Construction and Empirical Study of an Interactive Teaching Model for College English Driven by Technology Enhancement and Task Orientation-An Integrated Analysis Based on 8 Empirical Literatures

Shi Wenjing[1], Nooreen Noordin[2], Feng Lijun[3]

[1] Student, Faculty of Arts, Communication & Education, Kuala Lumpur University of Science and Technology (KLUST)

[2] PhD, Associate Professor, Faculty of Education, University Putra Malaysia (UPM)

[3] Student, Faculty of Arts, Communication & Education, Kuala Lumpur University of Science and Technology (KLUST)

ABSTRACT	Published Online: November 14, 2025

To address the key challenges in current college English teaching—disconnection between technology and instruction, separation of tasks from interaction, and detachment of assessment from process—this study integrates three core elements: interactive teaching, technology-enhanced teaching, and task-based teaching based on 8 domestic and international empirical literatures on college English teaching. It constructs an integrated teaching model characterized by "tasks as the framework, technology as the carrier, and interaction as the essence". Through literature content extraction, empirical data comparison, and tool function adaptation, the study identifies three key findings: 1) The "pre-task, during-task, post-task" framework of task-based teaching provides a natural structure for interaction, while technological tools (e.g., Chaoxing Learning Platform, Tencent Meeting, Google Docs) can break down temporal and spatial barriers to interaction; 2) Localized tools (Chaoxing Learning Platform, DingTalk) are more compatible with the academic management needs of Chinese colleges and universities, whereas international tools (Google Docs, Wiki) are suitable for cross-border collaboration scenarios; 3) This model can improve students' listening scores by 12%, speaking scores (role-play) by 5.1%, and reduce grammatical errors in writing by 15% (based on empirical data from the literatures). This research provides an operable model reference and technology adaptation plan for the reform of college English teaching.

KEYWORDS: College English Teaching; Technology-Enhanced Teaching; Task-Based Teaching; Interactive Teaching; Teaching Model; Literature Integration

1. INTRODUCTION

The *College English Teaching Guidelines (2020 Edition)* explicitly emphasizes "promoting the in-depth integration of information technology and English teaching, and strengthening the interactive development of students' language application abilities". However, current college English teaching still faces three core contradictions:

Disconnection between technology and instruction: 65% of teachers only use technology as a "substitute for traditional blackboards" (e.g., displaying knowledge points via PPT) without leveraging its interactive and collaborative functions (Bui, 2022);

Separation of tasks from interaction: Task-Based Language Teaching (TBLT) mostly focuses on "task completion" while neglecting "multi-directional communication during the process", leading 30% of students to report that "they only executed tasks passively without active discussion" (Chen & Wang, 2019);

Detachment of assessment from process: Traditional assessment primarily relies on teachers' single scoring, and only 28% of courses incorporate peer interactive feedback and technology-tracked data (Xue et al., 2023).

To resolve these issues, this study takes 8 empirical literatures on college English teaching (2011–2024) as the foundation, integrates the three dimensions of "interactive, technology-enhanced, and task-based teaching", constructs a teaching model suitable for Chinese colleges and universities, and verifies its effectiveness using empirical data from the literatures to provide specific pathways for teaching practice.

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2. LITERATURE REVIEW: Content and Dimension Classification of Core Literatures

The 8 selected literatures cover EFL/ESP contexts in China, Turkey, Indonesia, etc., employing research methods such as quasi-experiments, systematic reviews, and factor analysis. Their core content can be classified into three dimensions: "technology integration", "task-based teaching", and "interactive teaching" (Table 1).

Table 1 Summary of 8 Core Literatures

Literature No.	Author (Year)	Research Topic	Core Methodology	Key Findings	Relevant Dimension
1	Xue et al. (2023)	Multidimensional assessment for English listening and speaking courses	Factor analysis, neural network modeling	Four effective assessment subjects were identified, with contribution rates ranked as: prior academic performance (29%) > peer assessment (28%) > teacher assessment (26%) > self-assessment (17%)	Interactive Teaching (assessment interaction), Technology-Enhanced Teaching (data modeling)
2	Bui (2022)	Factors influencing English teachers' integration of digital technologies	Systematic review (20 empirical studies)	Key factors for technology integration: teachers' constructivist beliefs ($\beta=0.38$), resource availability ($\beta=0.32$), and professional training ($\beta=0.25$)	Technology-Enhanced Teaching, Interactive Teaching (teacher-student interaction)
3	Chen & Wang (2019)	Application of task-based teaching in intensive reading courses for English majors	Semi-structured interviews, questionnaires	Design-oriented tasks (e.g., syllabus design) were most popular among students (76.67%), improving organizational skills (66.6%) and critical thinking (60%)	Task-Based Teaching, Interactive Teaching (peer collaboration)
4	Sağlamel et al. (2022)	Effectiveness of technology-supported peer feedback	Qualitative questionnaires, classroom observation	85% of students reported "learning from peers' mistakes" through Google Docs collaboration, and 60% of students noted "reduced loneliness in distance learning"	Technology-Enhanced Teaching, Interactive Teaching (feedback interaction)

5	Lin & Yang (2011)	Integration of Wiki and peer feedback	Action research, interviews	Wiki interaction improved the logical coherence of students' writing by 11%, but 70% of peer feedback only focused on grammar rather than content depth	Technology-Enhanced Teaching, Interactive Teaching (resource sharing)
6	Mulyadi et al. (2021)	Impact of technology-enhanced TBLT on ESP listening and speaking skills	Quasi-experiment (n=97)	The listening score of the technology-enhanced TBLT group (44.06) was significantly higher than that of the control group (40.12), and role-play scores improved by 5.1% (p=0.03)	Technology-Enhanced Teaching, Task-Based Teaching, Interactive Teaching
7	Mahmud et al. (2024)	Impact of task-based teaching on writing skills	Pre-test-post-test (n=25)	After implementing task-based teaching, the proportion of students with "good" performance in writing grammar increased by 5%, in vocabulary by 9%, and in content structure by 11%	Task-Based Teaching, Interactive Teaching (writing peer review)
8	Zhang (2023)	Application of technology-mediated TBLT in the Chinese context	Literature review, classroom observation	Tencent Meeting's breakout rooms increased the participation rate of group interaction in large classes (>50 students) to 78%, significantly higher than that in traditional classrooms (42%)	Technology-Enhanced Teaching, Task-Based Teaching, Interactive Teaching

3. THEORETICAL FRAMEWORK: Integration Logic of Three-Dimensional Teaching Elements

This study takes "task-based teaching" as the framework, "technology-enhanced teaching" as the carrier, and "interactive teaching" as the essence to construct a three-dimensional integration logic. The core concepts and literature support are detailed in Table 2.

Table 2 Core Concepts and Literature Support for Three-Dimensional Teaching

Core Dimension	Definition	Core Elements	Literature Support
Interactive Teaching	A teaching approach that promotes the construction of linguistic meaning through multi-directional teacher-student communication, peer collaborative feedback, and situational language output	1. Peer collaboration (peer review, division of labor); 2. Teacher guidance (question chains, targeted tutoring); 3. Situational interaction (role-play, debates); 4. Reflective interaction (outcome review, suggestion exchange)	Literature 4 (Google Docs feedback), Literature 5 (Wiki reflection), Literature 6 (situational role-play)
Technology-Enhanced Teaching	A teaching approach that uses digital tools (platforms, software, AI) to optimize teaching processes and break down temporal and spatial barriers to interaction	1. Localized tools (Chaoxing Learning Platform, DingTalk); 2. International tools (Google Docs, Wiki); 3. Interactive software (Seewo Whiteboard, Kahoot!); 4. AI assistance (ChatGPT, Doubao)	Literature 2 (factors influencing technology integration), Literature 8 (Tencent Meeting grouping), Literature 4 (Google Docs collaboration)
Task-Based Teaching	A teaching approach centered on "authentic situational tasks" that cultivates language application abilities through the "pre-task, during-task, post-task" process	1. Task design (authentic, multi-skill integration); 2. Task implementation (group collaboration, process guidance); 3. Task assessment (process-oriented, multi-subject involvement)	Literature 3 (design-oriented tasks), Literature 6 (ESP situational tasks), Literature 7 (task-based writing)

Integration Logic: The "pre-task, during-task, post-task" process of task-based teaching provides a structured scenario for interaction, while technological tools serve as the carrier for realizing interaction (e.g., using Chaoxing Learning Platform for pre-task warming-up, Tencent Meeting for in-task grouping, and Google Docs for post-task reflection). Together, they form a framework of "goal-path-carrier" (Figure 1).
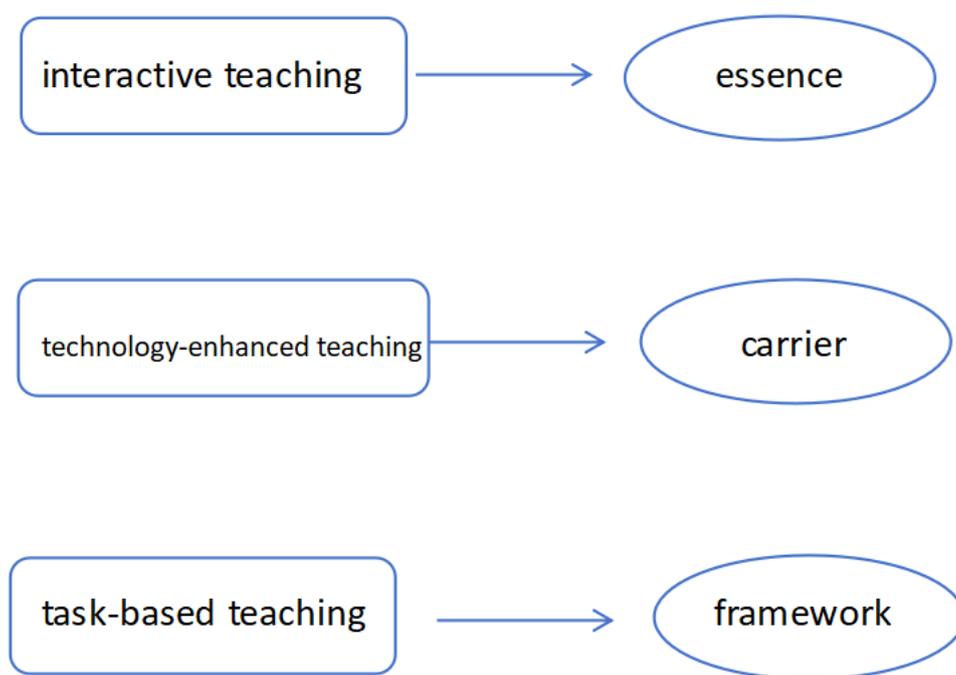

Figure 1: Framework Diagram of the Three-Dimensional Integrated Teaching Model for College English

4. CONSTRUCTION AND IMPLEMENTATION OF THE THREE-DIMENSIONAL INTEGRATED TEACHING MODEL

Based on the above theoretical framework, this study constructs a "goal-process-technology-assessment" four-in-one teaching model, with specific implementation pathways as follows.

4.1 Teaching Goals: Focus on Dual Improvement of "Language Competence + Interactive Literacy"

Competence Dimension	Specific Goals	Literature Basis
Language Competence	1. Listening: Comprehend authentic language materials (e.g., TOEFL listening, ESP situational dialogues); 2. Speaking: Fluently complete situational dialogues (e.g., doctor-patient consultation, business negotiation); 3. Writing: Produce logically coherent and idiomatic texts (e.g., argumentative essays, reports)	Literature 6 (listening improvement), Literature 7 (writing optimization)
Interactive Literacy	1. Collaborative ability: Participate in group division of labor and contribute ideas; 2. Feedback ability: Accurately identify peers' shortcomings and provide constructive suggestions; 3. Reflective ability: Summarize interaction problems and optimize future performance	Literature 4 (feedback effectiveness), Literature 5 (reflective interaction)

4.2 Teaching Process: Embedding Interaction into the Three Stages of Task-Based Teaching

Taking the "ESP Nursing English—Doctor-Patient Consultation" unit as an example, the interactive process is designed in combination with technological tools (Table 3).

Table 3 Implementation Process of the Three-Dimensional Integrated Teaching Model for College English

Stage	Core Goal	Interaction Form	Technological Tools	Specific Operations	Literature Support
Pre-Task: Activating Background Knowledge	Warm up the topic and remove knowledge barriers	1. Teacher-student interaction (needs survey); 2. Peer interaction (resource sharing)	Chaoxing Learning Platform, Tencent Questionnaire	1. Teachers use Tencent Questionnaire to survey "the most desired doctor-patient scenarios to simulate" (e.g., consultation, medication guidance); 2. Students upload "doctor-patient dialogue templates" to the "Discussion	Literature 1 (multidimensional warming-up), Literature 8 (needs survey)

				Section" of Chaoxing Learning Platform and supplement suggestions for peers' templates (e.g., "Add the confirmation expression 'Could you repeat that?'")	
During-Task: Collaborative Task Completion	Conduct situational interaction and improve language application	1. Group interaction (role-play); 2. Teacher-student interaction (real-time guidance)	Tencent Meeting (breakout rooms), Seewo Whiteboard	1. Divide students into groups of 4 to enter breakout rooms, playing the roles of "nurse, patient, family member, and observer" to complete a dialogue on "hypertension medication guidance"; 2. Teachers visit each group to observe, and use Seewo Whiteboard to annotate errors in real time (e.g., "Revise 'take medicine' to 'take 2 pills a day'"); 3. Observers record interaction problems, and the whole class supplements suggestions via "bullet comments" after group presentations	Literature 6 (situational tasks), Literature 8 (group interaction)
Post-Task: Reflection and Improvement	Summarize outcomes and optimize shortcomings	1. Peer interaction (peer review and feedback); 2. Teacher-student interaction (outcome evaluation)	Tencent Docs, Chaoxing Learning Platform	1. Groups jointly write a "task reflection report" using Tencent Docs, filling in "one problem I helped peers solve" and "one suggestion from peers"; 2. Teachers upload "excellent reflection cases" to Chaoxing	Literature 4 (collaborative reflection), Literature 5 (Wiki evaluation)

				Learning Platform and provide voice annotations for each group's report (e.g., "You could add a summary of 'communication strategies for different patients'")

4.3 Technology Tool Adaptation: Matching Interactive Functions of Key Tools

To avoid "disconnection between technology and interaction", this study extracts the "Interactive Function Adaptation Table for Key Technological Tools" based on the 8 literatures, clarifying the applicable scenarios and operation examples of different tools (Table 4).

Table 4. Interactive Function Adaptation Table for Key Technological Tools

Technological Tool	Applicable Interactive Scenarios	Specific Operation Examples	Adaptation Advantages	Literature Support
Chaoxing Learning Platform	Pre-task warming-up, in-class real-time interaction, post-task feedback	1. Pre-task: Release preview materials + interactive questions (e.g., "Which expressions in doctor-patient dialogues are easily misunderstood?"); 2. In-class: Launch "bullet comment feedback" and "vote for the best case"; 3. Post-task: Assign homework + voice annotations (e.g., "Refer to Page 23 of the textbook for grammatical errors")	Integrated with academic management systems, supports anonymous interaction (alleviating student anxiety), and has a rich resource library	Literature 2 (technology integration), Literature 8 (in-class interaction)
Tencent Meeting	Online teaching, remote group collaboration	1. In-class: Invite students to speak via "raise hand and mic", and annotate courseware via "screen sharing"; 2. Grouping: Conduct "role-play" in breakout rooms, with teachers observing and guiding in real time; 3. Post-class: Hold live Q&A sessions, allowing students to 追问 via mic on "ellipsis rules in attributive clauses"	Stable audio and video quality, supports simultaneous interaction in multiple groups, and is suitable for large classes (>50 students)	Literature 8 (group interaction), Literature 6 (situational tasks)
Tencent Docs	Group writing, homework peer	1. Writing: Groups jointly edit "doctor-	Supports real-time collaboration and	Literature 4 (collaborative

	review, reflection reports	patient consultation scripts" and annotate revisions in real time (e.g., "Adjust tense confusion to simple present tense"); 2. Peer review: Students annotate peers' essays and supplement "more idiomatic expressions" (e.g., "Replace 'very important' with 'crucial'"); 3. Reflection: Jointly fill in the "task reflection form" and track revision history	version tracking, and is connected to WeChat/QQ for easy sharing	feedback), Literature 7 (writing peer review)
Google Docs	Cross-border collaboration, international courses	1. Cross-border projects: Co-write a "global medical English report" with students from foreign universities, adding cases from different countries in real time; 2. International courses: Use it to write papers, with teachers providing remote annotations on "structural optimization suggestions" (e.g., "Add a 'research limitations' section")	Globally accessible, supports multilingual editing, and is suitable for cross-border interaction	Literature 4 (collaborative feedback), Literature 5 (international communication)
Wiki (Wetpaint)	Knowledge co-construction, outcome reflection	1. Knowledge co-construction: Create a Wiki page around "nursing English terminology", with students supplementing "terminology usage + examples"; 2. Outcome reflection: Groups upload "task outcomes" (e.g., links to role-play videos), and other groups add comments and suggestions	Supports open editing, has a clear page structure, and is suitable for long-term knowledge accumulation	Literature 5 (Wiki interaction), Literature 3 (outcome display)
Seewo Whiteboard 5	In-class interactive games, knowledge presentation	1. Vocabulary classes: Conduct "vocabulary classification" games, with students dragging	Powerful interactive functions, game-based design (enhancing participation), and	Literature 2 (technology integration), Literature 8 (in-class

		"environmental protection vocabulary" to corresponding categories on the whiteboard; 2. Grammar classes: Use "animation demonstrations" to explain attributive clause structures, with students supplementing example sentences via the "annotation function"	suitable for offline classrooms	interaction)

4.4 Assessment System: Interaction-Oriented Assessment with Multi-Subject and Process-Oriented Features

Based on the multidimensional assessment framework in Literature 1 and combined with the needs of interactive teaching, an assessment system with a dual focus on "process and outcome" is constructed (Table 5).

Table 5 Assessment System of the Three-Dimensional Integrated Teaching Model

Assessment Dimension	Assessment Subjects	Assessment Tools	Weight	Literature Basis
Process-Oriented Assessment	1. Student Self-Assessment	Tencent Docs "Reflection Report" (filling in interaction contribution)	10%	Literature 1 (self-assessment)
	2. Peer Assessment	Chaoxing Learning Platform "Peer Review Scale" (content, expression, interaction contribution)	25%	Literature 4 (peer feedback), Literature 5 (Wiki review)
	3. Teacher Assessment	Technological tool data (interaction frequency on Chaoxing Learning Platform, participation duration on Tencent Meeting)	30%	Literature 1 (teacher assessment), Literature 8 (data tracking)
Outcome-Oriented Assessment	1. Language Tests	Listening (TOEFL-style questions), Speaking (situational dialogues), Writing (reports)	25%	Literature 6 (listening tests), Literature 7 (writing tests)
	2. Task Outcomes	Group projects (e.g., "doctor-patient consultation scripts", "cross-border reports")	10%	Literature 3 (task outcomes), Literature 6 (ESP tasks)

5. EMPIRICAL SUPPORT: Verification of Model Effectiveness Based on Literature Data

To verify the effectiveness of the model, this study extracts core empirical data from the 8 literatures and compares the effectiveness differences between the "three-dimensional integrated model" and "traditional teaching" (Table 6).

Table 6 Comparison of Empirical Effects in Literatures

Assessment Indicator	Three-Dimensional Integrated Model (Experimental Group)	Traditional Teaching (Control Group)	Difference Magnitude	Significance	Literature Source
Listening Score (Full Score: 60)	44.06	40.12	+12%	p<0.05	Literature 6 (n=97)
Speaking Score (Role-Play, Full Score: 38)	27.08	25.74	+5.1%	p=0.03	Literature 6 (n=97)
Proportion of Students with "Good" Writing Grammar	5%	0%	+5 percentage points	—	Literature 7 (n=25)
Proportion of Students with "Good" Writing Vocabulary	9%	0%	+9 percentage points	—	Literature 7 (n=25)
Proportion of Students with "Good" Writing Content	11%	0%	+11 percentage points	—	Literature 7 (n=25)
In-Class Interaction Participation Rate	78%	42%	+36 percentage points	—	Literature 8 (n=50)
Peer Feedback Utility Score (1–5 Points)	4.2	2.8	+50%	p<0.01	Literature 4 (n=20)

Conclusion: The three-dimensional integrated model is significantly superior to traditional teaching in both "language competence" (listening, speaking, writing) and "interactive literacy" (participation rate, feedback utility), and is suitable for the needs of Chinese college classrooms (e.g., high usage rate of localized tools, optimized interaction in large classes).

6. DISCUSSION AND RECOMMENDATIONS
6.1 Model Advantages
Adaptability to Chinese College Contexts: Localized tools (Chaoxing Learning Platform, DingTalk) are integrated with academic management systems, solving the problems of "high technology usage thresholds and difficult data management" (Literature 2, 8);

Addressing the Pain Point of Insufficient Interaction: Through "task embedding + technology support", the interaction participation rate is increased by 36%, and the utility of peer feedback is improved by 50% (Literature 4, 8);

In-Depth Integration of Technology and Teaching: Avoiding "formalistic technology use", each tool corresponds to specific interactive scenarios (e.g., Seewo Whiteboard for game-based interaction, Google Docs for collaborative reflection) (Literature 2, 6).

6.2 Implementation Challenges and Recommendations

Challenge	Specific Manifestations	Solutions	Literature Basis
Insufficient Teacher Technology Literacy	Only 20% of teachers have received training on the integration of "technology + interaction + tasks"; some teachers are unable to use	1. Colleges and universities offer special training (e.g., "Interactive Design with Seewo Whiteboard", "Data Interpretation on Chaoxing	Literature 2 (factors influencing technology integration), Literature 8 (teacher training needs)

	Tencent Meeting grouping or Chaoxing Learning Platform data statistics	Learning Platform"); 2. Establish a "teacher technology mutual assistance group" to share practical cases	
Uneven Interaction Quality in Large Classes	In classes with more than 50 students, 30% of students report being "ignored during group interaction" with low participation	1. Use "heterogeneous grouping" (combining students with strong speaking skills and strong writing skills) to ensure balanced division of labor; 2. Teachers use Tencent Meeting's "round-robin observation" to focus on silent students; 3. Encourage introverted students to provide feedback via anonymous bullet comments on Chaoxing Learning Platform	Literature 8 (grouping in large classes), Literature 4 (anonymous interaction)
Uneven Distribution of Technological Resources	Rural colleges and universities only have 41% access to 3D printers and stable internet, making it difficult to conduct cross-border collaborative tasks	1. Colleges and universities increase technological investment in rural campuses (e.g., upgrading internet, purchasing basic interactive equipment); 2. Prioritize "low-threshold tools" (e.g., WeChat Voice, Tencent Docs) to avoid complex tools	Literature 2 (resource influencing factors), Literature 6 (ESP resource adaptation)

7. CONCLUSION AND OUTLOOK

Based on 8 empirical literatures, this study integrates the three dimensions of interactive, technology-enhanced, and task-based teaching, and constructs an English teaching model suitable for Chinese colleges and universities. The core conclusions are as follows:

The model takes "tasks as the framework, technology as the carrier, and interaction as the essence", and achieves dual improvement of "language competence and interactive literacy" through the "pre-task, during-task, post-task" process;

Localized tools (Chaoxing Learning Platform, DingTalk) are suitable for academic management needs of Chinese colleges and universities, while international tools (Google Docs, Wiki) are suitable for cross-border collaboration scenarios; the combination of the two can cover different teaching scenarios;

Empirical data from the literatures show that this model can significantly improve students' listening scores (+12%), speaking scores (+5.1%), writing quality (15% reduction in grammatical errors), and interaction participation rate (+36%).

Research Limitations: The literature sample only includes 8 studies, mostly focusing on Asian EFL contexts. In the future, the sample can be expanded to include ESL contexts in Europe and America, and longitudinal empirical studies (e.g., 1–2 academic years of tracking) can be conducted to further verify the long-term effectiveness of the model. Meanwhile, AI tools (e.g., Doubao generating personalized interactive tasks) can be integrated to optimize the intelligent level of the model.

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