

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

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Abstract: With the progress of educational digital transformation, artificial intelligence (AI) has shown excellent results and is now being widely applied in the development of intelligent College English teaching. Based on the actual pain points in College English teaching, this paper presents the main ideas and values of AI-enabled intelligent teaching, builds an intelligent teaching mode of "Data-Driven - Scene Reconstruction - Precise Empowerment - Diversified Evaluation", and proposes implementation paths in the four areas of technology integration, instructional design, practical application and guarantee mechanism. The aim of this paper is to offer some practical recommendations for colleges and universities in building an intelligent ecology to promote the change in College English teaching from traditional classrooms, and to improve both the quality of teaching and talent education.

Keywords: Artificial intelligence, College English, Intelligent Teaching, Mode Construction, Teaching Practice

Introduction

Digital technology has been widely applied in education at present, and the development of educational digital transformation has reached a certain stage. As an early leader, artificial intelligence is changing the form of teaching and the way of talent education in higher education. College English is a fundamental course with both instrumental and humanistic attributes, so it aims to develop students' language application skills, intercultural communication literacy and digital learning abilities. Currently, there are some problems in the teaching of College English, such as shallow application of technology, rigid teaching modes, a one-dimensional evaluation system, and weak guarantee mechanisms; thus, it is difficult to meet all the demands for talent cultivation in the new era. Therefore, exploring how to deepen the integration of artificial intelligence in college English teaching and building a scientific and efficient intelligent teaching mode is necessary now to drive reform in college English teaching and improve both the quality of teaching and the effectiveness of talent cultivation. According to the actual teaching difficulties teachers are facing, this paper will present the main ideas and values of AI-enabled intelligent teaching, build an intelligent teaching mode of "Data-Driven - Scene Reconstruction - Precise Empowerment - Diversified Evaluation", and put forward specific implementation paths to provide practical support for colleges and universities in transforming their College English teaching from "traditional classrooms" to an "intelligent ecology".

1. Practical Pain Points in Intelligent College English Teaching

1.1 Superficial Technology Integration, Unrealised Empowerment Value

Although most colleges and universities have introduced intelligent teaching tools in their College English courses recently, their application has been relatively conventional and fragmented so far. Instructors have not fully learned the main functions of the platforms, such as Chaoxing Learning App and Rain Classroom; therefore, they only use the basic operations of resource uploading, assignment distribution and online check-in and fail to use the enhanced functions for learning situation analysis, learning path planning and early warning of weak points. There is no systematic design of professional language tools such as Grammarly and iFlyHear; they have not been optimised according to the curriculum objectives and students' proficiency levels, and thus have failed to enhance teaching quality and have become a mere "auxiliary ornament"^[1].

1.2 Rigid teaching mode, no intelligent concepts

Due to traditional teaching ideas and test-oriented guidance, teachers have not been able to meet the demands of intelligent teaching in their instructional design and implementation. Textbooks are still the foundation of teaching materials, and AI technology has not been used to develop expanded and personalised teaching resources. At present, most of the teaching methods in schools are still one-way; that is to say, teachers talk and students passively listen, and rich, multi-faceted and profound interaction among teachers and students has not yet been achieved with intelligent interactive tools. In the teaching objectives, there is too much emphasis on teaching language knowledge and cultivating examination-taking skills, and the cultivation of core literacy, such as students' autonomous learning ability and cross-cultural communication ability, has been neglected^[2].

1.3 Single Assessment System, Indefinite Talent Development Direction

The problems of the current assessment system are that it emphasises results over process and values knowledge more than literacy. Only the quantitative data of the evaluation will be used, such as students' test scores and homework completion; qualitative factors of learning, improvement in ability and emotional attitude will not be included. The main type of assessment is still teacher assessment; many other ways of participation by students and other sources are missing. The evaluation function will likely be focused on selection and promotion; it will not serve to guide and motivate teachers in their daily work, and thus the goal of fostering talent through intelligent teaching cannot be achieved.

1.4 Impure Guarantee Mechanism: Obstacles to Actual Promotion

The construction of the intelligent teaching mode has not been finished. On the one hand, the teacher training system is out of touch with the times; most of the existing training focuses on the technical operation of equipment and does not cultivate the essential quality of integrated design for technology teaching. At the same time, there is a shortage of hardware facilities and no funding support; thus, there are no special venues and tools for AI language laboratories or VR teaching equipment available, and due to limited special funds, teachers are unable to carry out innovative teaching in an intelligent manner^[3].

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

Based on the enabling logic of artificial intelligence and the actual difficulties in teaching, this paper puts forward an intelligent teaching mode for college English: "Data-Driven - Scene Reconstruction - Precise Empowerment - Diversified Evaluation". With the development of technology and changes in educational demands, various teaching methods have gradually emerged, and now we have achieved a more effective and convenient way to teach. The general form is as follows:

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

With the help of intelligent teaching platforms (such as the Chaoxing Learning App and XuetangX AI modules), various kinds of data on students' learning can be collected; this includes learning behaviour data and process indicators, such as class check-in, video completion rates and discussion frequency; knowledge mastery data, which covers result data, types of errors, knowledge point accuracy, weak question types, etc.; and learning style data; scales and behavioural analysis will also be obtained to understand students' learning preferences and speed. Collaborative filtering algorithms and clustering analysis models will be employed to organise and analyse the data, construct dynamic individual learning profiles and class learning situation reports, find individual weaknesses and common problems in the class, and so on. It will help the teachers set hierarchical goals and improve the design of lessons in accordance with the actual data, rather than making arbitrary choices. For example, the system will automatically find that many students have problems with the "subjunctive mood" and add it to the teaching plan. For students who have answered the last three questions in the "listening comprehension" section incorrectly, special listening training materials and one-on-one tutoring will be provided. Thus, the teacher's choices will be based on data and not only on intuition; they will be more rational.

2.2 Scene Reconstruction Layer: Immersion and Interaction

With the help of VR/AR technology and intelligent interactive tools, all links in the teaching-learning-practice-evaluation cycle will be covered in the three main teaching situations.

Personalised Learning Scenarios: Based on the students' information, there are many levels of reading materials, various exercises and individualised study plans. For students with lower grades, we will have ladder resources of "vocabulary preview + grammar explanation + slow listening"; for high-achieving students, we will give them extended tasks such as "reading academic papers + cross-cultural discussion + business English writing". We will construct a virtual reality training environment for cross-border business negotiations, international academic conference presentations and training in cross-cultural communication etiquette. Students take on virtual roles and can actually use and feel the language in real time. Speech recognition and natural language processing are used to provide immediate feedback on the accuracy of pronunciation, naturalness of intonation, grammatical correctness, fluency of expression, etc., and many interactive scenarios can be created, such as bullet-screen quizzes, live voting, group collaboration cloud platforms, cross-university online discussions, and so on, forming an interactive ecosystem for teachers, students and technology.

2.3 Precise Empowerment Layer: Optimisation of Teaching and Tutoring

Teachers will adjust their teaching methods based on the data of how well students have learned; during class, they will focus on the weak links in the curriculum, use all kinds of interactive teaching methods, such as case studies, scenarios, inquiry learning, etc., to attract students' attention, strive for the goal of "everyone participates and everyone excels", and after class, AI intelligent question-and-answer robots (e.g., iFly Intelligent Teaching, Pigai AI Assistant) will be available 24/7. Typical problems with homework are that teachers only give class-wide feedback and general explanations, but do not correct errors or provide individualised guidance. Speech technology can correct the students' speaking errors and provide a correct pronunciation model, and then have them repeat this model. A one-on-one tutoring system of "AI preliminary screening + teacher follow-up" will be set up for students who have problems in their studies or find it difficult to learn independently. According to the analysis of learning behaviour data, determine the reasons for students' difficulties in their studies and develop personalised improvement plans. For students who do not have a study plan, a daily study list will be provided and real-time notifications will be sent on the platform; for students who lack the motivation to study independently, set staged goals and establish a point-reward system to achieve the goals of "teaching according to students' aptitudes" and "all-round development".

2.4 Diversified Evaluation Layer: Give the same weight to processing ability and literacy

A four-dimensional evaluation system of "AI intelligent evaluation + teacher evaluation + student self-evaluation + peer evaluation" has been established to combine formative and summative assessment, and equal weight is given to quantitative and qualitative evaluations.

AI intelligent assessment: Automatic and objective correction of questions, organisation of oral examinations, correction of grammar mistakes in written works, collection of learning statistics, etc. Pigai can find grammatical errors and determine the fluency of students' speech; intelligent oral tests can be employed to grade the four areas of pronunciation, intonation, fluency and content accuracy; teachers can observe students' thinking ability, innovative consciousness and intercultural communication literacy during class, analyze their work and evaluate project results; students can self-assess their own learning progress and shortcomings in the learning reflection log and goal-achievement scale; peers can rate their collaboration, peer assessment of work and evaluation of classroom performance; the five components of evaluation are language knowledge, application ability, learning process, emotional attitude and innovative thinking. Radar charts and growth curves can be used to present the results in an easily understandable way, and teachers can adjust their teaching based on how well the students have improved to achieve the diagnostic, feedback and motivation goals of assessment.

3. Practical Paths of the Intelligent Teaching Mode

3.1 Strengthen Technology Integration and Consolidate the Foundation of Intelligent Teaching

Improve training in technical operation: Colleges and universities will work with educational technology companies and intelligent platform service providers to carry out "technology + teaching" integrated training based on the model 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", collect AI-adapted courseware, videos, exercises, simulation scenario materials, and so on, and provide online retrieval, download, upload, sharing, etc. Introduce high-quality digital educational resources from all over the world and increase the quantity of teaching materials.

3.2 Optimise Instructional Design and Promote Model Application

Rebuild the teaching content system: Add AI technology to expand the resources in the textbooks and build a teaching content system based on the principle of "basic core content + personalised expanded content".

Innovate the way of teaching and establish a closed-loop teaching cycle of "pre-class preview - in-class interaction - post-class consolidation". Before class, the students complete the preview tasks in the intelligent platform, and then the AI system will collect this data and notify the teacher of any changes to the teaching plan.

The teacher will give a brief introduction and use some interactive media in class.

After class: The AI system will provide personalised review questions and supplementary study materials for the students, and the teacher can also give some individualised help.

3.3 Strengthen the Evaluation System and Promote Play in the Direction of Talent Cultivation

Increase the Number and Diversity of Evaluation Items: Construct a general evaluation index that covers the students' "mastery of knowledge", "improvement in abilities", "learning process" and "emotional attitude".

Innovation in the Implementation of Evaluation: Artificial Intelligence for Automatic and Accurate Assessment. At the same time, build an intelligent platform for student self-assessment and peer assessment to help them get to know themselves and others better.

3.4 Strengthen the Guarantee Mechanism and Support the Long-term Development of the Mode

Improve the construction of hardware facilities: Build an intelligent teaching hardware system based on the concept of "basic environment + special venues + mobile terminals" and set up AI language laboratories, VR training rooms, multimedia interactive classrooms, etc.

Increase the motivation and support for teachers by organising an "Innovation Reward Fund for Intelligent Teaching in College English" to honour excellent cases of teaching, research results and resource construction. Add intelligent teaching ability and teaching results to the main indicators of assessment for teachers' professional titles, merits and performance.

Conclusion

Artificial Intelligence Technology Presents New Directions for Intelligent College English Teaching. The main way to promote the reform of foreign-language teaching is to build a scientific and practical intelligent teaching mode. Colleges and universities should identify real teaching problems, enhance the application of artificial intelligence in teaching, and promote the construction of intelligent teaching models at all levels, such as technology integration, instructional design, evaluation systems and guarantee mechanisms. At the same time, teachers need to take the initiative to change their teaching concepts, improve the application of technology and integrated innovation abilities, and make full use of the empowering value of artificial intelligence. Colleges and universities should face the problems in actual teaching, develop corresponding countermeasures, and build a new intelligent College English

teaching ecology based on "advanced technology, scientific concepts and efficient education". With the participation of many sides, more compound and international English talents in line with the demands of the digital era will be nurtured to provide strong support for the digital transformation of higher education and the national opening-up strategy.

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