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Integrating Artificial Intelligence into Task-Based Teaching: An Action Research on Improving College Students' English Speaking Skills

Liangyan Huang[1]*, Associate Professor Dr Fariza Puteh Behak [2]
[1]FPBU, USIM University, Malaysia
[2] FPBU, USIM University, Malaysia,
[1]liangyanhuang939@gmail.com; [2]fariza@usim.edu.my
[1]https://orcid.org/0009-0009-1103-8091;
[2]https://orcid.org/0000-0002-8247-8715
*Corresponding author: liangyanhuang939@gmail.com

Abstract— *This study aims to explore the implementation and management practices of AI-assisted college English conversation tasks. The study employed an action research methodology, conducted in two four-week cycles. The participants were 12 second-year non-English major students from a Chinese university. Prior to the study, researchers conducted semi-structured interviews to understand the participants' English learning background and needs. During the study, researchers collected data from classroom observations, teacher reflective journals, and student assignments. At the end of the second cycle, participants' reflective journals were also collected to comprehensively present the learning process and outcomes. The results showed that after two cycles, students' oral fluency, vocabulary accuracy, cognitive strategy skill application, and classroom participation significantly improved. This study provides empirical evidence for the application of AI technology in college English oral teaching and offers suggestions for improving the implementation of task-based teaching methods in college English oral courses for non-English majors.*

Keywords— action research; application in teaching practice; artificial intelligence support; college English oral communication; task implementation management

I. INTRODUCTION

Against the backdrop of globalization, English speaking proficiency has become a critical skill. It not only enhances economic and educational opportunities but also facilitates cross-cultural communication and participation in international dialogues. China has the world' s largest population of English learners; relevant data shows that the total number of English learners exceeds 300 million, among which over 100 million are students in school (Shi, 2023). Despite the prominent position of English education in China' s basic and higher education systems, college students' speaking proficiency generally lags behind their reading and writing skills, failing to meet the social demand for high-level talents with practical English application abilities (Zhang & Cheng, 2022; Li & Zhao, 2023).Therefore, exploring how to effectively improve college students' English speaking proficiency within realistic constraints has become an urgent educational issue. Based on this context, this study intends to use action research to explore the role of AI-assisted Task-Based Language Teaching (TBLT) in the development of speaking proficiency among non-English major students. It also focuses on students' learning experiences and meaning-making processes during this period, aiming to provide empirical evidence and pathway references for relevant teaching reforms.The design of this study stems from the observation of a prominent contradiction in college English teaching in China: although the national curriculum guidelines explicitly emphasize cultivating students' ability to apply English in practice (Ministry of Education, 2020), the exam-oriented education system has led to an overemphasis on written examinations in teaching, while seriously neglecting the development of oral English proficiency (Wang, 2022). This contradiction is particularly evident among students majoring in arts disciplines such as dance—these students demonstrate strong expressiveness in their professional fields, yet they generally suffer from "dumb English" (inability to speak English communicatively) and anxiety about speaking up in English classes (Zhang, 2021). Practical challenges have prompted researchers to seek innovative teaching methods. Tasked-based language teaching (TBLT) lauched by Willis (1996), which focuses on meaningful tasks and communicative purpose, is considered as an effecitve method for improving oral communication skills. Meanwhile, the study conducted by Zhao (2023) indicated that the application of artificial intelligence (AI) technology in language processing, which can provide real-time, and personal feedback. Researchers have noted that the integration of AI into the TBLT framework may effectively adress the problems brought about by traditional teachingin a large-class teaching environment, and provide students with sufficient personalized feedback and practice opportunities. Through rigorous empirical exploration, the researchers aim to provide practical solutions to the challenges of oral English teaching in the context of specific majors in China.

II. PRROBLEM STATEMENT

Although college English courses in China aim to enhance students' professional competence and serve national strategies, the current exam-oriented education system has led to an overemphasis on written examinations in teaching practice, with a serious neglect of oral English proficiency cultivation. Improving oral English proficiency is crucial for students' academic and career development—it serves as the foundation for them to achieve effective communication, collaboration, and rapid adaptation in an international environment. Additionally, it helps strengthen cross-cultural understanding, promote international trade, and enhance the competitiveness of a country's talent pool. However, despite the growing demand for oral English proficiency driven by globalization, traditional teaching methods and large-class teaching models still greatly limit students' opportunities for meaningful oral practice.

There are multiple issues in current teaching practice: First, the time allocated for oral practice in classroom teaching is severely insufficient. Research (Wang, 2023) shows that nearly one-third of students have no opportunity for oral practice in class, and more than 45% of students spend less than 5 minutes on daily oral practice. Second, teaching methods are outdated—most teachers still adopt the teacher-centered PPP (Presentation-Practice-Production) model, which fails to effectively stimulate students' enthusiasm for participation (Wang, 2020). Third, there is a structural bias in curriculum design and evaluation systems: the pressure of the College English Test (CET) Band 4 and Band 6 has led to the tilt of teaching resources toward exam-oriented skills such as reading and writing, while oral English teaching is marginalized in goal-setting and class hour allocation (Zhao, 2023). Furthermore, the support for extracurricular oral practice environments is inadequate, and students generally experience anxiety, which further inhibits their willingness to express themselves orally (Wang, 2020).Although the Guidelines for College English Teaching (2020) explicitly emphasizes the teaching principle of being oriented toward practical application, this has not been effectively implemented in practice. Therefore, current research urgently needs to explore how to address core issues in oral English teaching—

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such as task design, feedback mechanisms, and student participation—through teaching innovation within realistic constraints, so as to truly improve students' oral English communication competence.

III. Research Questions & Research Objectives

This study is guided by two core research objectives:The first objective is to explore the role of AI-assisted task-based language teaching (TBLT) in enhancing learners' conversational English skills.The second objective is to examine how Chinese students navigate and make sense of their learning experiences in the context of AI-assisted task-based language teaching.This study investigated the following two central research questions:1."How does AI-assisted task-based language teaching (TBLT) facilitate the development of learners' conversational English ability?";2."In the process of Chinese students learning with the support of AI-assisted task-based language teaching, how do they perceive and navigate their learning experiences?"

IV LITERATURE REVIEW

Task-based Language Teaching (TBLT), regarded as an effective communicative language teaching method, emphasizing that language learning should revolve around meaningful task completion. The task implementation framework, established by Willis's (1996) contained pre-task stage, task-cycle stage, and language focus stage, provides practical guidance for instructional design. The advantages of TBLT have been identified by numerous empirical studies. For example, Ellis (2003) inicated that TBLT TBLT has significant advantages in improving learners' oral fluency, language complexity, and communicative competence. However, it also faces some challenges in its implementation in a large classes, such as delayed and insufficient feedback. Regarding its challeges, some researchers have begun to explore the integration of TBLT with technology. However, these studies often focus on high-tech environments, and further research is needed on how to leverage artificial intelligence tools to enhance TBLT in regular classrooms. Especially in the area of English teaching for non-English major in Chinese universities, there is almost no relevant empirical research. This study aims to fill this gap and explore a more universal teaching approach that integrates AI.

V THEORETICAL CONCEPT

This action research is built on three solid theoretical foundations:

First, the Zone of Proximal Development Theory (ZPD) and "scaffolding" (Vygotsky, 1978) provides a core theoretical perspective for this study's analysis of the learning process in interaction. It precisely describes the learner's actual developmental level of being able to solve problems independently, their potential developmental level of solving problems under adult guidance or in collaboration with more capable peers, and the gap between the two (Vygotsky, 1978). This theory posits that knowledge is actively constructed by learners through interaction with the socio-cultural environment, reaching higher potential level through the assistance of scaffolding. In this study, "tasks" are central to the interaction, with students actively constructing language knowledge by completing authentic tasks. AI tools, peers, and teacher act as "scaffolding": based on Vygotsky's "zone of proximal development" (ZPD) theory, they support students, enabling them to progress from their current independent problem-solving abilities to their potential developmental levels, helping them overcome learning barriers and ultimately internalize language skills.Next, Task-based Language Teaching (TBLT) (Wills, 1996), employed as the main framework of teaching methodology throughout the research, to achieve the potential developmental level of learners. TBLT focuses on authentic task, allowing learners to acquire language by completing task and conduct meaningful communication. Specifically, the challenging task design, within the learner's ZPD framework, prompts learners to complete tasks collaboratively. The interaction and negotiation within the task cycle stage provide opportunities for teacher, peers or AI to build scaffolding. Therefore, TBLT serves as a concrete teaching methodology for activating ZPD.

Finally, action research theory (Kemmis & McTaggart, 1988) serves as the methodological framework for this study, to ensure that TBLT instruction adapts to changes in students' ZPD within the learning process. Action research emphasizes reflection and improvement through a "plan-action-observation-reflection" process in real-world contexts. This cycle allows researchers (i.e., teachers) to adjust their teaching plans in real time based on the findings of the first cycle, ensuring that the research process is continuously adjusted and integrated with actual teaching situations.

VI RESEARCH IMPLEMENTATION

Target group

This study was conducted in a natural teaching class, with the research participants being 12 second-year students majoring in dance at a university in China. These students are in a critical stage of college English learning; however, their initial English proficiency levels vary, and they generally face the issue of insufficient confidence in speaking English.

Research Duration

The study lasted for a total of eight weeks and was divided into two complete action research cycles, each spanning 4 weeks. The entire process was a continuous, spiral progression adjusted based on reflection.

Planning for the First Cycle

Based on preliminary interviews and the currently used textbook, the oral English teaching tasks in the textbook were revised into communicative oral tasks. Based on this, the first oral task for unit 1 was designed: a talk show on the topic of "How Social Media Influences Communication" (group work). Each group consisted of the following roles: host, social media expert, psychologist, ordinary user, opponent and audience representative). Every member of the group was required to speak and present their own viewpoints. In Task 1, students were allowed to use AI for the following purposes: supplementing viewpoints, checking grammar, and improving their expressions. The task of unit 2 was to present startup project. In groups, each team selected a startup project (which could be in fields such as technology, environmental protection, education, etc.), outlined the business concept, target market, revenue model and other components, and drafted a startup presentation. AI was used to optimize the expression. Task 3 was to generate personalized campaign speeches with the assistance of AI, and replied voters' questions in English. Task 4 was Dance-Tech Inventors Challenge. Students were required to design their innovative dancing product, and promoted it in words and with body gestures as well.

Acting & Observing of the First Cycle

The teaching plan was implemented as scheduled. Learners were identified that they were interested in the novel AI tool and held a critical attitude towards AI. The data of the first cycle indicated that learners received personalized AI feeback.

Reflecting on the First Cycle

Data analysis identified that AI-assisted TBLT model stimulated learning autonomy, confirmation of group collaboration and critical attitude towards AI. It also revealed some challenges, such as time pressure, task completion, and uneven achievement. These findings provided data for the second cycle.

Adjustment

Based on the reflections from the first cycle and addressing the key issues that emerged, the second cycle did some adjustments. Specifically, the second cycle incorporated impromptu interaction into task design. At the same time, specific time limits were set to ensure learners can complete tasks more effectively within the allotted time. Finally, collaboration among AI, teacher, and peers was strengthened to promote learners' self-directed learning.

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Acting and Observing of the Second Cycle

In response to the problems that arose in the first cycle, the researcher implemented a series of intervention measures. At the beginning of the course, the researchers clarified the necessary procedures for using artificial intelligence. Furthermore, by comparing and analyzing their own initial drafts with the AI-modified versions, guiding learners to transform AI tools into scaffolder to enhance their critical thinking skills. The findings of the second cycle indicated that AI shifted from a tool to assist in language expression to enhancing cognitive development through the creation of cognitive interactions, thereby improving learners' higher-order cognitive thinking and self-directed learning abilities. Learners are transforming from passive recipients into active explorers and collaborators.

VII DATA COLLECTION METHODS

This study employed triangulation data to ensure its validity. Prior to the action research, researchers conducted semi-structured interviews to understand the target group's learning interests, prior knowledge, and preferences for task types. In the first cycle, data collection methods included classroom observation, teacher reflective journals, and student assignments. In the second cycle of the action research, in addition to the aforementioned data collection tools, data from student reflection logs was also collected.

VIII DATA ANALYSIS METHODS

The collected data were analyzed using qualitative methods. All textual data (interview transcripts, observation records, reflective journals) were analyzed through thematic analysis methodology (Braun & Clarke, 2006). The process consists of the following steps:repeatedly reading the data to become familiar with its content; conducting initial coding to label meaningful content; grouping codes into potential themes; reviewing and refining themes to ensure they accurately reflect the data content; finally defining and naming the themes.

IX RESEARCH RESULTS

In AI-assisted task-based language teaching models, AI provides support for language forms and assists with improving cognitive strategy skills. The task itself acts as scaffolding, promoting the application of metacognition and cognitive strategies, and enhancing learner engagement. Peer collaboration transforms learners from passive recipients to active collaborators, while converting passively acquired knowledge into actively mastered knowledge within a community. Collectively, the AI-assisted TBLT model enhances learners speaking skills.

X REFLECTION AND CONCLUSION

This study preliminarily verifies the effectiveness of AI-assisted task-based teaching in enhancing the English speaking proficiency, classroom participation, and learning motivation of non-English major students through two cycles of action research. It indicates that when AI technology is "strategically" integrated into a teaching framework guided by "constructivism" and "task-based teaching methods" and centered on "students' professional needs", it can achieve its maximum effectiveness.

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