

AI-Empowered Interactive-Generative Teaching in Comprehensive English: A Teacher-Student-AI Coordination Model

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Abstract: The growing use of generative artificial intelligence in Comprehensive English instruction has been accompanied by a tendency to treat AI-assisted preparation, drafting, and revision as evidence of improved learning. This paper examines that assumption by asking how AI-supported materials can be incorporated into a course whose central work remains close reading, language practice, and the formation of students' own understanding. Drawing on constructivist learning theory and distributed cognition, the paper proposes a teacher-student-AI coordination model for interactive-generative teaching. The model identifies three conditions under which AI support can become pedagogically meaningful. Teachers need to make course goals and tool-use boundaries explicit through task design. Students need to explain and revise their understanding in ways that make meaning construction visible. The intelligent system needs to preserve questions, drafts, feedback, and revision traces for later judgment. From this perspective, AI-assisted learning in Comprehensive English shows practical value in extending resources, supporting feedback, and recording the learning process, yet its value depends on how these functions are brought back into text-based tasks, classroom interaction, and teacher assessment. These distinctions help clarify the responsibilities of teachers, students, and intelligent systems in AI-mediated language learning and provide a course-level pathway for redesigning content, interaction, process, and assessment in Comprehensive English.

Keywords: Comprehensive English Course, interactive-generative teaching, teacher-student-AI coordination

1. Problems in Current Comprehensive English Course Instruction

1.1 The Course Position Calls for a New Approach to Comprehensive Competency Cultivation

Recent national efforts in China to build an education powerhouse and develop smart education have placed artificial intelligence on the reform agenda for instruction and learning. This direction can be seen in the national strategy issued jointly by the CPC Central Committee and the State Council [1], the State Council's directive on deepening the implementation of the AI Plus initiative [2], and the AI and education action plan jointly released by the Ministry of Education and other central government departments [3]. Within the fifteen core courses listed in the Teaching Guide for English Majors, Comprehensive English holds a central place. As the backbone course at the foundational stage, it integrates language training, textual understanding, and thinking skills development, and plays a pivotal role in developing students' language competence [4]. The pressure brought by intelligent tools is especially visible in this course because students often arrive in class after using AI for background research, sentence explanation, draft translation, or text revision. For a course that is meant to connect reading, understanding, expression, and feedback, these prepared materials change the evidence teachers use to judge learning. A fluent classroom answer or a revised assignment may show progress, yet it may also leave it unclear how the student understood the text, selected an expression, or adjusted a viewpoint. Comprehensive English reform therefore has to keep the strengths of systematic language training while reconsidering how textbook work, classroom interaction, teacher feedback, and AI-supported preparation are connected in the cultivation of comprehensive competence.

1.2 Disconnection between Instructional Content and the Real Linguistic Context

The unit-based organization of Comprehensive English helps teachers move through the syllabus in

a stable sequence and gives students a clear route for language training. Its limitation becomes more visible when the language materials students encounter outside the textbook enter their daily learning. The course requires students to read assigned texts accurately, relate them to cultural and social contexts, and develop reasoned expression. Printed textbooks and routine unit schedules cannot always respond to new examples and multimodal materials that students encounter through digital platforms. As a result, students may bring reference materials and language experience into class that go beyond the unit pages. When classroom teaching remains tied only to the assigned passage, it becomes difficult to connect textbook knowledge with the contexts students already use to understand English, a concern also raised by Sun and Liu [5] and Wang [6] in their discussions of digital intelligent textbooks.

Generative AI intensifies this disconnection. The explanations, paraphrases, translation drafts, and expression templates it produces may look useful for language learning, yet their accuracy, source reliability, and suitability for the unit task vary. If these outputs are accepted in class as ready-made answers, students can move from obtaining expressions to presenting them in class without testing the wording against the original text or the communicative purpose. For Comprehensive English, the problem lies in how AI-produced materials are selected, questioned, and reworked in relation to textbook content. In class, such materials are better used as prompts for re-reading. Students should compare an explanation or draft with the assigned passage and explain why a wording choice fits the unit task [7].

1.3 Classroom Interaction Constrained by a Fixed Procedure

Classroom hours are limited, and within a single session the teacher must attend to vocabulary explanation, sentence analysis, discourse analysis, textual comprehension, and expression training. To keep the unit on schedule, interaction is usually organized around preset questions, with students answering and the teacher providing focused feedback. The fixed procedure maintains basic order in the classroom and supports foundational training, but differences in students' understanding and their individual needs do not necessarily emerge through uniform questions, and organizing feedback around the responses of a few students makes it hard to identify in time the specific problems different learners have with text comprehension and language organization.

The integration of intelligent tools has magnified the limits of this fixed procedure. Before class, students use these tools to look up background material, parse difficult sentences, organize their views, or polish their phrasing, and they then carry this preparation into the classroom. Students' preparation of materials and expressions has expanded substantially, while the time available in class for working through them has not increased accordingly. If the classroom continues to revolve around teacher questioning, student answering, and teacher commentary, the materials, interpretations, and revised drafts students bring with them cannot be discussed in any depth. Conversational AI also offers immediate feedback, which, as Zhang and Hong [8] and Kohnke et al. [9] have observed, can deepen students' reliance on generated results and weaken face-to-face exchange and critical appraisal of their own output. The fixed procedure leaves Comprehensive English classrooms unable to accommodate the new materials, new expressions, and new questions that students bring in with tool assistance. Reform of interaction has to start from the structure of the procedure itself, opening up room for differentiated discussion and substantive exchange.

1.4 Assessment Struggling to Reflect the Learning Process

Test scores, written assignments, and classroom answers remain the main basis on which teachers form a picture of students' learning. These records show whether a student has completed reading, writing, translation, or oral tasks, and they partly reveal students' mastery of linguistic knowledge. Once intelligent tools are integrated into learning, the essays, translations, and oral records students submit have often passed through several rounds of revision. From the final product, the teacher can judge whether sentences read smoothly, whether a translation is complete, and whether a viewpoint has taken shape, but it is not easy to discover how the student first understood the text, what feedback shaped the revisions, or which linguistic problems will recur in the next task. The decisive moments of the learning process are obscured.

Outcome-only assessment is thereby weakened. A superficially fluent final text does not guarantee that the student has understood the passage. Nor does a fluent translation guarantee that the student can explain lexical choices, sentence relations, or the cultural meanings carried by the original. The ratings and revision suggestions provided by an intelligent system can flag certain problems of linguistic form and help the teacher locate local weaknesses in a student's writing, but tool output cannot by itself serve

as evidence of course learning. Teachers still have to draw on course objectives, the context of the text, and students' later performance to decide whether learning has really taken place, and they need to avoid treating the surface corrections produced by tool prompts as evidence of growth in ability. Liu and Yang [10] and Wan and Gu [11] both stress that this kind of misreading is a real risk when the teacher works mainly from the polished final text. If assessment is to reflect the learning process, attention has to shift from the final text to the whole path from initial understanding to completed revision.

2. Theoretical Foundations of the Interactive-Generative Teaching Model

2.1 Situated Meaning Construction in the Constructivist View

From a constructivist standpoint, students gradually develop textual understanding through concrete problems, tasks, and interactive feedback [12]. The reading, discussion, writing, and translation activities in Comprehensive English classrooms give students a structured learning routine. By integrating linguistic knowledge with cultural content, students develop a sense of what they want to express, and they then adjust their expression in response to feedback from teachers and peers. Input, output, and feedback unfold continuously, making the language-learning process increasingly coherent and integrated [13]. Textual information develops into usable language ability only when learners process it through comprehension, practice, and expressive transfer [14].

Intelligent technology has changed how students access resources, but it has not altered the underlying logic by which textual understanding and expression are formed. Generative tools can provide immediate explanations and automatic corrections, easing some of the comprehension load and improving formal accuracy in language use. If students do not work through the supporting material and the text again within a task, deeper comprehension remains out of reach. A constructivist learning environment treats problems, resources, tools, and collaboration as joint participants in learning, and cognitive tools can help the learner think and organize knowledge but cannot substitute for the learner in constructing meaning [12]. In Comprehensive English instruction, the external resources a student encounters are only the starting point. They have to be processed through reading, discussion, writing, and other expression tasks within the course before they become part of the student's own understanding and contribute to expressive competence.

2.2 Teacher-Student-AI Coordination from the Perspective of Distributed Cognition

Distributed cognition treats cognitive activity as a process in which the individual, tools, media, and environment all take part [15]. When students in Comprehensive English complete reading, writing, or translation tasks with the help of intelligent tools, the student work the teacher sees bears traces of multiple participants. A student's understanding is reflected in the essay or translation that is ultimately submitted, and also in classroom responses, in the revisions visible on the draft, and in how the student handles feedback. When restricted to the final text, the teacher cannot readily determine how the understanding was formed, how adequate that understanding is, or what role tool feedback played in shaping the revisions.

Once generative AI has entered language learning, control and judgment are no longer exercised by the teacher or the student alone, and feedback is no longer provided by either side alone [16]. Artificial intelligence is gradually becoming a curricular element of English education in its own right, influencing the relationships among textbooks, teachers, and students [17]. Comprehensive English instruction has to respond to this change, attending to how students form their understanding through tool assistance, classroom interaction, and textual revision, and organizing the instructional design accordingly.

The teacher-student-AI interactive-generative teaching model proposed here is a course-organizing approach in which teachers, students, and intelligent systems interact continuously around a shared unit task and jointly promote textual understanding, language expression, and feedback-based revision. The teacher ensures that course objectives and language-training standards remain central to the task. The student develops understanding and produces expression in the course of the task. The intelligent system supplies resources, feedback, and a record of the process. The three sets of activities are linked to one another and together constitute the interactive-generative process that runs throughout the Comprehensive English course, as shown in Figure 1.

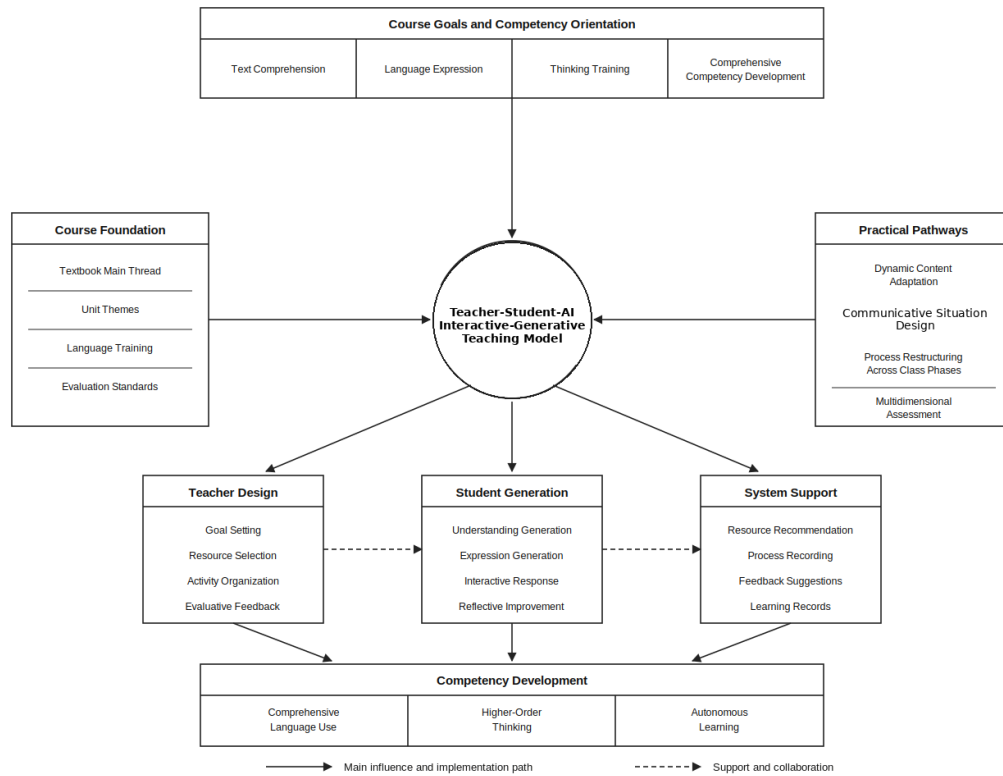


Figure 1 Framework of the Teacher-Student-AI Interactive-Generative Teaching Model for the Comprehensive English Course

3. Practical Pathways of the Interactive-Generative Teaching Model

3.1 Dynamic Adaptation of Instructional Content

Comprehensive English textbooks are built around units, each organizing texts, language points, thematic background, and writing and translation tasks. This arrangement provides a stable basis for both classroom progress and language training. Once intelligent tools are integrated into the course, students engage with more supplementary materials before class, and the sources of classroom materials multiply. Supplementary materials help students grasp the cultural background and contextual setting of a text, but they may also divert attention from the unit's central theme and blur the focus of training. Dynamic adaptation of content therefore has to stay close to the textbook's main thread first. That main thread is what links unit goals, text content, and language training, and the more varied resource forms become, the more important it is to integrate digital resources and platform tools into the teaching process in alignment with this main thread [18].

The supplementary materials students access with the help of tools can extend context, supply examples, and reveal problems of expression, but they should not directly replace textbook content. Staying close to the main thread does not mean mechanically executing a fixed set of materials. Adjustments still have to be made in response to students' actual difficulties. Intelligent systems can aggregate learning records, practice results, and recurring problems, and reveal where students diverge in vocabulary understanding, background knowledge, and expression. Teachers can use these patterns to adjust the balance between preset textbook content and supplementary material, keeping the training systematic while allowing generated content to address students' actual difficulties [19].

This recalibration also has to extend to the choice of classroom materials. The supplementary content that intelligent systems generate for English learning takes many forms. Background information can help students understand the cultural setting of the text, opinion-based materials can serve as a starting point for group discussion, and the revision trajectories visible across drafts of writing and translation offer material for productive comparison. From these materials, the teacher needs to select a small number of representative items that reveal shared problems and draw students back toward the text, the task, and language expression. When supplementary materials from intelligent tools are filtered in this

way, so that they stay close to the textbook's main thread and serve specific expression tasks, outside information can be turned into pedagogically effective language-training material in a Comprehensive English classroom. This is also a key idea in human-machine collaborative instructional design grounded in the production-oriented approach [20].

3.2 Creating Communicative Situations for Language Practice

The constructivist position on situated meaning construction holds that language drills detached from real communicative situations are unlikely to bring about deep understanding. If learners merely complete the prescribed exercises in the textbook, they tend to be confined to retelling information and offering simple expressions of attitude, and they have little chance to articulate a complete viewpoint or engage in authentic communicative expression. The key is to place students in communicative situations where they use the text for a clear audience and purpose and develop language ability through task-based meaning-making [21].

The instructional design of Comprehensive English should therefore extend the content of the text in ways oriented toward meaning expression. Texts on cultural topics lend themselves to tasks in which students explain cultural phenomena to a specified audience. Texts on social issues lend themselves to tasks in which students state a position and respond to opposing views. Narrative texts can be approached through role shifting, retelling of events, or brief commentary, all of which test the student's grasp of character relations and plot logic. Situations should remain anchored in the unit text, requiring students to choose words again, adjust their tone, and reorder information in light of the communicative goal, deciding which information from the text can be used directly and which has to be reorganized. Vocabulary, sentence patterns, discourse knowledge, and cultural awareness are activated in the work of expression, and only then do they extend from textual understanding into language use [22].

AI tools can provide multimodal materials that make communicative situations richer and more concrete. Through virtual learning companions, speech recognition, and situational simulation, teachers can turn the cultural explanations, social issues, and character relations found in a text into concrete interlocutors and roles, and design tasks that involve two-way exchange to help students develop their output. Generative AI can supply contextual materials and linguistic prompts that help students engage in communicative situations, but it cannot replace classroom-based expression and interaction [23]. After an initial attempt, students still need to check, through teacher-student question-and-answer, peer review, and revision feedback, whether their expression fits the textual context and the communicative purpose, and they need to reflect and adjust in subsequent responses [24].

3.3 Restructuring the Pre-Class, In-Class, and Post-Class Process

In a Comprehensive English course, pre-class preparation, in-class instruction, and post-class assignments form the basic sequence by which a traditional unit moves forward. Once the intelligent system is integrated into the course, process restructuring should weave tool assistance into the connections between adjacent stages. Before class, as students read the text for the first time, sort out vocabulary, and try out expression, difficulties emerge in particular words and sentences, in the grasp of background, and in the organization of expression. The intelligent system can aggregate these problems through speech analysis, grammar detection, and exercise records, and help the teacher identify which difficulties are common to most of the class and which need to be handled by smaller groups. On this basis, preparatory resources are arranged and the directions for in-class explanation, group discussion, and expression training are set.

In the classroom, the teacher can draw on these preparation records and system prompts to address difficult vocabulary and sentences, the relations among sentences and paragraphs, and recurring errors of expression, and can then group the class and design tasks accordingly. The speech and grammar feedback the system produces can serve as evidence for evaluation and support targeted classroom exercises. When students check their pre-class understanding through discussion, comparison, and expression tasks, and clarify the relations among viewpoints and adjust their expression on the basis of the text, classroom interaction responds more accurately to their real comprehension difficulties [25].

Post-class training also needs to continue working on problems that have not yet been fully resolved. Students revise their writing, translation, or oral output in light of the discussion and commentary, and in parallel the system's records of submitted texts, pronunciation practice, and classroom interaction are updated and continue to display the language problems that remain. If a class session has dealt specifically with the use of connectives and the same logical errors between sentences continue to appear

in post-class texts, the system's records prompt the teacher about where to direct the next round of instruction and training. When pre-class difficulties, classroom activity, and post-class revision are kept connected in this way, unit learning is no longer simply a sequence of preview, lecture, and homework but progresses around the language problems that persist [26], supporting students in the gradual generation and internalization of meaning across a chain of tasks.

3.4 Multidimensional Optimization of Assessment

Assessment in Comprehensive English needs to extend from a summative orientation toward a process orientation. Intelligent tools can capture process data from speech practice, written revision, classroom interaction, and online exercises, and these data constitute external cognitive evidence within a distributed cognition environment. Drawing on these records, teachers can see what recurring problems students face in vocabulary use, sentence cohesion, viewpoint organization, and oral expression, and whether those problems decrease after repeated practice. The records provide evidence for evaluation, but the intelligent system only points to local clues. When matters of language quality, depth of revision, or task completion are in question, the teacher still has to draw on the textual context, course goals, and the student's actual process of expression to make a judgment [27].

A further part of optimization is asking whether feedback from evaluation continues to shape later expression. A student who manages to improve a sentence after one correction has not necessarily resolved the underlying problem. The teacher needs to compare the texts before and after the correction, and to see whether the frequency of the same kind of error drops in later writing, translation, or oral tasks. The point of multidimensional evaluation is to enable students to explain why they revised a given word or sentence and to keep improving the same kind of expression in tasks that follow. It is at this point that the system's records take on real evaluative value. The intelligent system supplies clues for observation, and the teacher's professional judgment decides whether those clues become an effective basis for evaluation [28], as shown in Figure 2.

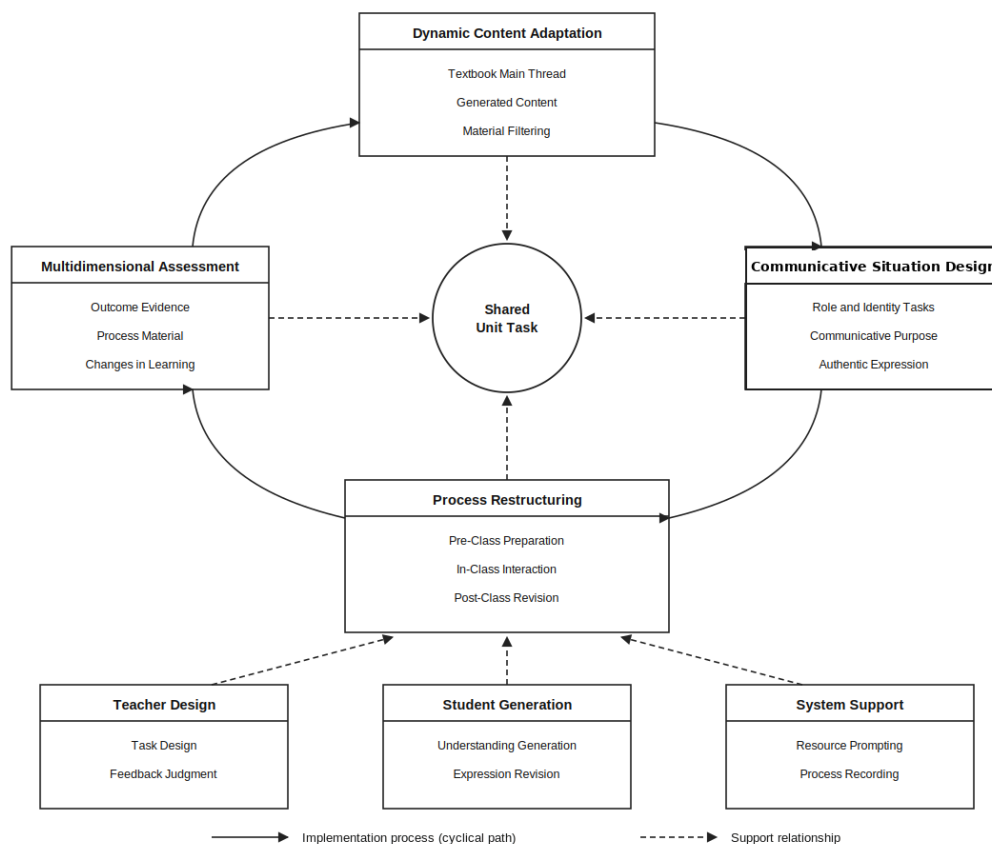


Figure 2 Implementation Pathways of the Interactive-Generative Teaching Model for the Comprehensive English Course

4. Role Transformation Among the Three Agents

4.1 The Teacher from Lecturer to Designer and Facilitator

In a traditional Comprehensive English classroom, the teacher primarily conducts the lesson through text-based explanations, question design, and focused feedback. Once intelligent tools are integrated into the course, it becomes increasingly difficult to infer the process of language acquisition solely from the final product. Teachers therefore need to build their professional judgment into task design and rules for tool use from the outset. Before instruction begins, the teacher can already use intelligent analysis tools to check whether the learning goals, instructional activities, and assessment arrangements are aligned with one another, and adjust the relevant task designs accordingly, which gives this pre-instructional judgment a practical basis [29]. In the reform of this course, the teacher effectively assumes the role of a cognitive coordinator within a distributed cognition environment, managing the relationships among preset textbook content, student-generated content, and the classroom records produced by the intelligent system. The resources and feedback provided by the system must be used judiciously, and at the same time the teacher has to monitor whether they truly serve the unit's learning goals and language-training aims. Course goals, unit tasks, and the boundaries of tool use need to be made explicit, and students need to be guided so that generated content is not treated as a learning outcome. As AI continues to support more intelligent and personalized forms of foreign language teaching, the teacher's responsibilities in learning support, task organization, and ethical judgment become more clearly defined [30].

4.2 The Student from Task Completer to Active Meaning-Maker

Once the teacher has made course goals, task requirements, and the boundaries of tool use explicit, the way students complete tasks has to adjust accordingly. Pre-class preparation, in-class interaction, and post-class assignments remain the central components of Comprehensive English learning, but students cannot simply regard these tasks as requirements for submitting finished products. Intelligent tools provide reference information, assist in producing language, and make learning tasks more convenient, yet students still have to reorganize textual material in relation to the unit task, form their own understanding through comparison and analysis, and translate that understanding into viewpoint articulation and language production. The student has to decide how to select and process information in relation to the text and the task, and to take responsibility for the final expression of ideas.

In classroom activities, students actively engage with topics by verifying information, joining discussion, organizing output, and internalizing their understanding through feedback. Textual content, classroom tasks, and external resources become part of an articulated viewpoint, a finished translation, or a revised draft only after they have been processed through the student's comprehension, selection, and re-expression. If students merely piece together fragments of tool-generated content into an answer, the depth of learning will remain limited. External resources become part of students' own learning only when students can explain how they read a text, why they choose a given expression, and why they keep or revise a particular translation [31]. Only through active meaning construction can the resources provided by tools develop into language ability that the student can transfer to new tasks.

4.3 The Intelligent System from Auxiliary Tool to Process Support

For the intelligent system to genuinely support Comprehensive English instruction, it cannot be limited to responding to a simple request before the final text is generated. It needs to be more deeply embedded in the learning process. Across the work of a unit, the system can keep a continuous record of student questions, practice, revisions, and responses, and use frequency counts and trajectory comparisons to identify which language points students consistently struggle with, which problems gradually decrease after instruction, and which misunderstandings and expression difficulties persist. On this basis, teachers can identify the underlying bottlenecks in textual understanding, expression organization, and linguistic revision, while students can review how their knowledge has developed through learning paths, knowledge maps, and feedback records. The system's records are not equivalent to learning outcomes, but they offer a process-level basis for classroom follow-up questions, task adjustment, and later training [32]. In line with the basic consensus on cognitive tools within distributed cognition, the system extends cognitive bandwidth, but the integration of meaning and value judgment still rests with human agents.

Although deeper involvement enables the system to support the learning process, its capabilities must still be clearly defined. The system can record, present, and initially link information, but it cannot replace

human value judgment or accountability. It is well suited to providing learning cues, guiding directions for thinking, preserving process traces, and making changes in student learning visible. However, it cannot explain on the student's behalf how and why something is understood, nor can it make professional judgments about language quality and task completion on behalf of the teacher [33]. Students remain responsible for their own understanding and expression, and teachers remain responsible for professional judgments grounded in course goals and language-training standards.

4.4 Course Relations Reorganized Through Three-Agent Coordination

A unit task shows how the teacher, the students, and the intelligent system actually work together. In a writing or translation task based on reading, the teacher first decides which parts of the text should be explained, discussed, rephrased, or translated, and also decides at which points tool use is allowed. Students then use the text and the available support to prepare an answer, test it through discussion, and revise it when evidence from the passage or feedback from others does not support the first version. The system records questions raised before class, draft wording, feedback, and later revisions. These records give the teacher something more concrete to ask about, such as why a student kept a sentence pattern, changed a translation, or selected one example from several AI suggestions.

Coordination in this model takes shape through repeated checking within the same task. A teacher's follow-up question may lead students back to a sentence, a paragraph relation, or a cultural reference in the text. A student's revision may show that the earlier difficulty lay in argument organization rather than in an isolated word. The system preserves such changes and makes them available for later explanation, task adjustment, and post-class training [34]. Its role remains limited. It can make questions, drafts, feedback, and revisions easier to trace, yet it cannot explain the learner's reasoning or judge the quality of expression in relation to course goals. Classroom improvement has a clearer basis when the teacher's judgment, the student's responsibility for expression, and the system's process record are connected through concrete language tasks [35].

5. Conclusion

In the Comprehensive English Course, learning needs to be judged from the work students do with texts, alongside the fluency of final answers. When generative AI is used in preparation and revision, a smooth translation or answer may contain several forms of support. Teachers therefore need to see students' reading decisions, explanations of wording, use of feedback, and revision paths. This paper has proposed a teacher-student-AI coordination model to address this course-level problem. The model places AI use within unit tasks and links it to teacher design, student explanation, classroom interaction, and process records.

In this model, the teacher keeps course goals and language-training standards visible when setting tasks and judging performance. Students use AI-assisted materials as starting points for reading, discussion, writing, translation, and revision, and they remain responsible for explaining their choices. The intelligent system records questions, drafts, feedback, and revisions so that the learning process can be reviewed after the final product has been submitted. These roles give Comprehensive English teaching a more workable way to connect pre-class preparation, in-class interaction, and post-class revision.

The model also sets limits on technological support. AI-generated explanations and revisions gain pedagogical value only when they are checked through the assigned text, the unit task, and the teacher's professional judgment. For Comprehensive English reform, the task is to maintain systematic language training while making the path from reading to expression more visible. This path offers a basis for using intelligent tools in English-major courses without weakening the learner's own construction of meaning or the teacher's responsibility for assessment.

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References

[1] *CPC Central Committee, State Council. Outline of the Education Powerhouse Construction Plan*

(2024-2035) [Z]. 2025.

- [2] Lin D U , Shuang X U , Zongben X U . *Teacher-Student-AI Collaborative Classroom: The Platform and Practice of AI-Empowered University Mathematics Education*[J]. *Frontiers of Education in China*, 2025, 20(4). DOI:10.3868/s110-020-025-0025-8.
- [3] Chen S , Yang J . *Innovative Research on AI-Enabled Innovation of Multiple Evaluation Systems in College English Teaching*[J]. *Journal of Contemporary Educational Research*, 2025, 9(8):213-218.
- [4] English Teaching Steering Subcommittee of the Foreign Language and Literature Teaching Steering Committee of the Ministry of Education. *Teaching Guide for Undergraduate Programs in Foreign Languages and Literatures, Volume I, Teaching Guide for English Majors* [M]. Beijing: Foreign Language Teaching and Research Press, 2020.
- [5] Sun Y, Liu M. Construction of foreign language digital textbooks in the AI era: Challenges, ideas, and pathways [J]. *Modern Foreign Languages*, 2026, 49(2): 285-293.
- [6] Wang H. Exploring a framework for digital and intelligent textbook construction for college English in the era of generative AI [J]. *Contemporary Foreign Languages Studies*, 2025(2): 23-33.
- [7] Zheng C, Yu M, Guo Z. Research on the application of artificial intelligence in language teaching: Review and outlook [J]. *Foreign Language Education*, 2024, 45(1): 59-68.
- [8] Zhang Z, Hong H. ChatGPT-supported foreign language teaching: Affordances, problems, and strategies [J]. *Foreign Language World*, 2023(2): 38-44.
- [9] Kohnke L, Moorhouse B L, Zou D. ChatGPT for language teaching and learning [J]. *RELC Journal*, 2023, 54(2): 537-550.
- [10] Liu J, Yang M. Digital empowerment for the development of foreign language teachers' assessment literacy [J]. *Foreign Languages in China*, 2025, 22(5): 66-73.
- [11] Wan P, Gu X. Human-machine collaborative evaluation supported by generative artificial intelligence: Practice patterns and illustrative cases [J]. *Modern Distance Education*, 2024(2): 33-41.
- [12] Liu J, Ma J. Research on the instructional design of secondary school artificial intelligence courses based on constructivist learning environments [J]. *Computer Education*, 2022(10): 132-135.
- [13] Yang L. Second language acquisition under the background of ChatGPT large language models [J]. *Modern Foreign Languages*, 2024, 47(4): 578-585.
- [14] Mei D. English learning and the English learning activity view oriented to the development of core competencies [J]. *Curriculum, Teaching Materials and Methodology*, 2024, 44(8): 86-90, 98.
- [15] Yu G, Teng W, Li F. The extension of human cognitive bandwidth and reconstruction of cognitive frameworks by generative AI: An analysis based on distributed cognition [J]. *News and Writing*, 2024(10): 15-24.
- [16] Wang Y, Zhu T, Yang S, Zheng Y. Human-machine collaborative teaching: Motivations, essence, and challenges [J]. *e-Education Research*, 2024, 45(8): 51-57.
- [17] Wen Q. English education in the age of artificial intelligence: An analysis of the four-element new curriculum model [J]. *Foreign Languages in China*, 2024, 21(3): 11-18.
- [18] Yang L. New-form college English textbooks: Connotation, development principles, and core features [J]. *Foreign Language World*, 2024(1): 57-64.
- [19] Li J. The influence of generative artificial intelligence on curriculum, teaching materials, and teaching methods [J]. *Curriculum, Teaching Materials and Methodology*, 2024, 44(2): 14-21.
- [20] Li D. ChatGPT-supported instructional design of the production-oriented approach with human-machine collaboration [J]. *Foreign Language Education Research Frontiers*, 2024, 7(4): 58-64, 95-96.
- [21] Ellis R. Position paper: Moving task-based language teaching forward [J]. *Language Teaching*, 2017, 50(4): 507-526.
- [22] Yang L, Sun Y. Practical research on the compilation of college English textbooks oriented toward multiple competencies [J]. *Shandong Foreign Language Teaching*, 2024, 45(2): 50-60.
- [23] Kong L. The application of generative artificial intelligence in foreign language major teaching: A case study of teaching the College Critical Thinking English Course intensive reading textbook [J]. *Foreign Language Education Research Frontiers*, 2024, 7(1): 11-18, 90.
- [24] Wu J, Zhou W, Cao C. Empirical research on generative artificial intelligence technology empowering oral language teaching [J]. *China Educational Technology*, 2024(4): 105-111.
- [25] He C, Wang Y, Guo J. The construction and practice of an AI-empowered intelligent teaching model: A study of college English teaching reform practice based on a digital intelligent teaching platform [J]. *Computer-Assisted Foreign Language Education*, 2025(2): 62-64, 105.
- [26] Zhou Y. Mechanisms and pathways of generative artificial intelligence empowering English writing instruction [J]. *Computer-Assisted Foreign Language Education*, 2026(1): 25-31.
- [27] Lu G, Yang Q, He X. The value, challenges, and pathways of generative artificial intelligence empowering formative assessment in higher education [J]. *e-Education Research*, 2024, 45(11): 84-91.
- [28] Song Y, Xu C, Mu X. Research on new classroom teaching evaluation and optimization empowered

- by generative artificial intelligence [J]. *Modern Educational Technology*, 2024, 34(12): 27-36.
- [29] Mu S, Chen X, Zhou D. Analysis of instructional design empowered by generative artificial intelligence: Needs, methods, and development [J]. *Open Education Research*, 2025, 31(1): 61-72.
- [30] Sun C, Liu W. Applications and future prospects of artificial intelligence empowering foreign language teaching [J]. *Foreign Languages and Their Teaching*, 2025(5): 77-87, 147.
- [31] Sun L. Generative artificial intelligence empowering English major research-oriented teaching: Exploring the human-machine collaboration model [J]. *Computer-Assisted Foreign Language Education*, 2026(1): 10-15.
- [32] Guo L. Generative artificial intelligence driving educational change: Mechanisms, risks, and responses, with DeepSeek as a case [J]. *Chongqing Higher Education Research*, 2025, 13(3): 38-47.
- [33] Tian Y, Lu L. Artificial intelligence empowering higher education: Dilemmas of subjectivity and pathway reconstruction [J]. *Journal of Chengdu University of Technology (Social Sciences Edition)*, 2025, 33(5): 96-111.
- [34] Yi K, Han X. From blended teaching to human-intelligence collaborative teaching: A new form of teaching under the transformation of generative artificial intelligence technology [J]. *Chinese Journal of Distance Education*, 2025, 45(4): 85-98.
- [35] Ke Q C, Mi Q W, Bao T T. Applications of generative artificial intelligence in basic education: Opportunities, risks and countermeasures [J]. *Modern Educational Technology*, 2024, 34(9): 5-13.