Research on the Construction and Practice Path of Intelligent College English Teaching Mode Empowered by Artificial Intelligence Technology

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Abstract: *Against the background of the in-depth advancement of educational digital transformation, artificial intelligence (AI) provides core support for the innovation of intelligent College English teaching. Based on the practical pain points in College English teaching, this paper expounds the core logic and value of AI-enabled intelligent teaching, constructs an intelligent teaching mode of "Data-Driven – Scene Reconstruction – Precise Empowerment – Diversified Evaluation", and proposes implementation paths from four dimensions: technology integration, instructional design, practical application, and guarantee mechanism. This study aims to provide practical references for colleges and universities to promote the transformation of College English teaching from "traditional classrooms" to an "intelligent ecology" and improve teaching quality and talent-cultivation effectiveness.*

Keywords: *artificial intelligence; College English; intelligent teaching; mode construction; teaching practice*

Introduction

At present, digital technologies are deeply integrated into the field of education, and educational digital transformation has entered a stage of in-depth advancement. As a core driving force, artificial intelligence is profoundly reforming the teaching form and talent-cultivation mode of higher education. As a basic discipline with both instrumental and humanistic attributes, College English undertakes the important mission of cultivating students' language application ability, intercultural communication literacy, and digital learning ability. However, current College English teaching still faces prominent problems such as superficial technology integration, rigid teaching modes, single evaluation systems, and imperfect guarantee mechanisms, which can hardly meet the diverse needs of talent cultivation in the new era.Against this background, exploring the path of deep integration of artificial intelligence and College English teaching and constructing a scientific and efficient intelligent teaching mode have become key measures to promote College English teaching reform and improve teaching quality and talent-cultivation effectiveness. Based on practical teaching pain points, this paper explains the core logic and value of AI-enabled intelligent teaching, constructs an intelligent teaching mode of "Data-Driven – Scene Reconstruction – Precise Empowerment – Diversified Evaluation", and puts forward specific implementation paths, so as to provide practical references for colleges and universities to realize the transformation of College English teaching from "traditional classrooms" to an "intelligent ecology".

1. Practical Pain Points of Intelligent College English Teaching

1.1 Superficial Technology Integration, Unrealized Empowerment Value

At present, although most colleges and universities have introduced intelligent teaching tools into College English teaching, their application is characterized by "formalization and fragmentation". Instructors have incomplete mastery of core functions of platforms such as Chaoxing Learning App and Rain Classroom, only using them for basic operations such as resource uploading, assignment assigning, and online check-in, failing to realize empowering functions including learning situation analysis, learning path planning, and weak-point early warning. The use of professional language tools such as Grammarly and iFly Hear lacks systematic design and is not optimized according to curriculum objectives and students' proficiency, resulting in technology becoming an "auxiliary ornament" rather than truly serving the improvement of teaching quality[1].

1.2 Rigid Teaching Mode, Unimplemented Intelligent Concepts

Influenced by traditional teaching thinking and examination-oriented guidance, teachers' instructional design and practice are difficult to adapt to the needs of intelligent teaching. In terms of teaching content, textbooks remain the core, and AI technology is not used to explore expandable and personalized teaching resources. In teaching methods, the one-way mode of "teacher lecturing + students passively receiving" is still adopted, failing to build multi-dimensional and in-depth classroom interaction with intelligent interactive tools. In teaching objectives, too much attention is paid to the teaching of language knowledge and the cultivation of examination-taking abilities, while the improvement of core literacy such as students' autonomous learning ability and intercultural communication ability is neglected[2].

1.3 Single Evaluation System, Unclear Talent-Cultivation Orientation

The existing evaluation system has problems of "emphasizing results over process" and "emphasizing knowledge over literacy". Evaluation content focuses on quantitative indicators such as students' examination scores and assignment completion, ignoring qualitative indicators such as learning process, ability improvement, and emotional attitude. Evaluation methods are dominated by teacher evaluation, lacking diversified participation of student self-evaluation, peer evaluation, and AI intelligent evaluation. The evaluation function tends toward screening and selection, failing to give full play to the diagnostic, feedback, and incentive roles of evaluation, and thus difficult to support the talent-cultivation goals of intelligent teaching.

1.4 Imperfect Guarantee Mechanism, Obstacles in Practical Promotion

The implementation of the intelligent teaching mode lacks complete guarantees. On the one hand, the teacher training system lacks pertinence; most existing trainings focus on technical operations while neglecting the cultivation of "technology–teaching" integrated design ability, making it difficult for teachers to deeply integrate technology into teaching. On the other hand, insufficient hardware facilities and funding support lead to a lack of special venues and tools such as AI language laboratories and VR teaching equipment, and the shortage of special funds also limits teachers' enthusiasm to carry out innovative practices of intelligent teaching[3].

2.. Construction of AI-Enabled Intelligent Teaching Mode for College English

Based on the enabling logic of artificial intelligence and practical teaching pain points, this paper constructs an intelligent teaching mode for College English: "Data-Driven – Scene Reconstruction – Precise Empowerment – Diversified Evaluation". Centered on technological empowerment and oriented to student development, this mode breaks the time–space constraints and homogenization limitations of traditional teaching, realizing the optimization of the whole teaching chain. The specific framework is as follows:

2.1 Data-Driven Layer: Precise Profiling and Decision-Making

Supported by intelligent teaching platforms (e.g., Chaoxing Learning App, XuetangX AI module), comprehensive data are collected throughout students' learning cycle:Learning behavior data: process indicators such as class check-in, video completion rate, and discussion frequency;Knowledge mastery data: result data such as error types, knowledge point accuracy, and weak question types;Learning style data: combining scales and behavioral analysis to identify students' learning preferences and rhythms.Through collaborative filtering algorithms and clustering analysis models, data are cleaned and mined to generate dynamically updated personal learning profiles and class learning situation reports, clearly showing individual weaknesses and common class problems. This provides accurate data support for teachers to set hierarchical objectives, optimize instructional design, and adjust teaching strategies, avoiding subjective decision-making.For example, the system automatically marks the common problem of low accuracy in "subjunctive mood" as a key teaching point. For individual students with three consecutive wrong assignments in the "listening comprehension" module, customized listening training resources and targeted tutoring suggestions are pushed. Such data support transforms teachers' teaching decisions from "empirical judgment" to "data evidence", avoiding subjectivity and blindness.

2.2 Scene Reconstruction Layer: Immersion and Interaction

Supported by VR/AR technology and intelligent interactive tools, three core teaching scenarios are built to achieve full coverage of "teaching – learning – practicing – evaluating":

Personalized learning scenario: Based on student profiles, level-differentiated reading materials, hierarchical exercises, and customized learning paths are pushed. For underachieving students, ladder resources such as "vocabulary preview + grammar explanation + slow listening" are provided; for advanced students, expandable tasks such as "academic literature reading + intercultural debate + business English writing" are recommended.Immersive practice scenario: VR technology is used to create simulated situations such as cross-border business negotiations, international academic conference presentations, and intercultural communication etiquette training. Students participate through virtual roles and conduct real-time language interaction and behavior simulation. The AI system provides real-time feedback on pronunciation accuracy, intonation naturalness, grammatical correctness, and expression fluency through speech recognition and natural language processing.Diversified interaction scenario: Tools such as bullet-screen questioning, real-time voting, group collaboration cloud platforms, and cross-university online discussions are integrated to build a multi-dimensional interactive ecology among teachers, students, and technology.

2.3 Precise Empowerment Layer: Optimization of Teaching and Tutoring

Teachers carry out precise teaching based on learning situation data analysis:In class: focus on class weak modules, design interactive activities such as case analysis, scenario simulation, and inquiry-based learning, and use tools such as real-time answer devices, random name systems, and group point competitions to improve classroom participation, ensuring "everyone participates and everyone meets standards".After class: AI intelligent question-answering robots (e.g., iFly Intelligent Teaching, Pigai AI Assistant) provide 24-hour service. Common problems in assignments are given batch feedback and centralized explanation; individual errors are marked accurately and targeted guidance is provided. For instance, speech technology optimizes oral assignment correction, not only marking pronunciation errors but also providing standard pronunciation demonstrations and shadowing practice.For underachieving and learning-difficult students, a one-on-one tutoring mechanism of "AI preliminary screening + teacher follow-up" is established. By analyzing learning behavior data to locate root causes, personalized improvement plans are formulated: for students "lacking learning planning", a daily learning list is assisted and real-time reminders are sent via the platform; for students "lacking autonomous learning motivation", phased goals and point reward mechanisms are set, realizing the unity of "teaching students in accordance with their aptitude" and "holistic education".

2.4 Diversified Evaluation Layer: Equal Emphasis on Process and Literacy

A four-dimensional evaluation system of "AI intelligent evaluation + teacher evaluation + student self-evaluation + peer evaluation" is constructed, realizing the combination of formative and summative evaluation and equal emphasis on quantitative and qualitative evaluation:

AI intelligent evaluation: responsible for automatic objective-question correction, oral testing, writing grammar error correction, and learning process data statistics, ensuring objectivity and efficiency. For example, Pigai can identify grammatical errors, score expression fluency, and analyze content relevance; intelligent oral testing tools give quantitative scores from four dimensions: pronunciation, intonation, fluency, and content integrity.Teacher evaluation: judges qualitative indicators such as thinking ability, innovation awareness, and intercultural communication literacy through classroom observation, work analysis, and project achievement review.Student self-evaluation: reflects on learning gains and deficiencies through learning reflection logs and goal achievement scales.Peer evaluation: cultivates critical thinking and evaluation ability through collaboration contribution scoring, work peer assessment, and classroom performance evaluation.Evaluation content covers five dimensions: language knowledge, application ability, learning process, emotional attitude, and innovative thinking. Results are presented visually through radar charts and growth curves, providing a basis for teachers to optimize teaching and helping students clearly understand their own growth trajectory, thus exerting the diagnostic, feedback, and incentive functions of evaluation.

3. Practical Paths of the Intelligent Teaching Mode

3.1 Deepen Technology Integration and Consolidate the Foundation of Intelligent Teaching

Strengthen technical operation training: Colleges and universities cooperate with educational technology enterprises and intelligent platform service providers to carry out "technology + teaching" integrated training in the mode of "theoretical explanation + case demonstration + group practice + assessment and certification".

Build a high-quality resource platform: Establish a university-level "College English Intelligent Teaching Resource Library" integrating AI-adapted courseware, video resources, exercises, and simulation scenario materials, supporting online retrieval, downloading, uploading, and sharing. Introduce high-quality digital educational resources at home and abroad to broaden the boundary of teaching resources.

3.2 Optimize Instructional Design and Promote Mode Implementation

Reconstruct the teaching content system: Based on textbooks, combine AI technology to explore expandable resources and build a teaching content system of "basic core content + personalized expanded content".Innovate the teaching implementation process: Adopt a closed-loop teaching process of "pre-class preview – in-class interaction – post-class consolidation".Before class: students complete preview tasks via the intelligent platform; the AI system collects preview data and feeds back to teachers, who then adjust teaching priorities.

In class: teachers carry out precise teaching and diversified interaction with interactive tools.

After class: the AI system pushes personalized consolidation exercises and expanded resources; teachers provide targeted tutoring.

3.3 Improve the Evaluation System and Give Play to the Talent-Cultivation Orientation

Enrich evaluation content and indicators: Construct a multi-dimensional evaluation index system of "knowledge mastery + ability improvement + learning process + emotional attitude".

Innovate evaluation implementation methods: Use AI evaluation tools to realize automatic and accurate evaluation. Meanwhile, introduce student self-evaluation and peer evaluation through intelligent platforms to cultivate students' self-reflection and evaluation abilities.

3.4 Improve the Guarantee Mechanism and Support the Long-Term Development of the Mode

Strengthen hardware facility construction: Build an intelligent teaching hardware system of "basic environment + special venues + mobile terminals", and construct AI language laboratories, VR training rooms, and multimedia interactive classrooms.

Improve incentive and support policies: Set up an "Innovation Reward Fund for College English Intelligent Teaching" to recognize excellent teaching cases, research achievements, and resource construction achievements. Incorporate intelligent teaching ability and achievements into core indicators for teachers' professional title evaluation, merit assessment, and performance appraisal.

Conclusion

Artificial intelligence technology provides new possibilities for intelligent College English teaching. Constructing a scientific and feasible intelligent teaching mode is the core path to promote foreign language teaching reform. Colleges and universities should base themselves on practical teaching pain points, deepen the deep integration of artificial intelligence and teaching, and promote the implementation of the intelligent teaching mode from the aspects of technology integration, instructional design, evaluation system, and guarantee mechanism.Meanwhile, teachers should take the initiative to transform teaching concepts, improve technology application and integrated innovation abilities, and give full play to the empowering value of artificial intelligence. Colleges and universities should face up to challenges in practice, formulate targeted strategies, and build a new intelligent College English teaching ecology featuring "advanced technology, scientific concepts, and efficient education". Through multi-party collaboration, more compound and international English talents

meeting the needs of the digital era will be cultivated, providing strong support for the digital transformation of higher education and the national opening-up strategy.

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