 45min
Warming up (情景导入/导入新课)	<p>Review what they've learn last lesson.</p> <p>1. Greeting</p> <p>2. Play a game.</p> <p>Teachers and students play the game of "I'll draw, you guess". The teacher makes movements such as watch TV, clean the room, wash the clothes, play football, etc., and the students guess the phrases based on the teacher's movements.</p> <p>3. Ask and answer</p>	<p>T: How are you?</p> <p>Ss: I'm fine, thanks. And you?</p> <p>T: Very well, thanks. How do you feel today?</p> <p>Ss: I'm happy, tired...</p> <p>2. Ask and answer</p> <p>T: What do you do on the weekend?</p> <p>S1: I often watch TV.</p> <p>T: How about you?</p> <p>S2: I often listen to music. What do you do on the weekend?</p> <p>S3: I clean my room. What about you?</p> <p>S4: ...(Post the word cards of the phrases the students said related to this lesson to the sideboard.)(5min)</p>	

Unit 2 Last weekend-let's talk			
Teacher (教师)		Type (课型)	A Let's learn & Do a survey and report
Teaching material (教材)	PEP Grade 6	Period (课时)	Period 1 - 45min
Presentation (讲授新课)	Vocabulary and sentence structure 1.Vocabulary Teaching : cleaned my room, washed my clothes, stayed at home, watched TV. Play the recording of verb phrases, students read the recording, find the similarities, and summarize the general change rules of the past tense of verbs, which is +ed at the end of the word.	.Students are supposed to match the new vocabulary with picture in Worksheet, and to be able to read the new vocabulary, and then to know the meanings of it and rules of the past tense of verbs. watch/t/ washed/t/ clean/d/ stayed/d/(5min)	
	2.Teaching the new sentences T: How was your weekend? S: I was... T: What did you do last weekend? S: I...	stayed at home    cleaned my room watched my clothes    watched TV T: How was your weekend? S: It was_____, thanks. T: What did you do? S: I _____. (5min)	

Unit 2 Last weekend-let's talk			
Teacher (教师)		Type (课型)	A Let's learn & Do a survey and report
Teaching material (教材)	PEP Grade 6	Period (课时)	Period 1 - 45min
Practice (情景操练/巩固练习)	1.Ask the students to read the vocabulary on Page 17 Let's learn ,then find the new vocabulary on Page 16 Let's talk part, circle and read.After that, ask students to read the question and find out information.	<p>1.Pre-task activity: Pair work Read the dialog.Then discuss in pairs what the text are talk about. After discussion, some students should be asked to tell the whole class about what they are talk about.</p> <p>While-task activity : class work Read the text together and underline the new vocabulary and find find the answer of question .</p> <p>Post-task activity: Role-play (1)Read in role. a. Work in pairs to read aloud as a character. b. Boys and girls read aloud in different roles. (2)Make a dialogue in pairs. One is Mike. The other one is Chen Jie. (6)Act the dialogue.(10min)</p>	

Unit 2 Last weekend-let's talk			
Teacher (教师)		Type (课型)	A Let's learn & Do a survey and report
Teaching material (教材)	PEP Grade 6	Period (课时)	Period 1 - 45min
	2.Use Role-play with AI to practice . The teacher demonstrates, open the AI tool select a character and use the words and sentences learned today to have a conversation with the character.		Use the new knowledge to do Free talking with AI,practice sentence pattern.. S: How was your weekend? AI: It was_____, thanks. S: What did you do? AI: I..._____.(15min)
Summary (情景回归/归纳总结)	Ask several students to report their learning and experience		Discuss the sentences with new vocabulary.(5min)
Homework (作业布置)	1.Use new vocabulary and sentence pattern to make 5 sentence.		
Teaching Tool (教具)	1. PPT,AI tool, student's pad 2. Cards,Book,Worksheet		

Unit 2 Last weekend-let's talk			
Teacher (教师)		Type (课型)	A Let's try Let's talk
Teaching material (教材)	PEP Grade 6	Period (课时)	Period 2 - 45min
Teaching Model <b>教学设计</b>			
Contents of teaching (教学内容)	<b>Vocabulary:</b> drank, Children's show, anything else Sentence pattern: How was your weekend? It was good. What did you do? I stayed at home with your grandma. Did you do anything else?		
Analysis of the teaching material (教材分析)	This lesson is the second lesson of the second unit of the second volume of the sixth grade edition of the People's Education Press. It is closely connected with the first lesson and revolves around the topic of "Last Weekend". This lesson is mainly about learning how to express in English how your weekend went? What did you do over the weekend through a phone call? What else did you do?		
Aims of teaching (教学目标)	1. Be able to learn new vocabulary and sentence pattern. 2. Get to know how to do Role-play with AI tool to practice dialog.		
Emphasis on teaching (教学重点)	(1) Able to listen, speak, read and write phrases: (2) Able to listen, speak and use sentence patterns: How was your weekend? It was good. What did you do? I stayed at home with your grandma. Did you do anything else? (3) Be able to read dialogue with correct pronunciation and intonation, and perform role performances.		
Ideas of design (设计思路)	Encourage the students 1.To practice vocabulary. 2. Act the dialogue 3.Use AI tool Role-play to practice dialog.		

Unit 2 Last weekend-let's talk			
Teacher (教师)		Type (课型)	A Let's try Let's talk
Teaching material (教材)	PEP Grade 6	Period (课时)	Period 2 - 45min
Teaching process <b>(教 学 流 程)</b>			
	Activities of teachers <b>(教师活动)</b>	Activities of students <b>(学生活动)</b>	
Warming up (情景导入/导入新课)	Review what they've learn last lesson. 1. Greeting Singing song together. 2. Ask and answer	T: Good morning, everyone. S: Good morning, teacher. T: Nice to see you again. S: Nice to see you, too. T: Boys and girls, let's sing a song "How are you today?" S: Ok. T/Ss: "How are you, how are you, how are you today? I'm fine, thanks, I'm fine, thanks. Have a lovely day..." T: I listened to music and watched TV last weekend. My weekend was fun. How was your weekend? S1: It was Ok. T: What did you do? S1: I ...(5min)	

Unit 2 Last weekend-let's talk											
Teacher (教师)		Type (课型)	A Let's try Let's talk								
Teaching material (教材)	PEP Grade 6	Period (课时)	Period 2 - 45min								
Presentation (讲授新课)	1.Do Let's try part practice (1) Students read the questions and guess the answers. (2) Play the recording and circle the answer. (3) Proofread answers 2.Let's talk	T: Mike is calling his grandpa. They're talking about last weekend. What did they do last weekend? Let's have a look together.(5min)									
	2.Let's talk	Find the answer from text dialogue content. <table border="1" data-bbox="1019 1117 1347 1402"> <tr> <td>How</td> <td>Who</td> <td>What</td> </tr> <tr> <td></td> <td>Grandpa</td> <td></td> </tr> <tr> <td></td> <td>Mike</td> <td></td> </tr> </table> T: How was Mike's weekend? S: It was nice. T: How was Grandpa's weekend? S: It was good. T : Let's read the sentences together. Ss: How was your weekend? It was good.(5min)		How	Who	What		Grandpa			Mike
How	Who	What									
	Grandpa										
	Mike										
	1.Make a new dialogue.	Pre-task activity: Make a new dialogue. S1:Hi, ... How are you? How was									

Unit 2 Last weekend-let's talk			
Teacher (教师)		Type (课型)	A Let's try Let's talk
Teaching material (教材)	PEP Grade 6	Period (课时)	Period 2 - 45min
Practice (情景操练/巩固练习)		<p>your weekend?</p> <p>S2:I'm fine, thank you. It was ...</p> <p>S1:What did you do?</p> <p>S2:I...</p> <p>S1:Did you do anything else?</p> <p>S2:...</p> <p>S1:Wow! You are a good boy/girl.</p> <p>S2:What are you going to do next weekend?</p> <p>S1:I'm going to ...</p> <p>S2:That's good.</p> <p>Post—task activity: "I am a little reporter."</p> <p>Interview a classmate in the class and write about his/her schedule of activities.</p> <p>Reference sentence pattern :</p> <p>Hi, ...How was your weekend?</p> <p>What did you do last weekend?</p> <p>Did you do anything else?</p> <p>plan : __was__ last weekend.</p> <p>He/ She_____.</p> <p>He/ She _____.</p> <p>He/She is going to_____ . (10min)</p>	

Unit 2 Last weekend-let's talk			
Teacher (教师)		Type (课型)	A Let's try Let's talk
Teaching material (教材)	PEP Grade 6	Period (课时)	Period 2 - 45min
	2.Use Role-play with AI to practice . The teacher demonstrates, open the AI tool select a character and use the words and sentences learned today to have a conversation with the character.		Students take out study I Pad to practice.(15min)
Summary (情景回归/归纳总结)	Ask several students to report their learning and experience		Discuss the sentences with new vocabulary.(5min)
Homework (作业布置)	1.Use new vocabulary and sentence pattern to make 5 sentence.		
Teaching Tool (教具)	1. PPT,AI tool , student's pad 2. Cards,Book,Worksheet		

Unit 2 Last weekend-let's talk			
Teacher (教师)		Type (课型)	B let's learn Look and talk
Teaching material (教材)	PEP Grade 6	Period (课时)	Period 3- 45min
Teaching Model 教学设计			
Contents of teaching (教学内容)	<p><b>Vocabulary:</b> read a book, saw a film, had a cold, slept, last weekend/night/Monday, yesterday, the day before yesterday</p> <p>Sentence pattern: How was your weekend? It was good. What did you do? I stayed at home with your grandma. Did you do anything else?</p>		
Analysis of the teaching material (教材分析)	<p>This lesson is the third period of the second unit of the second volume of the sixth grade textbook published by the People's Education Press. Continuing to focus on the topic of "last weekend", we mainly learn words and phrases through dialogue: read a book, saw a film, had a cold, slept, last weekend/night/Monday, yesterday, the day before yesterday and sentence patterns What did you do last weekend? I... Did you...?</p>		
Aims of teaching (教学目标)	<ol style="list-style-type: none"> <li>1. Be able to learn new vocabulary and sentence pattern.</li> <li>2. Get to know how to do Role-play with AI tool to practice dialog.</li> </ol>		
Emphasis on teaching (教学重点)	<ol style="list-style-type: none"> <li>(1) Ability to correctly use the above words and phrases to describe what people did in the past.</li> <li>(2) Able to use read a book, saw a film, had a cold, slept, last weekend/night/Monday correctly yesterday, the day before yesterday describes what the character did in the</li> </ol>		

Unit 2 Last weekend-let's talk			
Teacher (教师)		Type (课型)	B let's learn Look and talk
Teaching material (教材)	PEP Grade 6	Period (课时)	Period 3- 45min
	past.  (3) Be able to read dialogue with correct pronunciation and intonation, and perform role performances.		
Ideas of design (设计思路)	Encourage the students  1.To practice vocabulary.  2. Act the dialogue  3.Use AI tool Role-play to practice dialog.		
Teaching process (教学流程)			
	Activities of teachers (教师活动)	Activities of students (学生活动)	
Warming up (情景导入/导入新课)	Review what they've learn last lesson.  1. Greeting  Singing song together.  2.Ask and answer	T: Good morning, everyone.  S: Good morning, teacher.  T: Nice to see you again.  S: Nice to see you, too.  T: Boys and girls, let's sing a song "How are you today?"  S: Ok.  T: How was your weekend?  S1: It was fine/ good/ Ok, thanks.	

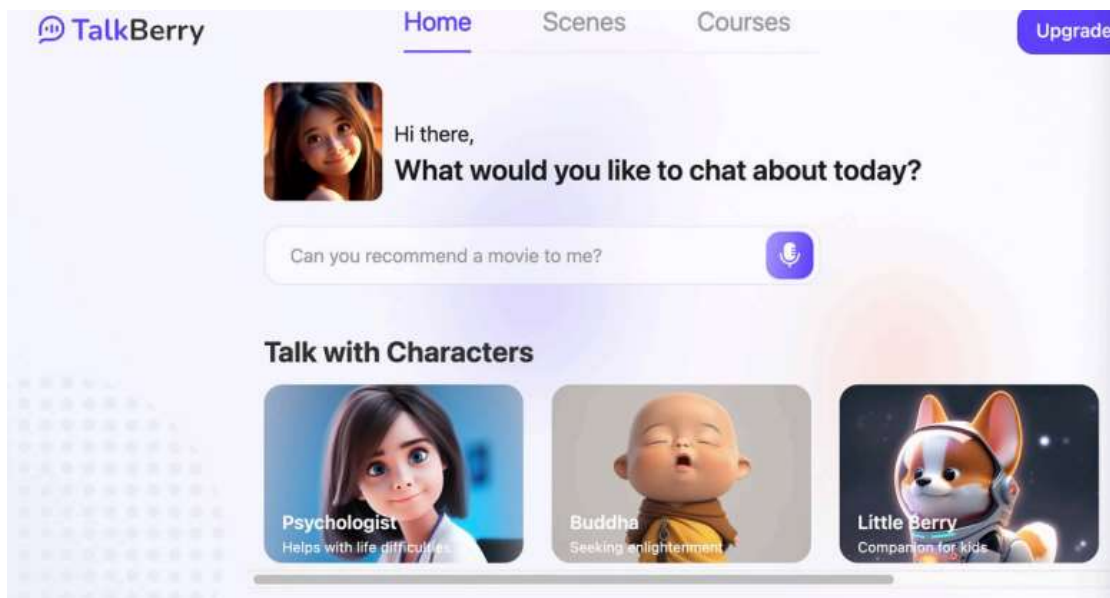
Unit 2 Last weekend-let's talk			
Teacher (教师)		Type (课型)	B let's learn Look and talk
Teaching material (教材)	PEP Grade 6	Period (课时)	Period 3- 45min
		<p>T: What did you do?</p> <p>S1: I watched TV/ cleaned my room... How was your weekend?</p> <p>S2: It was... What did you do?</p> <p>S3: ...(5min)</p>	
Presentation (讲授新课)	1.Let's learn Teaching" read a book, saw a film, had a cold, slept"	<p>T: Now I know what xxx did last weekend. Guess what I did last weekend.</p> <p>S1: You watched TV.</p> <p>S2: You cleaned your room.</p> <p>T: Yes, that's right. I washed my clothes and cleaned my room. Then what did xxx do last weekend? (The courseware shows a photo of a student in this class reading a book and watching a movie.) Guide students to answer: She /Heread a book and saw a film.(5min)</p>	

Unit 2 Last weekend-let's talk															
Teacher (教师)		Type (课型)	B let's learn Look and talk												
Teaching material (教材)	PEP Grade 6	Period (课时)	Period 3- 45min												
	<p>2.The general change rules of the past tense of verbs</p> <p>3.Combine time phrases, past tense verb phrases with sentence patterns to conduct questions and answers</p>	<p>1. Observe the conjugations of verbs and remember the irregular forms of simple past tense verbs.</p> <p>read — read    see — saw</p> <p>have — had    sleep — slept(5min)</p> <table border="0"> <tr> <td>had a cold</td> <td>yesterday</td> </tr> <tr> <td>cleaned my room</td> <td>the day before yesterday</td> </tr> <tr> <td>washed my clothes</td> <td>last Monday/Tuesday...</td> </tr> <tr> <td>watched TV</td> <td>last night</td> </tr> <tr> <td>read a book</td> <td>last weekend</td> </tr> <tr> <td>saw a film</td> <td></td> </tr> </table>	had a cold	yesterday	cleaned my room	the day before yesterday	washed my clothes	last Monday/Tuesday...	watched TV	last night	read a book	last weekend	saw a film		
had a cold	yesterday														
cleaned my room	the day before yesterday														
washed my clothes	last Monday/Tuesday...														
watched TV	last night														
read a book	last weekend														
saw a film															
Practice (情景操练/巩固练习)	1. Learn the text.	<p>Pre-task activity: Learn the text.</p> <p>(1) Show a picture of “Amy and John”.</p> <p>T: Look at the picture. Who are they?</p> <p>S: Amy and John.</p> <p>T: Yes. What did Amy do last weekend? Let's listen to the tape.</p> <p>(2) Listen to the tape and answer the questions.</p> <p>a. What did she do last weekend?</p>													

Unit 2 Last weekend-let's talk			
Teacher (教师)		Type (课型)	B let's learn Look and talk
Teaching material (教材)	PEP Grade 6	Period (课时)	Period 3- 45min
		<p>b. Did she see a film?</p> <p>(3) Open the books and follow the tap</p> <p>Post—task activity: Read in role.</p> <p>a. Work in pairs to read aloud as a character.</p> <p>b. Boys and girls read aloud in different roles.</p> <p>What did xxx do yesterday? — He/She...</p> <p>Did he/she... yesterday? —Yes, he/she did./ No, he/she didn't.(10min)</p>	
	2.Use Role-play with AI to practice.  The teacher demonstrates, open the AI tool select a character and use the words and sentences learned today to have a conversation with the character.	Students take out study I Pad to practice.(10min)	

Unit 2 Last weekend-let's talk			
Teacher (教师)		Type (课型)	B let's learn Look and talk
Teaching material (教材)	PEP Grade 6	Period (课时)	Period 3- 45min
Summary (情景回归/归纳总结)	Students speak freely, teachers summarize	1. Learned four simple past tense verb phrases: read a book, saw a film, had a cold, slept	
		2. Learned words and phrases that express time in the past: yesterday, the day before yesterday, last Monday, last night	
		3. To ask someone about something they did at a certain time in the past, ask: What did + subject + do + a word or phrase indicating past time? Answer: subject + past tense of verb + other.	
		4. To ask the other party whether they have done something in the past, ask: Did you + original form of verb?  Answer: Yes, I did./ No, I didn't.(10min)	
Homework (作业布置)	1.Use new vocabulary and sentence pattern to make 5 sentence.		
Teaching Tool (教具)	1. PPT,AI tool, student's pad 2. Cards,Book,Worksheet		


## Appendix III





## Appendix IV

### 1. Pre test

	Element
Goal	<p>The pre-test aims to evaluate the baseline English speaking proficiency of Grade 6 students at a national primary school in Yunnan Province, focusing on two key aspects: fluency and vocabulary usage. The results of the pre-test will provide a benchmark for comparing the effects of teaching interventions on the experimental and control groups. This design directly aligns with the research theme of integrating Communicative Language Teaching (CLT) with Artificial Intelligence (AI) technology.</p>
Test Subject	<p>Grade 6 students participating in the study, including the experimental group and the control group.</p>
Materials and Equipment	<p>Role-play scripts simulating real-life scenarios (e.g: talking about school, friend, weekend).</p> <p>A high-frequency vocabulary list related to the scenarios (e.g: “computer room/library” “tall/short”, “watch TV/clean room”).</p> <p>AI-assisted pronunciation evaluation tools to provide real-time feedback.</p> <p>Recording devices for capturing and analyzing student performances.</p> <p>Rubrics for evaluating fluency and vocabulary usage.</p>

	Element
Test Content	<p>Students are required to complete the following two tasks:</p> <p>1. Role-Playing Activity:</p> <p>Students work in pairs or with the instructor to perform role-playing tasks simulating real-life scenarios, such as talk about weekend dialogue (e.g., Student A is zhang peng, and Student B is John). Their performance will be evaluated based on fluency and vocabulary usage.</p>  <p>2. Vocabulary Application Task:</p> <p>Students demonstrate their ability to use target vocabulary by completing:</p> <p>Sentence Construction: Creating complete sentences using the provided target vocabulary.</p> <p>Fill-in-the-Blank Exercises: Applying the target vocabulary accurately within given contexts.</p> <p>Sentence fluency: Be able to speak the sentence fluently.</p>

	<p>Element</p>
	
<p>Test Step</p>	<ol style="list-style-type: none"> <li>1. Preparation Stage: Students are briefed on the test requirements and provided with role-play scenarios and a vocabulary list.</li> <li>2. Vocabulary Application: Students perform vocabulary-focused tasks, such as constructing sentences or completing fill-in-the-blank exercises.</li> <li>3.Scenario Participation: Students complete the role-playing tasks in pairs, showcasing their speaking and vocabulary application skills and sentence fluency.</li> <li>4.Submission: All performances are recorded for later evaluation and analysis.</li> </ol> 

	Element			
Evaluation Criteria	<b>Evaluation Projects</b>	<b>Criteria for Evaluation</b>	<b>Score</b>	<b>Total</b>
	<b>Fluency</b>	Speech is smooth, with minimal pauses or hesitation.	5	20
		Sentences are coherent, with clear meaning.	5	
		Grammatical structures are correctly used in expressions.	10	
	<b>Vocabulary Usage</b>	Target vocabulary is used accurately and appropriately in context.	10	20
		A variety of vocabulary words are effectively incorporated.	10	
	<b>Pronunciation</b>	Pronunciation is clear, with minimal errors.	10	20
		Stress, intonation, and rhythm are appropriately applied.	10	
	<b>Creativity</b>	Responses demonstrate originality and adaptability to the scenarios.	20	40
		Communication is engaging and impactful, with strong visual appeal.	20	
Caveat	<p>1. The pre-test duration is 45 minutes, with a maximum score of 100 points.</p> <p>2. All responses must be original and strictly adhere to the test instructions.</p>			

	Element
	<p>3. The test will be fully recorded, and students are required to complete both the role-playing and vocabulary tasks.</p> <p>4. Recorded test data will be used for analysis, and any violations of test rules will result in invalid scores.</p>

## 2. Post test will follow situation to change

	Element
Goal	The pre-test aims to evaluate the baseline English speaking proficiency of Grade 6 students at a national primary school in Yunnan Province, focusing on two key aspects: fluency and vocabulary usage. The results of the pre-test will provide a benchmark for comparing the effects of teaching interventions on the experimental and control groups. This design directly aligns with the research theme of integrating Communicative Language Teaching (CLT) with Artificial Intelligence (AI) technology.
Test Subject	Grade 6 students participating in the study, including the experimental group and the control group.
Materials and Equipment	<p>Role-play scripts simulating real-life scenarios (e.g: talking about school, friend, weekend).</p> <p>A high-frequency vocabulary list related to the scenarios (e.g: “computer room/library” “tall/short”, “watch TV/clean room”).</p> <p>AI-assisted pronunciation evaluation tools to provide real-time feedback.</p> <p>Recording devices for capturing and analyzing student performances.</p>

	<b>Element</b>
	Rubrics for evaluating fluency and vocabulary usage.
Test Content	<p>Students are required to complete the following two tasks:</p> <p>1. Role-Playing Activity:</p> <p>Students work in pairs or with the instructor to perform role-playing tasks simulating real-life scenarios, such as talk about weekend dialogue (e.g., Student A is zhang peng, and Student B is John). Their performance will be evaluated based on fluency and vocabulary usage.</p> <p>2. Vocabulary Application Task:</p> <p>Students demonstrate their ability to use target vocabulary by completing:</p> <p>Sentence Construction: Creating complete sentences using the provided target vocabulary.</p> <p>Fill-in-the-Blank Exercises: Applying the target vocabulary accurately within given contexts.</p> <p>Sentence fluency: Be able to speak the sentence fluently.</p>
Test Step	<p>1. Preparation Stage:</p> <p>Students are briefed on the test requirements and provided with role-play scenarios and a vocabulary list.</p> <p>2. Vocabulary Application:</p> <p>Students perform vocabulary-focused tasks, such as constructing sentences or completing fill-in-the-blank exercises.</p> <p>3.Scenario Participation:</p> <p>Students complete the role-playing tasks in pairs, showcasing their</p>

	Element			
	speaking and vocabulary application skills and sentence fluency.			
	4.Submission:			
	All performances are recorded for later evaluation and analysis.			
Evaluation Criteria	<b>Evaluation Projects</b>	<b>Criteria for Evaluation</b>	<b>Score</b>	<b>Total</b>
	<b>Fluency</b>	Speech is smooth, with minimal pauses or hesitation.	5	20
		Sentences are coherent, with clear meaning.	5	
		Grammatical structures are correctly used in expressions.	10	
	<b>Vocabulary Usage</b>	Target vocabulary is used accurately and appropriately in context.	10	20
		A variety of vocabulary words are effectively incorporated.	10	
	<b>Pronunciation</b>	Pronunciation is clear, with minimal errors.	10	20
		Stress, intonation, and rhythm are appropriately applied.	10	
	<b>Creativity</b>	Responses demonstrate originality and adaptability to the scenarios.	20	40
		Communication is engaging and	20	

	<b>Element</b>		
		impactful, with strong visual appeal.	
Caveat	<ol style="list-style-type: none"> <li>1. The pre-test duration is 45 minutes, with a maximum score of 100 points.</li> <li>2. All responses must be original and strictly adhere to the test instructions.</li> <li>3. The test will be fully recorded, and students are required to complete both the role-playing and vocabulary tasks.</li> <li>4. Recorded test data will be used for analysis, and any violations of test rules will result in invalid scores.</li> </ol>		

## Appendix V

### Open-Ended Responses

Student	1. Describe your favorite features of AI tools for learning English in the classroom. Why do you like them?	2. Explain any challenges or problems you have encountered when using AI tools and classroom activities to learn English.	3. Which classroom activities have been the most helpful for learning English? Provide an example.
Student 1	The language tutors are fun and make learning easier.	—	Vocabulary games make remembering words easier.
Student 2	I enjoy listening exercises with AI because it is free talk.	Some activities are too hard or too easy.	Group discussions help me speak more confidently.
Student 3	Pronunciation correction because it helps me speak clearly.	Sometimes the AI doesn't understand my pronunciation.	Vocabulary games make remembering words easier.
Student 4	The language tutors are fun and make learning easier.	Some activities are too hard or too easy.	Question and answer activities improve my listening and speaking.
Student 5	I enjoy chat with AI because I can repeat and learn.	Internet problems stop the AI tools from working.	—
Student 6	I enjoy chat with AI because it is fun and no time limit.	—	Question and answer activities improve my listening and speaking.

Student	1. Describe your favorite features of AI tools for learning English in the classroom. Why do you like them?	2. Explain any challenges or problems you have encountered when using AI tools and classroom activities to learn English.	3. Which classroom activities have been the most helpful for learning English? Provide an example.
Student 7	AI tutors makes me have more interest in learning English.	Sometimes the AI doesn't understand my pronunciation.	Vocabulary games make remembering words easier.
Student 8	—	I get confused by the AI instructions sometimes.	Role-playing because it lets me use real conversations.
Student 9	I like the instant feedback; it shows me my mistakes quickly.	Some activities are too hard or too easy.	Vocabulary games make remembering words easier.
Student 10	AI tutors makes me more confident.	I get confused by the AI instructions sometimes.	Question and answer activities improve my listening and speaking.
Student 11	AI tools improved my English speaking.	Internet problems stop the AI tools from working.	Role-playing because it lets me use real conversations.
Student 12	I enjoyed chat with AI because I feel my English speaking get better.	The feedback is too fast and I can't follow it well.	Question and answer activities improve my listening and speaking.
Student 13	AI tools improved my English speaking.	—	Question and answer activities improve my listening and speaking.

Student	1. Describe your favorite features of AI tools for learning English in the classroom. Why do you like them?	2. Explain any challenges or problems you have encountered when using AI tools and classroom activities to learn English.	3. Which classroom activities have been the most helpful for learning English? Provide an example.
Student 14	—	Some activities are too hard or too easy.	Group discussions help me speak more confidently.
Student 15	AI tools improved my English speaking.	Sometimes the AI doesn't understand my pronunciation.	Vocabulary games make remembering words easier.
Student 16	I like the instant feedback; it shows me my mistakes quickly.	Internet problems stop the AI tools from working.	Role-playing because it lets me use real conversations.
Student 17	I enjoyed chat with AI because I feel my English speaking get better.	Internet problems stop the AI tools from working.	Role-playing because it lets me use real conversations.
Student 18	—	The feedback is too fast and I can't follow it well.	Role-playing because it lets me use real conversations.
Student 19	The AI tools are fun and make learning easier.	Some activities are too hard or too easy.	I like presenting in front of the class.
Student 20	I like the instant feedback; it shows me my mistakes quickly.	The feedback is too fast and I can't follow it well.	—

Student	1. Describe your favorite features of AI tools for learning English in the classroom. Why do you like them?	2. Explain any challenges or problems you have encountered when using AI tools and classroom activities to learn English.	3. Which classroom activities have been the most helpful for learning English? Provide an example.
Student 21	The AI tools are fun and make learning easier.	—	Group discussions help me speak more confidently.
Student 22	The AI tools are fun and make learning easier.	Internet problems stop the AI tools from working.	—
Student 23	AI tools improved my English speaking.	Sometimes the AI doesn't understand my pronunciation.	—
Student 24	AI tools improved my English speaking.	Sometimes the AI doesn't understand my pronunciation.	Role-playing because it lets me use real conversations.
Student 25	—	Sometimes the AI doesn't understand my pronunciation.	Group discussions help me speak more confidently.
Student 26	—	Some activities are too hard or too easy.	—
Student 27	Pronunciation correction because it helps me speak clearly.	—	Vocabulary games make remembering words easier.
Student 28	—	Some activities are too hard or too easy.	Question and answer activities improve my listening and speaking.

Student	1. Describe your favorite features of AI tools for learning English in the classroom. Why do you like them?	2. Explain any challenges or problems you have encountered when using AI tools and classroom activities to learn English.	3. Which classroom activities have been the most helpful for learning English? Provide an example.
Student 29	Pronunciation correction because it helps me speak clearly.	The feedback is too fast and I can't follow it well.	Question and answer activities improve my listening and speaking.
Student 30	The AI language tutors are fun and make learning easier.	Internet problems stop the AI tools from working.	I like presenting in front of the class.
Student 31	AI tutors makes me more confident.	The feedback is too fast and I can't follow it well.	Question and answer activities improve my listening and speaking.
Student 32	Pronunciation correction because it helps me speak clearly.	Internet problems stop the AI tools from working.	Group discussions help me speak more confidently.
Student 33	I like the instant feedback; it shows me my mistakes quickly.	The feedback is too fast and I can't follow it well.	I like presenting in front of the class.
Student 34	AI reading practice helps me read aloud better.	The feedback is too fast and I can't follow it well.	Question and answer activities improve my listening and speaking.
Student 35	Pronunciation correction because it helps me speak clearly.	I get confused by the AI instructions sometimes.	I like presenting in front of the class.

## Appendix VI

Student	Pre-test score	Pre-test Level	Post-test score	Post-test Level
1	16	Medium	18	High
2	12	Low	15	Medium
3	14	Medium	16	Medium
4	15	Medium	18	High
5	18	High	20	High
6	13	Low	17	High
7	18	High	20	High
8	12	Low	17	High
9	15	Medium	17	High
10	17	High	19	High
11	16	Medium	18	High
12	18	High	19	High
13	12	Low	13	Low
14	15	Medium	19	High
15	13	Low	15	Medium
16	17	High	20	High
17	15	Medium	14	Medium
18	13	Low	16	Medium
19	12	Low	16	Medium
20	16	Medium	18	High

Student	Pre-test score	Pre-test Level	Post-test score	Post-test Level
21	11	Low	14	Medium
22	13	Low	15	Medium
23	14	Medium	16	Medium
24	17	High	18	High
25	15	Medium	17	High
26	16	Medium	20	High
27	13	Low	14	Medium
28	11	Low	15	Medium
29	12	Low	16	Medium
30	14	Medium	18	High
31	15	Medium	17	High
32	17	High	19	High
33	13	Low	16	Medium
34	19	High	18	High
35	15	Medium	20	High

## Appendix D

The Results of the Quality Analysis of Research Instruments

## IOC: Index of Item Objective Congruence

An evaluation of the alignment, coverage, and completeness of the instructional materials and research instruments.

Research Title:

The Effect of Communicative Language Teaching Approach with Artificial Intelligence Technology (AI) on Enhancing Speaking Skill of National Primary School Students in Yunnan Province

Subject Area:

English Language Teaching

Expert Reviewer's Name and Position:

ดร.สากรล ศรีวันทา

คณะบริหารธุรกิจ

ม.กรุงเทพธนบุรี

Tel. 06-5762-9449

Instructions

The expert reviewer is kindly requested to evaluate the degree to which the lesson plans, instructional activities, research instruments, and assessment tools are consistent with the stated research objectives.

The evaluation should focus on the relevance, appropriateness, and completeness of each item in relation to the research objectives.

Each item may be rated using the following three-point scale. Please mark ✓ in the appropriate column for each item.

### Scoring Criteria

+1 = The item is clearly consistent with the specified research objectives

0 = It is uncertain whether the item is consistent with the specified research objectives

-1 = The item is not consistent with the specified research objectives

No.	Evaluation Items	+1	0	-1	Suggestions
<b>Part 1: Basic Information</b>					
1	Please indicate your gender: <input type="checkbox"/> Male <input type="checkbox"/> Female	✓			
2	How interested are you in learning English speaking skills? <input type="checkbox"/> Very interested <input type="checkbox"/> Moderately interested <input type="checkbox"/> Slightly interested <input type="checkbox"/> Not at all interested	✓			
<b>Part 2: Evaluation of Classroom Activities and AI Tools</b>					
3	Interactive classroom activities (e.g., group collaboration or role-playing) have increased my interest in learning English.	✓			
4	AI tools (e.g., pronunciation practice software) have helped me improve my English fluency.	✓			
5	Interactive classroom activities have made me feel more confident in expressing my ideas in English.	✓			
6	The vocabulary learning features in AI tools have helped me remember more new words.	✓			
7	Practicing pronunciation with AI tools has improved my understanding of where my pronunciation is incorrect.	✓			
8	I have learned many new words through classroom games or task-based activities.	✓			
9	AI vocabulary tests have helped me identify which words require more practice.	✓			
10	Teacher-provided interactive guidance (e.g., error correction) has made it easier for me to speak English.	✓			
<b>Part 3: Evaluation of Learning Outcomes</b>					
11	How satisfied are you with the improvement in your English pronunciation?	✓			

No.	Evaluation Items	+1	0	-1	Suggestions
12	How satisfied are you with the number of new words you have learned in the classroom?	✓			
13	How satisfied are you with the real-time feedback provided by AI tools (e.g., pronunciation correction)?	✓			
14	After practicing with classroom activities and AI tools, how natural do you feel using English for tasks like asking for directions, shopping, or chatting?	✓			
15	Do you feel that classroom activities and AI tools have increased your confidence in expressing yourself in English?	✓			
<b>Part 4: Open-Ended Questions</b>					
16	Describe your favorite features of AI tools for learning English in the classroom. Why do you like them?	✓			
17	Explain any challenges or problems you have encountered when using AI tools and classroom activities to learn English.	✓			
18	Which classroom activities have been the most helpful for learning English? Provide an example.	✓			

An evaluation of the alignment, coverage, and completeness of the instructional materials and research instruments.

Research Title:

The Effect of Communicative Language Teaching Approach with Artificial Intelligence Technology (AI) on Enhancing Speaking Skill of National Primary School Students in Yunnan Province

Subject Area:

English Language Teaching

Expert Reviewer's Name and Position:

ดร.ฐนนวรินทร์ โสขิตพิพัฒน์

คณะบริหารธุรกิจ

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Tel.08-6373-0978, 0969828446

Instructions

The expert reviewer is kindly requested to evaluate the degree to which the lesson plans, instructional activities, research instruments, and assessment tools are consistent with the stated research objectives.

The evaluation should focus on the relevance, appropriateness, and completeness of each item in relation to the research objectives.

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No.	Evaluation Items	+1	0	-1	Suggestions
<b>Part 1: Basic Information</b>					
1	Please indicate your gender: <input type="checkbox"/> Male <input type="checkbox"/> Female	✓			
2	How interested are you in learning English speaking skills? <input type="checkbox"/> Very interested <input type="checkbox"/> Moderately interested <input type="checkbox"/> Slightly interested <input type="checkbox"/> Not at all interested	✓			
<b>Part 2: Evaluation of Classroom Activities and AI Tools</b>					
3	Interactive classroom activities (e.g., group collaboration or role-playing) have increased my interest in learning English.	✓			
4	AI tools (e.g., pronunciation practice software) have helped me improve my English fluency.	✓			
5	Interactive classroom activities have made me feel more confident in expressing my ideas in English.	✓			
6	The vocabulary learning features in AI tools have helped me remember more new words.	✓			
7	Practicing pronunciation with AI tools has improved my understanding of where my pronunciation is incorrect.	✓			
8	I have learned many new words through classroom games or task-based activities.	✓			
9	AI vocabulary tests have helped me identify which words require more practice.	✓			
10	Teacher-provided interactive guidance (e.g., error correction) has made it easier for me to speak English.	✓			
<b>Part 3: Evaluation of Learning Outcomes</b>					
11	How satisfied are you with the improvement in your English pronunciation?	✓			

No.	Evaluation Items	+1	0	-1	Suggestions
12	How satisfied are you with the number of new words you have learned in the classroom?	✓			
13	How satisfied are you with the real-time feedback provided by AI tools (e.g., pronunciation correction)?	✓			
14	After practicing with classroom activities and AI tools, how natural do you feel using English for tasks like asking for directions, shopping, or chatting?	✓			
15	Do you feel that classroom activities and AI tools have increased your confidence in expressing yourself in English?	✓			
<b>Part 4: Open-Ended Questions</b>					
16	Describe your favorite features of AI tools for learning English in the classroom. Why do you like them?	✓			
17	Explain any challenges or problems you have encountered when using AI tools and classroom activities to learn English.	✓			
18	Which classroom activities have been the most helpful for learning English? Provide an example.	✓			

An evaluation of the alignment, coverage, and completeness of the instructional materials and research instruments.

Research Title:

The Effect of Communicative Language Teaching Approach with Artificial Intelligence Technology (AI) on Enhancing Speaking Skill of National Primary School Students in Yunnan Province

Subject Area:

English Language Teaching

Expert Reviewer's Name and Position:

ดร.สัมพันธ์ ยศสมศักดิ์

คณะรัฐศาสตร์และนิติศาสตร์

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Instructions

The expert reviewer is kindly requested to evaluate the degree to which the lesson plans, instructional activities, research instruments, and assessment tools are consistent with the stated research objectives.

The evaluation should focus on the relevance, appropriateness, and completeness of each item in relation to the research objectives.

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No.	Evaluation Items	+1	0	-1	Suggestions
<b>Part 1: Basic Information</b>					
1	Please indicate your gender: <input type="checkbox"/> Male <input type="checkbox"/> Female	✓			
2	How interested are you in learning English speaking skills? <input type="checkbox"/> Very interested <input type="checkbox"/> Moderately interested <input type="checkbox"/> Slightly interested <input type="checkbox"/> Not at all interested			✓	
<b>Part 2: Evaluation of Classroom Activities and AI Tools</b>					
3	Interactive classroom activities (e.g., group collaboration or role-playing) have increased my interest in learning English.			✓	
4	AI tools (e.g., pronunciation practice software) have helped me improve my English fluency.			✓	
5	Interactive classroom activities have made me feel more confident in expressing my ideas in English.			✓	
6	The vocabulary learning features in AI tools have helped me remember more new words.			✓	
7	Practicing pronunciation with AI tools has improved my understanding of where my pronunciation is incorrect.			✓	
8	I have learned many new words through classroom games or task-based activities.			✓	
9	AI vocabulary tests have helped me identify which words require more practice.			✓	
10	Teacher-provided interactive guidance (e.g., error correction) has made it easier for me to speak English.			✓	
<b>Part 3: Evaluation of Learning Outcomes</b>					
11	How satisfied are you with the improvement in your English pronunciation?			✓	

No.	Evaluation Items	+1	0	-1	Suggestions
12	How satisfied are you with the number of new words you have learned in the classroom?			✓	
13	How satisfied are you with the real-time feedback provided by AI tools (e.g., pronunciation correction)?			✓	
14	After practicing with classroom activities and AI tools, how natural do you feel using English for tasks like asking for directions, shopping, or chatting?			✓	
15	Do you feel that classroom activities and AI tools have increased your confidence in expressing yourself in English?			✓	
<b>Part 4: Open-Ended Questions</b>					
16	Describe your favorite features of AI tools for learning English in the classroom. Why do you like them?			✓	
17	Explain any challenges or problems you have encountered when using AI tools and classroom activities to learn English.			✓	
18	Which classroom activities have been the most helpful for learning English? Provide an example.			✓	

Section	Number of Items	Expert Count	Total IOC Score
Entire Instrument	18	3	1

Appendix E  
Certificate of English

**BS  
RN** BANSOMDEJCHAOPRAYA  
RAJABHAT UNIVERSITY

This is to certify that

**ZHAO QIN**

Achieved BSRU English Proficiency Test (BSRU-TEP) level

**B2**

Given on 14<sup>th</sup> November 2025



Assistant Professor Dr Kulsirin Aphiratvoradeji

Director

## Appendix F

The Document for Acceptance Research



**The Editorial Board of Journal of Education and Learning  
Canadian Center of Science and Education**

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October 27, 2025

**Dear Zhao Qin,**

Thanks for your submission to *Journal of Education and Learning*.

We have the pleasure to inform you that your manuscript has been accepted for publication. It will be published on the Vol. 15, No. 3, in June 2026.

Title: The Effect of Integrating Communicative Language Teaching Approach with Artificial Intelligence Technology (AI) on Enhancing English Speaking of National Primary School Students in Yunnan Province, China

Authors: Zhao Qin & Kamonwan Charunsri

If you have any questions, please do not hesitate to contact with us.

Sincerely,

Grace Lin



On behalf of,  
The Editorial Board of *Journal of Education and Learning*  
Canadian Center of Science and Education

## Researcher Profile

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**Work experience:** Chinese teacher, Bilingual kindergarten

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Degree: Bachelor
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Bansomdejchaopraya Rajabhat University

**Major:** Teaching English as an International Language

**Degree:** Master