

Smart Empowerment: Innovative Construction of a Multi-Modal Blended Teaching System for College English

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Abstract

Grounded in the theory of multi-modal discourse analysis, this paper conducts an in-depth exploration of the current challenges encountered in college English smart teaching. Leveraging the online smart teaching platform, it maximizes the exploitation and utilization of multi-modal teaching resources, seamlessly integrates multidisciplinary knowledge, and actively pursues the online and offline integration of the college English smart teaching system. Initiating from the four dimensions of smart teaching environment creation, teaching mode construction, teaching method innovation, and teaching evaluation enhancement, a comprehensive and systematic overall design for college English multi-modal smart teaching will be executed. The aim is to fully propel the profound integration of information technology and college English teaching, break through the crucial bottlenecks in the implementation of "Internet + Education", enhance the quality and effectiveness of college English teaching in an all-round and multi-level manner, furnish potent theoretical support and practical exemplars for the reform and development of college English teaching, and contribute to the realization of the talent cultivation objectives in higher education.

Keywords: smart teaching environment, college English teaching, multi-modal, online and offline mixed mode

1. Introduction

In the current era of globalization and rapid information technology advancement, the education domain is undergoing profound transformations. With the steady progress of the Education Informationization 2.0 Action Plan, the integration of information technology and education and teaching has entered a new phase, presenting both unprecedented opportunities and challenges to college English

teaching.

On one hand, the vigorous development of modern technologies such as the Internet, big data, and artificial intelligence has given rise to a rich array of smart teaching platforms and tools. These online resources break the temporal and spatial constraints of traditional teaching, enabling more convenient and efficient knowledge acquisition. On the other hand, the theory of multi-modal discourse analysis offers

solid theoretical underpinnings for college English teaching innovation. Multi-modal teaching emphasizes the full mobilization of students' various senses and the transfer and interaction of knowledge through diverse symbolic resources such as text, image, audio, video, and action, rendering the teaching process more vivid, three-dimensional, and engaging. However, the traditional college English teaching mode still exhibits significant deficiencies in teaching content, methods, and evaluation, struggling to meet the educational requirements of the new era.

Against this backdrop, the construction of a college English multi-modal blended teaching system based on a smart teaching environment becomes particularly urgent and essential. This system endeavors to organically combine the advantages of the smart teaching environment with multi-modal teaching concepts, devising a comprehensive teaching model that integrates online and offline, as well as in-class and out-of-class teaching, thereby comprehensively elevating the quality of college English teaching. By fostering a rich and diverse smart learning environment, students' learning enthusiasm and initiative are stimulated; through the construction of a scientific and rational smart teaching mode, fine-grained management of the teaching process is achieved; via innovative and flexible smart teaching methods, students' higher-order thinking and innovative abilities are cultivated; and by improving the comprehensive and objective smart teaching evaluation system, students' learning outcomes are accurately fed back, and high-quality talents with a solid English language foundation, robust cross-cultural communication capabilities, and an innovative thinking spirit are nurtured for society. This not only facilitates the in-depth advancement of the reform of college English teaching but also represents a crucial measure to adapt to the development trends of education in the new era and meet the growth needs of students, carrying profound significance for enhancing the quality of personnel training in higher education in our country.

2. Theoretical Support: Multi-Modal Discourse Analysis Theory

Multi-modal discourse pertains to the phenomenon of transmitting information and expressing meaning through the comprehensive utilization of diversified symbolic resources

such as language, text, image, sound, video, and action, leveraging multiple senses such as hearing, vision, and touch during the communication process. The application of multi-modal discourse in English language teaching scenarios offers notable advantages. It can capture the attention of the information recipient, enabling them to supplement information through various senses and channels, facilitating information acquisition and in-depth understanding, and conducive to the expression and transmission of emotions. Its core objective is to guide the information recipient to focus on the process of discourse communication, with the message sender attempting to influence the recipient's attitude and values to promote their own viewpoints and attitudes, thereby rendering the communication information more readily understood and accepted by the recipient and effectively reducing ambiguity and uncertainty.

The theory of multi-modal discourse analysis provides theoretical scaffolding for the construction of the college English smart teaching system. One of the key characteristics of smart teaching in college English lies in the multi-modal nature of classroom discourse. The concept of multi-modal teaching advocates that college English teachers employ a variety of teaching methods (encompassing verbal and non-verbal forms), diverse multi-modal symbols (such as sound, images, shapes, texts, etc.), and multimedia technologies to meticulously design various classroom tasks and activities. Participants in teaching activities should select appropriate modes based on their actual needs to achieve preset goals. Concurrently, teachers need to comprehensively comprehend the multi-modal characteristics of classroom discourse from multiple dimensions, deeply explore the internal connections among the various modes (including vision, hearing, touch, etc.), fully exploit the synergistic effect of the multiple modes, jointly shape the meaning of classroom discourse, and tap the potential effectiveness of the teaching effect, thus enhancing teaching quality.

3. Analysis of Existing Problems in the College English Smart Teaching System

3.1 Superficial Technology Application

In actual teaching scenarios, some teachers' utilization of information technology remains at a relatively shallow level. For instance, in a

college English course at a certain university, teachers often employ the smart teaching platform merely for simple attendance-taking operations during class, recording students' attendance via the platform's one-click roll call, a process that consumes only a few minutes and fails to fully exploit the platform's multiple functions. In the online testing process, exercises are mechanically assigned after class from textbooks, with question types being monotonous, predominantly multiple-choice and fill-in-the-blank questions, lacking innovation and expansibility, and making it challenging to effectively assess students' comprehensive language application abilities. In terms of courseware sharing, the traditional PPT is simply uploaded to the platform without any targeted and optimized adaptation to the characteristics of online learning, such as the addition of interactive links and the expansion of reading materials.

3.2 Limited Exploration of Teaching Content

Currently, the selection of materials in college English teaching is still largely confined to textbook texts, concentrating on the explanation of language knowledge, such as the analysis of grammar rules and the discrimination of vocabulary usage, while neglecting the diversity and expansion of knowledge. When explicating the text, most teachers primarily focus on the vocabulary, grammar, and sentence patterns within it, translating the text sentence by sentence to assist students in understanding the literal meaning, but seldom introduce interdisciplinary knowledge related to the text's theme. The unitary exploration of traditional teaching content dampens students' learning enthusiasm, hampers the construction of a comprehensive knowledge system, fails to meet the social demand for compound talents, and restricts students' future development potential.

3.3 Constrained Advancement of Teaching Mode

From the perspective of the overall implementation in colleges and universities, although the reform of the teaching mode is gaining popularity, it encounters numerous difficulties in implementation. On one hand, some teachers possess insufficient reserves of information technology knowledge and are not proficient in operating emerging smart teaching tools such as A+ Classroom and Rain Classroom, finding it arduous to manage online teaching segments. Worried about technical glitches

affecting the teaching progress, they adopt a wait-and-see attitude towards reform. On the other hand, the lack of financial support also impedes the reform process. The construction of a smart teaching environment demands substantial capital investment, including hardware equipment upgrades, software platform procurement, and teaching resource development, resulting in the teaching mode reform being confined to a few pilot classes and difficult to be fully rolled out. Consequently, the majority of students cannot fully enjoy the reform dividends, and the improvement in teaching quality is limited.

3.4 Mediocre Teaching Evaluation

The traditional college English curriculum evaluation system suffers from multiple drawbacks. In terms of evaluation composition, excessive emphasis is placed on the end-of-course test, which predominantly focuses on the final written test score. The test paper content mainly consists of the memorization test of vocabulary, grammar, reading comprehension, writing, and other knowledge. For example, students are required to recite words, distinguish grammatical points, summarize the main theme of the article, and write according to a fixed template, neglecting students' comprehensive qualities such as independent learning ability, cooperation ability, inquiry ability, and innovative thinking ability during the learning process. Although the process evaluation encompasses attendance, class performance, and homework, the index settings are vague and general, making it difficult to objectively reflect learning differences and fully represent students' learning outcomes. This is not conducive to fostering students' personalized development nor can it provide precise guidance for teaching improvement, impeding the enhancement of teaching quality.

4. Construction of a Multi-Modal Blended Learning System for College English Based on Smart Teaching Environments

4.1. Creation of Smart Learning Environments

4.1.1 Integration and Utilization of Multi-Modal Resources

From a multi-modal perspective, text, visual, and auditory modes are synchronized, and a variety of symbolic resources are intertwined and overlapping, which is conducive to enhancing the information receiver's

understanding of the conveyed meaning. Accordingly, college English teachers should appropriately employ modal symbol resources such as text, pictures, decorative elements, colors, audio, and video in the text. For example, they can integrate multimedia materials such as documentaries, pictures, and videos, reorganize and arrange them to comprehensively reshape the teaching content, create an immersive experience, and immerse students in language learning situations. This can assist students in efficiently and rapidly capturing and understanding information, enhancing memory retention, and improving learning effectiveness.

4.1.2 Organic Collaboration Between Online and Offline

In the offline teaching setting, college English teachers should make full use of diverse teaching spaces such as multimedia classrooms, flipped classrooms, and language laboratories. In the online teaching dimension, with the aid of smart teaching platforms such as A + Classroom, WeChat, iSmart, Rain Classroom, and Super Star Learning Pass, college English teachers should promote the in-depth integration of online and offline smart teaching environments in an all-round manner, and effectively enhance classroom teaching efficiency. Actively implementing the online and offline hybrid smart teaching mode is of great significance for the in-depth promotion of teaching reform, playing a positive role in both depth exploration and breadth expansion. Digital teaching resources and information-based teaching platforms effectively reduce the implementation cost of smart teaching. The realization of smart teaching is not restricted to flipped classrooms. Even in conventional classroom environments, as long as Wi-Fi network conditions are available and PCs or mobile terminal devices are equipped, the goal of smart teaching can be achieved. Thus, a broader group of students can experience the advantages and charm of smart teaching, and promote the overall improvement and development of teaching quality.

4.1.3 Cross-Penetration of Multidisciplinary Knowledge

In college English teaching, the exploration of interdisciplinary resources is a crucial measure to enrich teaching content and broaden students' knowledge horizons. Using English news reports as a starting point, teachers can skillfully introduce multidisciplinary knowledge such as

economics and sociology to create a comprehensive learning experience for students.

Through such interdisciplinary analysis, students are no longer confined to the study of English language knowledge but utilize English as a tool to deeply explore the diverse knowledge systems underlying international events, cultivate the ability to comprehensively analyze problems, and enhance cross-cultural communication literacy, thereby better adapting to the complex and changing social needs in the context of globalization.

4.2 Construction of a Smart Teaching Model

4.2.1 Horizontal Dimension: Closed Loop Before Class – In Class – After Class

Before class, in accordance with the teaching syllabus and students' learning situations, teachers meticulously design and push multi-modal preview tasks with the assistance of the smart teaching platform. In class, teachers adopt problem-oriented and participatory teaching as the core and rely on the smart teaching platform to create a smart classroom. For before-class feedback, focus on the explanation of key and difficult knowledge, organize interactive discussions on the theme, and students use tablets to look up information to support their viewpoints. After the group representative presents, the teacher uses the platform's voting function to organize the entire class to evaluate each group's viewpoints, stimulating the collision of ideas. Conduct skills training activities. For example, in oral English classes, use smart speech evaluation software to monitor the accuracy and fluency of students' oral expressions in real-time and provide timely correction and guidance. Finally, through the class summary function of the platform, guide students to evaluate and reflect, sort out the knowledge framework, and strengthen the learning effect. After class, teachers use the smart teaching platform to assign diversified consolidation tasks. On the one hand, assign extended assignments. For example, require students to write small English papers related to the course subject and analyze the problems in depth using what they have learned. Teachers will provide detailed feedback through online correction to improve students' writing abilities. On the other hand, encourage students to participate in discipline competitions, such as English speech contests and translation contests, to promote learning and exercise comprehensive

language skills. In addition, organize professional practice activities, such as arranging students to participate in the volunteer service of international exchange programs, testing learning outcomes in real contexts, internalizing knowledge into literacy, deepening and expanding after-school learning, constructing a tight teaching closed-loop connecting before-class, mid-class, and after-class, and comprehensively improving teaching quality.

4.2.2 Longitudinal Dimension: In-Class – After-Class Linkage Education

In class, teachers fully leverage the advantages of multi-modal and blended teaching to realize the organic integration of knowledge transfer and value guidance. In college English audio-visual courses, select English audio-visual materials with a sense of the times and educational significance, such as TED talks on environmental protection, where the speakers present the current situation of global environmental problems with vivid pictures and shocking videos and call for action in passionate English. Teachers guide students to watch, listen, analyze speech skills in class and inspire students to think about environmental issues. Cultivate students' global vision and sense of social responsibility, enable students to receive ideological and political education during the language learning process, realize the coordinated development of knowledge, ability, and quality, and implement the goal of comprehensive education under the background of the new liberal arts.

After class, teachers guide students to independently expand their learning with the help of the rich resources of platforms such as MOOCs in Chinese universities. Recommend personalized courses based on different students' interests and professional needs. At the same time, utilize the community function of the platform to encourage students to participate in the curriculum discussion area for communication, sharing learning experiences, and posing questions. Teachers regularly participate in the interaction, answer questions, and solve doubts, pay attention to students' extracurricular learning dynamics, achieve integrated education inside and outside the classroom, promote students' all-round growth, and cultivate high-quality composite talents for society.

4.3 Innovation of Smart Teaching Methods

Smart teaching furnishes expansive space and robust support for students' independent, cooperative, and inquiry-based learning. Regarding independent learning, taking college English vocabulary learning as an instance, students can utilize vocabulary applications to memorize words and independently formulate learning plans in accordance with their own vocabulary proficiency and the principles of forgetting. Meanwhile, the smart reminder function serves to prompt students to review punctually, thereby strengthening the memory effect. Moreover, students have the option to select English vocabulary extension courses on the MOOC platform of Chinese universities to further explore aspects such as word formation and the cultural connotations of vocabulary. This broadens the depth and scope of vocabulary learning and enables personalized and efficient independent learning.

In the context of cooperative learning, students collaborate in groups to conduct research activities. During the process of inquiry, they continuously identify and address problems, gain a profound comprehension of cross-cultural knowledge, enhance their inquiry and practical abilities, and achieve growth and progress within the framework of independent, cooperative, and inquiry-based learning. Additionally, teachers can integrate problem-oriented and task-driven teaching in the classroom setting, which can remarkably boost students' learning enthusiasm and learning outcomes. The combination of immersive and interactive teaching approaches can create an immersive English learning environment for students and effectively enhance the learning experience and its resultant effects.

4.4 Improvement of Smart Teaching Evaluation System: Construction of Multiple Evaluation Dimensions

4.4.1 Equal Emphasis on Knowledge and Ability

In the era of smart teaching, college English teaching evaluation ought to abandon the traditional single knowledge testing model and establish an evaluation system that accords equal importance to both knowledge and ability. On the one hand, online knowledge tests accurately assess students' memory and understanding of fundamental knowledge, including vocabulary, grammar, and text

content. Immediate feedback regarding their scores is provided to assist students in recognizing the gaps in their knowledge acquisition. On the other hand, attention is directed towards the evaluation of students' language application abilities. For instance, in terms of oral expression ability, through the use of smart voice evaluation software, students can read texts online, respond to questions, and promptly receive evaluation reports that guide them in making improvements. Regarding listening comprehension ability, online listening tests are conducted to analyze the accuracy rate of students' answers and the types of incorrect questions, thereby enabling an assessment of their listening skills, vocabulary, and background knowledge. Besides the traditional teacher's evaluation of writing ability, peer assessment is introduced. Students can evaluate each other's compositions on the platform, learn from the strengths of others, identify their own weaknesses, and thus promote the collective enhancement of writing levels. In this way, the organic integration of knowledge and ability evaluation is realized, comprehensively reflecting students' learning achievements.

4.4.2 Consideration of Comprehensive Literacy

Teaching evaluation should also encompass students' self-learning ability, cooperation ability, exploration ability, and ideological and political literacy. With respect to independent learning ability, taking the i-test smart assessment cloud platform as an example, by analyzing data such as students' learning time, their engagement with courseware or videos, their answering situations, and online interactions, a profile of students' independent learning can be constructed. This includes aspects like the periods of concentrated learning time, preferred learning content, and the progress of independent learning. The initiative, planning, and continuity of students' independent learning are then evaluated. The cooperation ability is gauged by observing students' participation in class group activities and the quality of their group assignments. This involves noting their speaking frequency, guiding roles, and coordination abilities during group discussions, as well as the rationality of the division of labor within the group and the innovation of the results. Evaluations from both teachers and fellow students are carried out to fully reflect students' cooperation levels. The ability to explore, analyze, and solve problems is

evaluated by teachers based on questions raised, feedback provided, team contributions, and the completion of assignments. For example, in project-based English learning, students can proactively pose questions, gather information, design solutions, and flexibly adjust strategies to handle unexpected issues when confronted with complex project tasks. Ideological and political literacy evaluation permeates the entire evaluation process, focusing on students' emotional expressions, attitudes, strategies, and other process performances manifested during the learning process. For instance, in an English reading class, it is examined whether students adopt an open and inclusive attitude towards articles involving cultural comparisons and whether they can reflect correct values in their English writing. By integrating ideological and political education into language learning, students' all-round development is promoted.

5. Conclusion

In the backdrop of the Education Informatization 2.0 era, the construction of a smart teaching and learning environment characterized by human-computer interaction and the integration of multiple ecology has emerged as a regular developmental trend in the domain of college English teaching. With the assistance of diverse smart teaching platforms, in-depth exploitation of teaching resources spanning multiple modes and interdisciplinary areas can be achieved. This enables the creation of an interactive classroom that seamlessly integrates online and offline elements and makes full use of various interactive teaching tools. Consequently, students' immersive learning experiences can be enhanced, and the integration of "courses both inside and outside the classroom, as well as the before-, mid-, and post-stages" into the entire process of mixed teaching management can be realized. By establishing an interactive and integrated smart teaching evaluation system, a complete multi-modal, hybrid, and smart teaching system for college English courses can be formed. This will significantly enhance the effectiveness of college English teaching, facilitate the overall improvement and sustainable development of college English teaching quality, and better adapt it to the talent cultivation requirements of the current era. Ultimately, it lays a solid foundation for nurturing talents with an international perspective and comprehensive literacy.

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