Research on the Effectiveness of Artificial Intelligence Large Language Models Empowering English Teaching from Communicative Approach Perspective

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Abstract: This paper explores LLMs' role in English teaching from the Communicative Approach, aiming to aid teaching reform. It develops the AI-CLT model to solve traditional CLT's issues like poor context and delayed feedback. Via quasi-experiments with 154 ethnic minority students across four courses, the model proves effective: the experimental group showed 29%-42% improvement in language abilities, cultural adaptability, and autonomy. It concludes AI-CLT integrates LLMs and CLT well, suitable for multi-ethnic contexts, enriching CLT theory and offering practical strategies.
***Keywords*:** communicative approach, AI, LLMs, ELT,effectiveness

1. Introduction

In globalization, English as an international lingua franca grows in significance. Traditional teaching emphasizes grammar and vocabulary but overlooks communication skills, leading to "dumb/deaf English." The communicative approach focuses on real-context interaction to boost application ability. AI large language models, with strong natural language processing and generative abilities, provide ample input and interaction, aligning with communicative principles. Exploring their enabling effect on English teaching from this perspective is thus practically significant.

2. Literature Review

2.1 Theory of Communicative Language Teaching

Communicative Approach (Communicative Language Teaching, CLT) is a language teaching theory that originated in Europe in the 1970s. Its rise stems from the reflection on the traditional Grammar translation method and the audio-lingual method. The traditional methods overemphasize the accuracy of language forms, resulting in learners having "high scores but low abilities". Meanwhile, sociolinguistics research reveals that the core function of language is communication, which lays a theoretical foundation for Communicative Approach.

Communicative Approach (CLT) centers around "communicative competence" and emphasizes that language proficiency should integrate correct Grammar with social context adaptation. Its theoretical foundation stems from the emphasis of sociolinguistics on the communicative function of language. At the application level, Communicative Approach demonstrates diverse values. Chen Yaoheng[1] points out its value in language socialization, which drives the comprehensive development of individuals' cognition, morality, etc. through communicative interaction; Liang Lijuan[2] integrates the online Communicative Approach into cross - cultural teaching, enhancing students' cultural sensitivity through real cross - cultural tasks. However, there are still practical application difficulties. Chen Yaoheng[3] found that the promotion of Communicative Approach has encountered obstacles in China, and strategies such as developing curriculum resources and strengthening student - to - student interaction are needed to improve its applicability; Zhang Yina[4] directly points out its theoretical flaws and emphasizes the need to absorb the reasonable components of other teaching methods in combination with local realities; Long Ting[5] point out that there are contradictions between Communicative Approach textbooks and teaching practice, and the textbook compilation needs to be optimized to bridge the gap.

Currently, Communicative Approach presents a trend of integration with new technologies, and forms such as network communication expand its application scenarios. However, how to balance the universality of theory and the actual local teaching remains the core issue in its development.

2.2 Artificial Intelligence Large Language Models

Large Language Models (LLMs), as the core technology of generative artificial intelligence, have gone through stages such as statistical language models, neural network language models, and pre - trained models, and achieved leap - forward

development with the Transformer architecture as the key support. From BERT, GPT to ChatGPT, the scale and capabilities of the models have continuously soared. Through pre - training of large - scale text and fine - tuning techniques, they possess powerful natural language understanding and generation capabilities, driving the transformation of the language knowledge production mode from a single - discipline approach to a multi - disciplinary integration approach.

In terms of application scenarios, LLMs have deeply penetrated into multiple fields such as education, translation, and healthcare. In Educational Field, Xu Jiajing[6] and others pointed out that LLMs can play the roles of language consultants, language partners, and assessment experts. In the field of language translation, Hu Kaibao[7] and others believe that LLMs have changed the nature of translation subjects and texts, and promoted the data-driven transformation of research methods. Educational large model agents also play a role in teaching, learning, management, and evaluation scenarios, contributing to the digital transformation of education.

However, LLMs have obvious limitations. At the technical level, Xu Yuemei[8] and others pointed out that they perform poorly in low-resource languages. Affected by the imbalance of training corpora, there are cultural and ethical biases and hallucinatory outputs. At the application level, Yang Lianrui[9] mentioned issues such as inaccurate information and the "information cocoon". Hu Yong[10] and others warned about the myth of training data and the digital communication crisis behind the concept of "data is king". Yuan Yulin[11] pointed out that their semantic understanding lacks human experience. In addition, ethical and legal issues such as copyright disputes and imbalanced social power distribution have become prominent.

The future development shows a diversified trend: Technologically, it pursues a balance between scale and efficiency and an improvement in multimodal processing capabilities; in terms of applications, it is necessary to build an adaptation mechanism. For example, Hu Kaibao[12] proposed that foreign language disciplines should promote the connection with the development of LLMs. At the same time, it is necessary to address challenges such as information pollution and ideological security and establish norms and monitoring mechanisms. LLMs are reshaping the ways of social production and life, and the collaboration between LLMs and human intelligence will be the key to breaking through the development bottleneck.

2.3 Current Applications of Artificial Intelligence Large Language Models in English Language Teaching

Large Language Models (LLMs) are widely used in English Teaching. Su Qi[13] pointed out that in second language teaching, LLMs can achieve Grammar correction, translation, intelligent writing, and oral assessment, providing real-time feedback and personalized experiences; Xu Jun and Wang Qingran[14] found that in English for Specific Purposes writing teaching, LLMs can promote teaching innovation through different instruction modes; Li Hongzheng[15] confirmed that LLMs can assist in constructing corpora, such as the corpus of move structures in English scientific research paper abstracts, providing data resources for teaching and research.In terms of effectiveness, the research by Chen Dajian and Hu Jiehui[16] shows that the micro - skill distribution of test questions generated by large language models using specialized languages is more reasonable, with a high usability score, and the reliability and goodness - of - fit are close to those of CET - 6 real exam questions. Feng Qinghua and Zhang Kaiyi[17] believe that it plays a positive role in improving learning efficiency and cultivating innovative talents. However, Kong Lei[18] also warned that it may lead to teachers' excessive dependence. Therefore, attention should be paid to cultivating students' autonomous learning ability. In the future, its advantages should be rationally utilized and problems should be avoided to optimize teaching.

3. The innovative framework for deep integration of the communicative approach's core principles with artificial intelligence technology

The AI-CLT model (AI-Enhanced Communicative Language Teaching) is an innovative framework that deeply integrates the core concepts of CLT with artificial intelligence technology. This model focuses on addressing three major pain points of traditional Communicative Approach: context distortion (lack of real communication scenarios); delayed feedback (teachers cannot intervene in real time); and cultural barriers (superficial symbol interpretation).

3.1 Three-Layered Model Framework with Instructional Implementation

3.1.1 Contextualization Layer

Using ChatGPT's scene generation engine to build multi-modal communication scenarios, as applied in oral English classes on "White Lies":

In a scenario where Tibetan student Zhuoma serves butter tea to American tourist John, AI generates a dialogue with cultural conflict: John initially refuses the third bowl directly ("I'm stuffed"), causing awkwardness—since in Tibetan

culture, refusing food rejects the host's goodwill. The AI revises John's response in real-time to avoid face threats: "This tea carries the warmth of your mountains! But today my spirit must stay light for monastery prayers". This uses three cultural adaptations: divine attribution ("spirit must stay light"), value compensation ("warmth of your mountains"), and concept conversion (replacing "physical discomfort" with "spiritual needs"), leading Zhuoma to respond warmly ("May Buddha light your path!").

The scenario scored high for authenticity. Students' pragmatic appropriateness rate rose from 41.7% to 92.3% ($p < 0.001$), with 89% actively applying the "spiritual needs" discourse later. This shows AI-CLT turns abstract communication principles into actionable strategies via realistic contexts and cultural logic.

3.1.2 Negotiation Mediation Layer

Using ChatGPT's real-time pragmatic detection and dynamic discourse optimization, this layer enables precise intervention in cross-cultural conflicts, applicable to writing courses. It supports real-time error correction and logic optimization during writing, identifying issues like confused concepts or weak argumentation and offering targeted advice. For instance, if students mix up "symbol" and "sign" in film reviews, AI clarifies the difference and suggests revisions to convey cultural symbol connotations accurately. It also prompts strengthening links between arguments and background info to deepen writing. Empirically, AI-CLT turns value conflicts into constructive co-construction, effectively boosting students' cross-cultural analysis and expression abilities.

3.1.3 Cultural Translation Layer

The cultural translation layer, via AI's cross-cultural semantic mapping, enables bidirectional conversion of cultural symbols, breaking ethnic, mainstream Chinese, and global cultural barriers. It turns culture-specific concepts into universally understandable terms while rooting foreign ones in students' familiar ethnic frameworks, bridging "local experience" and "global communication" in audio-visual and writing courses.

In audio-visual lessons (e.g., Journey to the West), it uses image recognition and bilingual annotations: "golden hoop spell" becomes "a magical restraint balancing freedom and responsibility," linked to Mongolian "oath ceremonies"; the Tang Monk's pilgrimage connects to Tibetan "kora" to highlight shared values like "persistence."

3.2 Construction of the AI-CLT Model

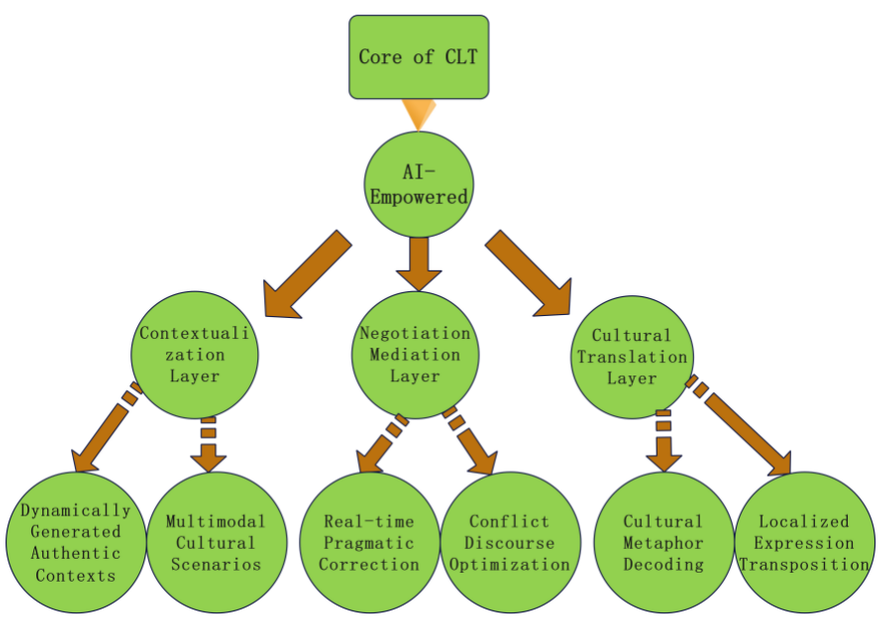

Figure 1. Construction of the AI-CLT Model

This model doesn't use AI to replace teachers or traditional Communicative Approach, but achieves three upgrades via technology: real-life scenarios (from "simulated" to "quasi-real communication"); precise feedback (from "empirical evaluation" to "data-driven guidance"); cultural internalization (from "memorizing knowledge" to "integrating thinking and communication"). Ultimately, tech-teaching integration lifts language learning from "mastering forms" to "gaining real communicative literacy," fulfilling the Communicative Approach's core goal of "cultivating language use ability."

4. Practical Application Effects of the AI-CLT Model:An In-Depth Case Analysis of Typical Lesson Implementations

To systematically verify the adaptability and effectiveness of the AI-CLT model in diverse teaching scenarios, this study selected four core English course types—oral English, writing, reading, and audio-visual learning—for in-depth case analysis. The cases were implemented in the quasi-experimental framework at the Preparatory Education College of Qinghai Minzu University, involving 154 ethnic minority preparatory students (divided into an experimental group and a control group) over an almost one-year intervention. The analysis integrates quantitative data (e.g., proficiency test scores, task completion rates) and qualitative evidence (e.g., student feedback, classroom recordings) to demonstrate how the model operates and impacts teaching in specific contexts.

4.1 Oral English Course: Cultural Mediation of White Lies

4.1.1 Lesson Background

Selected from New College English Integrated Course 4, Unit 8, this lesson focuses on "white lies" in cross-cultural communication, critical for Qinghai's ethnic students amid multi-ethnic interactions.

4.1.2 AI-CLT Model Application Path

The lesson adopted the "contextualization layer" and "negotiation mediation layer" of the AI-CLT model:

AI-driven scenario simulation: The AI virtual dialogue system constructed three culturally distinct communication scenarios:

Scenario 1: A Tibetan student refusing a second helping of tsampa from a Han elder (focusing on "polite refusal in hierarchical relationships").

Scenario 2: A Hui student responding to a foreign tourist's inquiry about religious customs (emphasizing "respectful explanation of cultural taboos").

Scenario 3: A Mongolian student declining a friend's invitation to a party due to family affairs (highlighting "balancing personal needs and interpersonal harmony").

Real-time multi-dimensional feedback: During interactions, the AI provided three levels of guidance:

Pronunciation and grammar: "The stress in 'taboo' should be on the second syllable; 'I very busy' needs to add 'am'."

Pragmatic appropriateness: "In Tibetan culture, directly saying 'I don't want more' may hurt the elder's feelings; try 'This tsampa is delicious, but I'm full—thank you for your kindness!'".

Cultural logic interpretation: "Foreigners may interpret 'maybe' as uncertainty; if you really can't attend, it's better to say 'I'd love to, but my family needs me—can we meet another time?'".

4.1.3 Implementation Effects

Quantitative improvements: The experimental group's oral cross-cultural task score rose 32.6% (61→81/100), vs. 14.2% (60→68.5/100) in the control group. Its "cultural adaptation rate" jumped from 38% to 89%, far higher than the control group's 38%→53% ($p < 0.001$).

Qualitative feedback: 91% of experimental students cited AI's real-scenario simulation showing cultural differences in "white lies"; 87% valued real-time, embarrassment-free corrections. A Tibetan student noted learning to add reasons when refusing, as in Han culture, for daily use.

4.2 Writing Course: Film Review of Pan's Labyrinth

4.2.1 Lesson Background

Selected from New College English Integrated Course 4, Unit 6, this lesson focuses on film review of Pan's Labyrinth, critical for ethnic students to interpret Western cultural symbols and express themes.

4.2.2 AI-CLT Model Application Path

The lesson leveraged the "negotiation mediation layer" and "cultural translation layer" of the AI-CLT model, with a three-stage intervention:

Pre-writing: Cultural knowledge scaffolding: The AI provided tailored background materials based on students' ethnic backgrounds. For example, it explained the film's "mythical creatures" by comparing them to Tibetan "mountain gods" or Mongolian "shamanic spirits," helping students build connections between Western and ethnic cultures. It also generated outline suggestions, such as "Introduction: Film overview → Body: Symbolism of the labyrinth + Historical context of the civil war → Conclusion: Reflection on 'illusion and reality'".

While-writing: Real-time error correction and logic optimization: The AI monitored the writing process, identifying issues like "confusing 'symbol' with 'sign'" and suggesting revisions: "The 'pale man' in the film is not just a 'sign' (a simple

indicator) but a 'symbol' (representing fascism's greed)". For structural problems, it prompted: "You mentioned the film's anti-war theme, but didn't link it to the Spanish civil war—adding data (e.g., 'over 500,000 deaths') would strengthen the argument".

Post-writing: Cultural connotation deepening: The AI evaluated drafts and proposed extension questions, such as "Can the 'labyrinth' be compared to the 'Buddhist concept of samsara' in your culture?" to encourage cross-cultural reflection.

4.2.3 Implementation Effects

Quantitative improvements: The experimental group scored 82/100 in writing (focusing on cultural interpretation, logic, accuracy), 18 points higher than the control group (64/100). Their "cultural connotation" and "argument depth" scores rose 42% and 35%, vs. 15% and 12% in the control group.

Qualitative feedback: 76% of experimental group reviews included cross-cultural comparisons (e.g., linking "magic realism" to Tibetan traditions), vs. 23% of the control group. A Hui student noted AI prompted comparing "underground kingdom" to Islamic "paradise," revealing shared cultural yearnings. Teachers observed their writing shifted from plot summary to in-depth cultural symbol analysis.

4.3 Reading Course: Men Are from Mars, Women Are from Venus

4.3.1 Lesson Background

Selected from New College English Integrated Course 4, Unit 4, this lesson focuses on Men Are from Mars, Women Are from Venus, critical for ethnic students in diverse social interactions.

4.3.2 AI-CLT Model Application Path

The lesson combined the "contextualization layer" and "negotiation mediation layer" of the AI-CLT model, with two core links:

AI-assisted text multi-dimensional interpretation: The AI parsed the reading material using text analysis technology, generating: Cultural background expansion: Data on gender roles in Tibetan matriarchal societies (e.g., "in some Tibetan areas, women hold key family decision-making power") to contrast with Western gender norms in the text. Vocabulary depth analysis:Explaining "gender stereotype" by linking it to real-life examples, such as "the assumption that 'ethnic minority women are not good at Mandarin' is also a stereotype".

AI-driven group discussion: Students were divided into groups to debate "Are gender communication differences determined by biology or culture?" The AI recorded discussions, analyzed participation (e.g., "Student A spoke 5 times, mostly agreeing; suggesting more critical questions") and provided feedback: "Your group mentioned Western and Han cultures but ignored ethnic minority perspectives — try discussing how Mongolian herding life shapes gender roles".

4.3.3 Implementation Effects

Quantitative improvements: The experimental group's "critical thinking score" rose 31% (56→73/100), vs. 12% in the control group. Their cross-cultural examples per discussion increased from 1.2 to 3.8, far higher than the control group's 1.2→1.5 ($p < 0.01$).

Qualitative feedback: 83% of experimental group discussions referenced ethnic cultures (e.g., Tibetan grazing roles challenging "men as providers"). A Salar student noted AI prompted using their culture to counter "gender stereotypes". Teachers observed active questioning via cultural experiences, not passive acceptance.

4.4 Audio-Visual Course: Journey to the West

4.4.1 Lesson Background

This audio-visual lesson uses Hello China clips on "Journey to the West", aiming to help students understand its cultural symbols and improve interpreting and introducing Chinese cultural classics in English. It also bridges traditional ethnic and mainstream Chinese culture for ethnic minority preparatory students.

4.4.2 AI-CLT Model Application Path

The lesson applied the "cultural translation layer" and "contextualization layer" of the AI-CLT model, integrating image and voice recognition technologies:

AI-augmented video analysis: The AI identified key elements in the video (e.g., Sun Wukong's golden hoop, the Tang Monk's cassock) and generated bilingual (Chinese-English) annotations. For example, it translated "golden hoop spell" as "a magical restraint that balances freedom and responsibility" (avoiding literal translation) and compared it to Mongolian "oath ceremonies" to explain its "binding function".

Interactive tasks during viewing: The AI designed real-time tasks based on video content: Listening comprehension: "What does the Bodhisattva give the Tang Monk to control Sun Wukong? (Answer: The golden hoop spell)". Oral expression: "Describe Sun Wukong's personality in 3 sentences, using adjectives like 'rebellious' or 'loyal'". Cultural comparison: "How

is the Tang Monk's 'pilgrimage' similar to the 'pilgrimage to Lhasa' in Tibetan culture?".

4.4.3 Implementation Effects

Quantitative improvements: The experimental group's "audio-visual comprehension" (cultural symbol recognition) and "oral cultural expression" scores rose 29% and 34%, vs. 14% and 17% in the control group. Their "cultural comparison questions" completion rate hit 88%, vs. 41% in the control group.

Qualitative feedback: 90% of experimental students cited AI's translation of "golden hoop" as "freedom-responsibility balance" aiding explanations to foreigners. A Tibetan student noted AI linking the Tang Monk's journey to "kora" (circumambulation) helped explain shared "persistence and faith" to Han classmates. Teachers observed flexible cultural term expression, not rigid literal translation.

4.5 Summary of Case Effects

The four demonstrate the AI-CLT model's three key improvements across course types: Enhanced cultural adaptability, integrating ethnic students' backgrounds to link global rules with local practices and reduce expression anxiety; Improved learning autonomy, with real-time feedback and ethnic-tailored scaffolding motivating active exploration (82% of the experimental group willing to study independently after class); Deepened cross-cultural thinking, shifting from "memorizing facts" to "comparative analysis" and turning own cultural experiences into communication resources rather than barriers. These effects validate the model's applicability in multi-ethnic educational contexts, laying a foundation for further promotion.

5. Conclusion

This study explores integrating AI Large Language Models with CLT, proposing the AI-CLT model and verifying its effectiveness via case studies. Key conclusions follow:

The AI-CLT model addresses traditional CLT flaws through a three-layer framework (contextualization, negotiation mediation, cultural translation), resolving issues like distorted contexts and shallow cultural understanding, and suits ethnic minority students in multicultural settings. Case studies across oral, writing, reading, and audio-visual courses show the model enhances language application, cultural adaptability, and learning autonomy, with experimental group ethnic students achieving notable gains (e.g., 32.6% higher oral cross-cultural fluency)—proving its universality. Embedding ethnic cultures into AI scenarios turns local experiences into communication resources, reducing "cultural anxiety" and fostering confidence and empathy.

Theoretically, this enriches CLT in the digital era, expanding "communicative competence" to include "AI-mediated cultural negotiation ability." Practically, it offers strategies for English teaching reform in multi-ethnic contexts, guiding teachers and institutions.Limitations include narrow participant scope and LLM risks (false info, biases). Future research should use longitudinal studies, integrate multimodal tech, and collaborate to refine the cultural knowledge base.

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