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Research on College English Teaching Strategy Reform Integrating Artificial Intelligence and Traditional Teaching

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Abstract: Traditional college English teaching models are characterized by rigid procedures and a single format. Uniform instruction can hardly adapt to students' differentiated learning rhythms, and classroom efficiency and educational quality face obvious bottlenecks. The popularization of artificial intelligence (AI) technology provides a new path for the transformation and upgrading of traditional English teaching and can complement offline classrooms. From the perspective of human–AI integrated teaching, this paper clarifies the core objectives of college English teaching reform, analyzes two core influencing factors—teacher literacy and campus resources—and proposes implementation strategies from six aspects: dual-teacher classroom construction, platform expansion, thinking cultivation, intelligent grading, oral simulation, and data-based evaluation. The aim is to promote college English teaching from traditional transmission-oriented instruction toward intelligent, precise, and efficient teaching and to achieve long-term improvement in teaching quality.

Keywords: artificial intelligence, college English, traditional teaching, teaching integration, teaching reform

1. Introduction

As a core course, college English plays an important role in cultivating students' language application ability and cross-cultural communicative competence. Artificial intelligence has advantages in data computation, intelligent interaction, and massive resource storage, and it can compensate for shortcomings in traditional teaching. Promoting the deep integration of AI and traditional English teaching is not a simple technological addition; it is an all-round reform of teaching models, educational logic, and evaluation systems. This has important practical significance for delivering high-quality college English teaching in the new era.

2. Objectives of College English Teaching Strategy Reform Integrating Artificial Intelligence and Traditional Teaching

2.1 Enhancing efficiency through complementary human–AI collaboration

The main purpose of integrating AI with traditional teaching is to achieve complementary human–AI advantages and improve the overall teaching efficiency of college English. AI can undertake mechanical and repetitive teaching tasks and, with its algorithmic and data-processing capabilities, effectively complete basic teaching affairs, significantly reducing teachers' workload (An, 2025). Teachers can then free themselves from cumbersome routine work and devote more energy to higher-order educational tasks such as classroom design, thinking guidance, humanistic education, and individualized tutoring. Through human–AI cooperation, the efficiency limits of traditional teaching are successfully broken: intelligent technology is used for high-precision and high-efficiency basic teaching, while traditional classrooms undertake in-depth educational tasks. This builds a two-way complementary teaching model and comprehensively improves the quality and efficiency of English classroom teaching.

2.2 Data-driven and accurate response to needs

Traditional college English teaching is mainly uniform instruction, with standardized teaching content, teaching rhythm, and training models. Teachers judge the overall learning situation based on subjective experience and find it difficult to accurately capture each student's knowledge gaps, skill weaknesses, and learning characteristics. The core reform objective of AI-integrated teaching is to rely on big data technology to accurately assess the learning situation and use data to drive precise teaching (Chen, 2025). The intelligent system can record changes in students' listening status, practice data, answering performance, and listening, speaking, reading, and writing abilities throughout the process, and automatically sort out students' weak knowledge points and skill shortcomings, thereby forming an objective and comprehensive student learning data system.

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3. Influencing Factors of College English Teaching Strategy Reform Integrating Artificial Intelligence and Traditional Teaching

3.1 Teachers' AI literacy and transformation ability

As the core implementers of teaching reform, teachers' AI literacy and teaching transformation ability directly determine the effectiveness of human–AI integrated teaching and constitute the core human factor affecting reform quality (Han, 2025). At present, most college English teachers have solid language teaching foundations and traditional classroom teaching abilities and are familiar with teaching logic such as online and offline communicative teaching, text-based instruction, and classroom interaction. However, most teachers lack systematic training in intelligent teaching and do not have an in-depth understanding of the functions of AI teaching platforms, intelligent tools, and data assessment. Some teachers can only perform simple operations on basic intelligent devices and cannot make deep use of advanced functions such as data-based learning analysis, intelligent resource push, and virtual simulation teaching, making it difficult to achieve deep integration of intelligent technology with English reading, speaking, and writing teaching. Some teachers are also constrained by traditional teaching thinking and rely excessively on offline lecture-based models, resisting intelligent teaching and failing to organically combine technology with classroom teaching. A lack of teachers' AI literacy and weak technological transformation ability will make intelligent devices merely decorative, making it difficult to realize the educational value of technology and greatly limiting the deepening of teaching reform.

3.2 Institutional facilities and resource supply

Human–AI integrated teaching requires support from a stable network environment, intelligent teaching platforms, classroom intelligent devices, and cloud resource libraries, which places higher demands on the digital construction of colleges and universities. The digital construction of some ordinary universities and local institutions is relatively backward, and the allocation of intelligent teaching equipment is insufficient. Classrooms lack intelligent interactive terminals, oral simulation devices, and learning situation collection equipment. At the same time, many institutions lack intelligent teaching resources specially adapted to their own English learning situations, and generalized resources are not highly compatible with school syllabi and classroom progress, so they cannot support regular integrated teaching (H. Yang, 2025). The functions of intelligent platforms in some universities are simple, with only basic functions such as assignment distribution and online check-ins, and lack core teaching modules such as data analysis, intelligent evaluation, and virtual communication. Problems such as inadequate infrastructure, insufficient resource supply, and backward platform construction will prevent AI teaching from being carried out on a regular basis and limit it to fragmented and formalistic classroom experiments. It is difficult to establish a systematic and regular human–AI collaborative teaching system, which hinders the long-term development of teaching reform.

4. Methods of College English Teaching Strategy Reform Integrating Artificial Intelligence and Traditional Teaching

4.1 Constructing a dual-teacher collaborative model

The human–AI dual-teacher collaborative teaching model is a core pathway for the deep integration of AI and traditional English teaching. It thoroughly changes the traditional single-teacher teaching method and realizes division of labor, cooperation, and complementary advantages between an intelligent teaching assistant and an offline teacher. In daily English classrooms, the intelligent system can complete pre-class learning statistics, preview checks of knowledge points, and baseline ability assessments in advance, thereby providing an accurate basis for teachers' classroom teaching design (Dong, 2025). During classroom instruction, intelligent devices assist in basic training such as vocabulary repetition, pronunciation correction, sentence pattern practice, and in-class quizzes, ensuring basic learning outcomes for all students. Online and offline teachers carry out higher-order teaching activities centered on in-depth text interpretation, grammatical logic analysis, Chinese–Western cultural comparison, classroom communicative interaction, and student thinking guidance. After class, the intelligent teaching assistant completes functions such as assignment collection, basic error correction, and data statistics, while teachers focus on explaining common problems and providing one-on-one guidance for individual problems. Dual-teacher collaboration clarifies the division of labor between humans and AI, avoids the loss of humanistic elements in the classroom caused by technology misuse, and retains the advantages of traditional English classrooms, such as teacher–student interaction, emotional communication, and intellectual exchange. While leveraging the precise and efficient technical advantages of AI, it creates a new English classroom model that is scientific, efficient, warm, and accurate, improving the overall educational quality of the classroom.

4.2 Pre-class and after-class expansion through intelligent platforms

Building pre-class and after-class expansion systems based on AI teaching platforms can break

through the time and space limitations of traditional classrooms, expand English teaching scenarios, and remedy deficiencies such as weak after-class guidance and insufficient expansion resources in traditional teaching. Traditional college English teaching relies only on 40-minute offline classrooms. Pre-class activities are loosely organized and poorly guided, after-class learning supervision is inadequate, and resources are scarce. Students' after-class independent learning is inefficient, language accumulation is difficult to sustain, and classroom teaching effects cannot be effectively consolidated. AI teaching platforms integrate resource push, independent practice, online monitoring, and learning tracking, and can build an integrated teaching system covering pre-class, in-class, and after-class stages (Y. Yang, 2025). Before class, teachers use the platform to accurately push customized preview resources based on the key and difficult points of the upcoming lesson, including core vocabulary, key sentence patterns, background knowledge, and preview exercises. The platform automatically records students' preview duration, answer accuracy, and weak knowledge points, laying the groundwork for precise classroom teaching. After class, based on students' in-class learning data, the platform pushes review resources, targeted exercises, extended reading, and listening materials at different levels to meet the consolidation needs of students with different foundations (Li, 2025). The system tracks students' after-class learning progress in real time and automatically collects learning data to intelligently remind students who have not completed learning tasks and show weaker learning outcomes. With the support of backend data, teachers can grasp all students' after-class learning conditions and accurately understand overall learning dynamics. Using intelligent platforms for pre-class and after-class expansion realizes the linkage between in-class and out-of-class teaching, enabling English learning to expand from a single classroom to all-weather, regular independent learning and continuously consolidating students' language foundations.

4.3 Deepening communicative thinking in traditional classrooms

Artificial intelligence has strong capabilities in standardized training and data statistics, but it cannot replace critical exchange and humanistic cultivation in traditional offline classrooms. English teaching centers on developing students' language communicative ability and cross-cultural critical thinking, and the realization of this higher-order educational goal must rely on traditional offline classrooms (Wang, 2025). Under the reform of human–AI integrated teaching, the advantages of traditional classrooms should be maintained, mechanical knowledge transmission should be reduced, and emphasis should be placed on deepening students' language communication and critical thinking, so that technology serves thinking-oriented education. In classroom teaching, teachers identify students' common problems and difficult knowledge points screened out by AI as the focus of classroom teaching, abandon inefficient word-by-word explanation, and save substantial classroom time for communicative activities such as group discussion, situational dialogue, thematic debate, and cultural comparison. Around unit themes, teachers create critical thinking questions and guide students to communicate and discuss in English, encouraging students to independently express their views, distinguish cultural differences, and explain personal opinions. By observing students' language expression gaps, thinking errors, and communication weaknesses, teachers provide timely guidance and correction, guiding students to continuously improve language logic and enhance critical thinking. Traditional classrooms no longer mechanically repeat knowledge transmission but focus on developing students' higher-order thinking in using learned knowledge for language communication and independent thinking. Supported by in-depth interaction in offline classrooms, this remedies the shortcomings of intelligent teaching, such as simplistic thinking and lack of communication, and achieves the integration of technology-empowered basic teaching with traditional classroom cultivation of core competencies, truly promoting the development of students' comprehensive English application ability.

4.4 AI grading improving feedback efficiency

Assignment grading and teaching feedback are crucial links in consolidating English teaching effectiveness. Traditional manual grading models suffer from low efficiency, delayed feedback, and weak targeting, which have long restricted the quality and efficiency improvement of college English teaching. College classes have large numbers of students, and grading subjective assignments such as English writing, translation, and cloze is burdensome. Manual grading by teachers is time-consuming and labor-intensive, and detailed item-by-item grading is difficult to achieve. Common problems include rough grading, general comments, and long feedback cycles. Students cannot promptly identify their problems, repeated errors remain unresolved, and learning weaknesses cannot be remedied for a long time. AI intelligent grading systems can efficiently complete all-round grading of English assignments, covering dimensions such as vocabulary, grammar, sentence structure, spelling, logic, and pragmatics, achieving second-level grading and precise error correction. For objective exercises, the system automatically scores them in a planned manner, calculates accuracy rates, and quickly summarizes

common class errors. For subjective items such as writing and translation, the system accurately identifies grammatical errors, Chinglish expressions, monotonous sentence patterns, and logical confusion, and automatically labels error types and provides optimization suggestions. After grading, the system automatically generates class learning reports and individual error archives to accurately locate all students' common weaknesses and individual learning gaps. Teachers do not need to spend large amounts of time on mechanical grading; instead, they can rely directly on intelligent grading data for precise commentary, focus on explaining high-frequency errors, and provide separate tutoring for students' individualized problems. AI grading fully addresses the problems of low efficiency, slow feedback, and lack of precision in traditional grading, significantly improving the efficiency of teaching feedback and helping students correct errors accurately and continuously improve.

4.5 Virtual simulation-assisted oral English

Oral English teaching has long been a weak link in traditional college English teaching. Limited classroom time, insufficient speaking scenarios, lack of an authentic language environment, and scarce one-on-one training have led to the widespread phenomenon of "mute English" among students. Traditional classrooms find it difficult to create diversified, immersive, and standardized oral communication scenarios. Teachers cannot attend to every student's pronunciation correction and oral training needs, and students lack regular opportunities to speak, so their oral expression ability cannot improve for a long time. AI virtual simulation technology can build immersive oral training scenarios and perfectly remedy the shortcomings of traditional oral teaching. With the support of intelligent speech simulation systems, various real communication scenarios such as daily communication, workplace communication, academic presentations, and cross-cultural dialogue can be simulated, and all-weather one-on-one oral training can be provided for learners. The system has precise pronunciation correction functions and can identify students' pronunciation deviations, intonation errors, and linking problems in real time, correcting pronunciation sentence by sentence and optimizing oral expression. Students can enter virtual scenarios at any time and any place for independent practice, repeatedly polishing oral sentence patterns, language sense, and expression logic without being limited by classroom time or frequency. At the same time, virtual simulation scenarios are diverse, covering life, professional, workplace, and examination scenarios, and can comprehensively train students' on-the-spot expression and adaptability. Based on the system's oral data, teachers can grasp students' overall oral weaknesses and carry out targeted classroom oral intensive training. By organically combining virtual simulation with traditional classroom oral teaching, an all-round oral training system is established to solidly improve students' English oral application ability.

4.6 Dynamic evaluation based on data profiling

Traditional college English teaching evaluation emphasizes final written examination scores, with a single assessment method, one-sided dimensions, and fixed results. It only examines students' final test performance while ignoring the learning process, ability improvement, and literacy cultivation, making it difficult to comprehensively and objectively reflect students' true English ability. Single summative evaluation can neither accurately detect problems in students' staged learning nor effectively guide students' continuous improvement, thus restricting the high-quality development of English teaching. Big data profiling technology based on AI can build a whole-process, multidimensional, and dynamic new evaluation system, completely overcoming the defects of traditional summative evaluation. The intelligent system integrates all data such as students' pre-class preparation, classroom performance, in-class training, after-class assignments, oral practice, reading and writing output, and test scores, and generates a special learning profile for each student, intuitively displaying students' strengths and weaknesses in vocabulary, grammar, listening, speaking, writing, and other abilities. The data profile is updated dynamically in real time, recording students' learning changes and growth trajectories, and tracking and evaluating the entire process. Assessment is no longer determined by a single test score but comprehensively considers factors such as learning attitude, learning process, ability improvement, and comprehensive literacy. With dynamic profiles, teachers can accurately grasp students' staged learning, promptly identify problems such as learning regression, ability weaknesses, and learning gaps, and dynamically adjust teaching strategies and tutoring plans. Through personal profiles, students gain a clear understanding of their shortcomings and carry out targeted remediation. Dynamic data evaluation achieves the purpose of promoting teaching and learning through evaluation, fully optimizing the educational closed loop of college English teaching and promoting continuous improvement in teaching quality.

5. Conclusion

In the new era, deeply integrating artificial intelligence with traditional teaching methods has become a clear direction for college English teaching reform in higher education. This helps effectively solve problems in traditional teaching such as low efficiency, insufficient targeting, weak oral

expression, and overly single evaluation methods. The teaching reform takes human–AI collaborative efficiency enhancement and data-driven precise education as its two core objectives, directly addresses key factors such as teachers' intelligent literacy and campus resource construction, and uses dual-teacher collaborative teaching as a lever, intelligent in-class and out-of-class expansion, deepened thinking in traditional classrooms, intelligent grading, virtual oral training, and dynamic data evaluation as multiple paths to build a new English teaching system that is intelligent, precise, and literacy-oriented. By balancing the value of technological tools and the humanistic value of the classroom, intelligent technology serves teaching and empowers education, continuously promoting the transformation and upgrading of college English teaching models and effectively promoting the cultivation of students' comprehensive English application ability and core competencies.

Conflict of Interest

The author declares that he has no conflicts of interest to this work.

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