Exploration of Innovative Teaching Paths for English Major Courses in Universities on the Intelligent Teaching Environment of Disciplines

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Abstract: *The smart teaching environment model fully utilizes modern information technology to provide basic support for the development of English curriculum teaching activities. To improve the quality of English major courses in universities, a smart teaching environment system should be established, and the advantages of smart teaching should be leveraged. This article focuses on the concept of a smart teaching environment, explores the application advantages of smart teaching in college English course teaching, designs smart teaching activities, and elaborates on the innovative path of college English major course teaching. The research results indicate that in a smart teaching environment, teachers should fully utilize modern teaching tools, create new teaching models, and improve teaching quality.*

Keywords: Smart teaching, College English, Course teaching, Innovation path.

1. Introduction

The continuous advancement of educational informatization has injected new vitality into university curriculum teaching. The application of technologies such as big data, cloud computing, artificial intelligence, and virtual reality has enabled classrooms to break free from traditional teaching constraints. By fully utilizing online and digital resources, the teaching of English majors in universities can not only expand the content of the course but also break free from the constraints of traditional classroom teaching, making the teaching effect and quality more obvious and continuously improving the overall quality of students. However, owing to the greater requirements for teachers in smart teaching, they need not only basic teaching literacy and skills but also a deep understanding of new teaching tools and techniques. How to utilize existing conditions and explore new curriculum teaching paths is a question worth exploring.

2. Overview of the Subject Wisdom Teaching Environment

The subjectwise teaching environment refers to a teaching environment that uses modern information technology and educational technology to provide support and promotion for subject teaching. It takes disciplines as its core and combines information technology, network technology, and educational technology to create communication, cooperation, and innovative learning scenarios for teachers and students, providing rich teaching resources and tools to promote students' comprehensive literacy development. The subjectwise teaching environment is based mainly on "information technology" and "intelligent technology", achieving effective integration between technology and teaching. After the concept of "Internet plus+English" was proposed, standards and models of smart classrooms were gradually constructed, showing the characteristics of openness, diversity and comprehensiveness. In the smart teaching environment, teachers and students in universities are in a relationship of mutual influence and connection. Under the interweaving of subjects and objects, a new teaching ecology has emerged, which has reshaped and upgraded the traditional education model and extended the traditional classroom to extracurricular activities. There is a strong intrinsic correlation between the intelligent teaching environment of disciplines and teaching objectives, which requires the support of information technology and the use of big data technology to drive personalized and diversified classroom teaching. Moreover, the intelligent teaching environment of disciplines provides various teaching methods and tools. Teachers can flexibly apply multimedia teaching, virtual experiments, online discussions and other methods to meet the learning needs of students at different levels of interest. Moreover, it supports teachers' preparation, teaching design, teaching implementation, and teaching evaluation, which can ensure the effectiveness and quality of teaching.

Therefore, the intelligent teaching environment of disciplines provides more teaching resources and tools for subject teaching through the application of information technology; promotes the personalization, diversification, and interactivity of the curriculum teaching process; improves teaching effectiveness; and optimizes the teaching ecology.

3. The Advantages and Necessity of Innovative Teaching in English Majors on the Basis of the Intelligent Teaching Environment of Disciplines

3.1 The Necessity of Teaching Innovation based on the Intelligent Teaching Environment of Disciplines

Traditional college English course teaching mainly adopts an offline teaching mode. Although the concept of a smart teaching environment was proposed early, it is difficult to fully popularize in the short term because of material limitations such as facilities and technology. For universities that have already established demonstration sites and attempted to introduce smart classrooms, it is difficult to form a teaching system that matches smart teaching in a short period of time. The teaching of English major courses in universities belongs to the language discipline. Language

learning emphasizes the integration of meaning and content, focuses on the cultivation of students' language thinking, and involves a large amount of basic and thinking knowledge. In the context of intelligent teaching in the discipline, it is necessary to overcome traditional teaching barriers and innovate teaching models. Its necessity is reflected in two main aspects.

First, universities still use traditional teaching methods in English major courses, namely, face-to-face and lecture-based teaching models, which have left teachers and students in a state of fatigue for a long period of time. Teachers are tired of teaching, and students are tired of receiving. Although China has proposed the teaching philosophy of putting students as the main body and student-centered, the teaching method, as the most intuitive and simple teaching mode, still faces obstacles to its change. In the intelligent teaching environment of disciplines, the teaching content is singular and lacks sufficient practical and application links, making it difficult to cultivate students' language proficiency. In classroom activities, students have low levels of participation and lack enthusiasm and initiative, making it difficult to stimulate their learning interest and motivation. In teaching organizations, teaching resources are limited and cannot meet the learning needs and interests of different students. Therefore, in the course teaching of English majors in universities, this is reflected not only in the transformation of teaching tools and teaching environments but also in the need to innovate teaching methods and modes, use innovation to empower teaching, and break through the barriers of traditional teaching modes, which is necessary.

Second, during the control period of the COVID-19 epidemic, China experienced a long period of offline suspension, and the original teacher–student communication model was actively transformed into an online+offline communication model. However, during the epidemic, online teaching was the main mode of English courses in universities. A university in Guizhou conducted a phased survey on the significance of the online teaching mode in English major courses. In the initial stage, students' satisfaction with online teaching reached over 99.8%. However, after more than 3 weeks of online teaching, students' level of satisfaction sharply decreased, with less than 80% satisfaction and a decrease in their grades. In the process of transitioning from offline to online teaching, the substantive teaching content has not undergone significant changes. In addition to the impact of form on teachers' teaching, the construction of teaching methods and teaching modes also affects the quality of the online and offline teaching modes. In initial online teaching, first, the online teaching activities carried out by universities lack interactivity and cooperation, and the communication and interaction between students and teachers are limited, making it difficult to solve students' problems and confusion in a timely manner. Online teaching relies on network stability, and once there is a problem with the network, the teaching effect is affected. Moreover, in the process of organizing online teaching activities, teachers lack personalized customization, which cannot meet the learning needs and interests of different students. Therefore, in the process of exploring online teaching models, universities should innovate online teaching models and traditional teaching models on the basis of the actual situation of students and professional courses to avoid

the impact of rigid online teaching on the teaching of English majors in universities.

3.2 Significance of Teaching Innovation in the Intelligent Teaching Environment of Disciplines

The innovation of English teaching in universities, which is based on the intelligent teaching environment of disciplines, is highly important for improving teaching quality. Compared with traditional teaching methods, this teaching model is more flexible and efficient, injecting more vitality into the teaching of English majors in universities.

First, the smart teaching environment provides richer and more diverse teaching resources and tools for English major courses at universities, which helps improve the effectiveness of English major courses. Teachers can use multimedia teaching methods, illustrated courseware, teaching videos, etc., to enhance students' understanding and memory of language. Alternatively, rich learning materials and activities such as online reading, listening training, and writing practices can be used to help students consolidate and apply their knowledge and improve teaching effectiveness.

Second, the smart teaching environment has powerful interactive functions, which overcomes the limitations of time and space in teacher–student interactions. Online discussions, group cooperation, virtual experiments and other activities can be used between teachers and students to promote interaction between students and teachers, strengthen cooperation among students, stimulate students' learning interest and enthusiasm, and improve their thinking and problem-solving abilities. Moreover, in a smart teaching environment, teachers can provide personalized learning advice and feedback on students' learning performance and needs, helping students learn and grow better.

Third, the intelligent teaching environment of disciplines has expanded the teaching resources of English major courses in universities. After building a smart teaching platform for disciplines at universities, teachers can access various online educational resources, search for academic papers, research reports, academic journals, etc., within the platform, and provide students with a wider range of updated learning materials. In addition, the platform supports the development of practical teaching resources such as virtual laboratories and simulation exercises, which is conducive to deepening students' understanding and mastery of professional knowledge.

4. Practice of Innovative Teaching Activities in English Majors in a Subject Wise Teaching Environment

4.1 Task Driven and Technology Integrated Teaching Practice

Task-driven and technology integration are commonly used language teaching methods that not only rely on language to carry out practical activities but also pay more attention to students' thinking in the learning process. In the context of intelligent teaching in disciplines, relevant tools and facilities provide technical conditions for task-based language teaching.

The application of task-driven teaching methods by teachers has a positive effect on cultivating students' critical thinking.

For example, in the teaching of the "What is language for?" In the course, teachers carry out teaching activities on the basis of the subject wisdom teacher environment, combine teaching objectives and teaching processes, and complete the teaching practice process. Students have a basic understanding of the tense and structure of English vocabulary and grammar, but their ability to express opinions is generally weak. After completing the analysis of the learning situation, the teachers design the teaching process. Teachers use electronic blackboard writing and student activities in smart classrooms, with real-time communication between multiple screens. They use intelligent evaluation engines, voice transcription, intelligent voting and other tools to carry out personalized teaching activities and collect teaching process data.

Throughout the entire teaching practice, teachers have innovated in the teaching process, achieving deep integration between preclass, in-class, and postclass information technology. With students as the main body, teachers play a supporting role, guiding and inspiring students to think in the task-driven process and forming a hierarchical teaching classroom. The entire teaching process is divided into six parts.

1) Learning on the front line of class

During the learning process on the front line of class, teachers use iWrite software to assign tasks, requiring students to complete writing and reading tasks in "My Favorite Language". Teachers edit and upload video content in the software module, while students complete the self-learning process online. The process involves previewing the text and marking any content that one does not understand. In front of class learning, teachers mainly use the "homework and testing function" in the smart teaching module to share courseware, resources, etc., guide students to preview relevant knowledge, and complete vocabulary testing. Teachers use the intelligent evaluation system of the platform to design language, content, structure, and standardization dimensions to evaluate students' preclass preview results.

2) Feedback during class

The classroom adopts an offline teaching mode, which mainly provides feedback on students' online learning achievements. Teachers organize inspections of students' completion of learning tasks in the classroom. The question "How can we use the language?" for students. In the feedback during class, the teacher is problem oriented and aims to train students' information interpretation and organizational skills. Teachers can directly access courseware resources from the Smart Cloud Box, activate the classroom, and use teacher evaluation, peer evaluation, and individual evaluation methods to evaluate the learning outcomes on the front line of the class. In terms of achievement display, teachers use iWrite to retrieve teaching data and visually display sample essays on smart screens, promoting deep interaction in class feedback.

3) Classroom participation

During classroom participation, teachers assign teaching tasks and conduct teaching through a two-person activity. In the smart teaching environment, teachers use dual-screen presentation technology to display courseware and video content separately, explaining the correlation between knowledge and resources and promoting students' construction of language knowledge. In addition, teachers use pair work tools to record students' personalities and states and choose different methods of presenting results on the basis of students' personalities and interests. In addition to two-person activities, teachers take individual actions to require students to prepare language function introduction content, combine it with students' presentation results, explain and annotate textbook content, and promote students' knowledge construction.

4) Thinking activities

In cognitive activity teaching, teachers mainly adopt the teaching method of understanding and appreciation. After reading the first to third paragraphs of the textbook, they evaluate the author's logical advantages in language text writing and provide corresponding evidence. Teachers set up group activities for students, integrating tasks and technology through group discussions and timers. By utilizing the intelligent desk and chair functions of smart teachers, students are pulled into different spaces to achieve online communication among group members. The timing function is utilized to record students' discussion time and strengthen classroom management.

5) Skill training

Skill training adopts the situational teaching method, and teachers can use both individual and whole-class activity teaching modes. For example, teachers set up scenarios to interpret words and phrases in teaching situations, organize the whole class to participate in teaching, and construct a "quiz for vocabulary" scenario for students. During the application of technology integration, combined with the platform's recording of students' vocabulary test results, data feedback is used to identify students' knowledge difficulties and focus on explaining the key points and difficulties. Teachers can release question types within a limited time on the platform, guide students to vote for training, display students' training results in real time, and complete real-time evaluations of teaching effectiveness.

6) Advanced thinking

In the advanced stage of thinking, group activities are set up, and teaching tasks are assigned for students to evaluate the examples and explore beyond the text. In the specific teaching process, teachers use large screens to communicate with each other, share group discussion results on the group screen, support written adjustments of discussion results, and compare group discussion results to promote communication and cooperation between groups.

In a smart teaching environment, teachers divide the entire teaching process into six stages, with each stage adopting different teaching actions and setting teaching objectives. In teaching, the main use of the technology fusion function has achieved the orderly implementation of smart teaching

practice activities, supporting real-time interaction, sharing, evaluation, and recording of the teaching process, effectively improving students' enthusiasm and enhancing their learning efficiency.

4.2 Building a New Smart Teaching Ecosystem

In the smart teaching environment, the innovation of English major curriculum teaching has revolved mainly around information technology. Teachers use modern information technology and educational technology in practical teaching activities to construct a new English teaching model that adapts to students' needs and subject characteristics, pays attention to students' subjectivity, aims to cultivate students' comprehensive abilities and innovative thinking, provides students with rich and diverse learning resources and interactive mechanisms, and promotes students' active participation and exploration in English learning. For example, in the teaching of the course "College Speculative English Course", teachers aim to cultivate students' critical thinking skills, pay attention to the cultivation of students' higher-order cognitive skills, integrate project-based teaching with the topic commentary teaching mode, and train students' critical thinking. Therefore, in this process, teachers should innovate and construct a new paradigm of smart teaching, use smart teaching to cultivate students' thinking and abilities, use teaching interaction to complete real-time interaction and feedback in the teaching process, strive to improve teaching effectiveness and enhance the pertinence and feasibility of smart teaching [6].

5. Innovative Path of English Major Teaching in a Subject Wise Teaching Environment

5.1 Configuration of Online Teaching Tools

On the basis of the analysis of the teaching practices of English major courses in universities, the implementation of teaching activities on the subject of a smart teaching environment mainly utilizes corresponding teaching tools. Therefore, the configuration of technical tools is the prerequisite for innovative teaching in English majors and the core key to ensuring the implementation of teaching innovation activities. China had already begun exploring online teaching before 2020, and major universities have also begun to use online teaching platforms and tools. However, owing to their immature technical conditions, they cannot meet actual teaching needs in terms of operation and functionality. DingTalk, Tencent Classroom and other software were the earliest batch of online teaching software, but their functions can no longer meet the basic requirements of efficient teaching. In the process of teaching reform in China, the Hikvision Smart Classroom, which has powerful multiple screen interaction functions and can achieve screen-grouping interactions between students and teachers, which is more in line with the basic requirements of university classroom teaching, was launched. This type of teaching tool is based on Internet of Things technology and matches the teaching process and content of English courses in universities, achieving changes in the teaching environment and providing convenient conditions for academic management, resource management, etc. Its virtual functions also provide a basis for scenario construction in English major teaching in universities.

Therefore, innovations in teaching English majors in universities based on disciplinary teaching environments should be based on corresponding teaching tools equipped with smart classroom terminals and comprehensive management platforms to achieve centralized and networked management of teaching equipment, simplify teaching processes, and improve teaching efficiency. Its teaching functions should include discussion, grouping, bullet comments, answering, voting, multidimensional interaction, etc., to support the basic development of online teaching activities.

Teaching tools should provide online discussion functions to support students' topic discussions in class or after class. Students should be able to express their own opinions, raise questions, communicate and debate with other classmates, and promote thinking collisions and knowledge sharing. The tool should have random and designated grouping functions, allowing students to collaborate on projects or tasks within groups. Teachers can set grouping methods to ensure that students can fully cooperate, share resources, and complete tasks, cultivating teamwork spirit and problem-solving abilities. At the same time, teaching tools support students in sending real-time bullet comments, sharing their ideas and viewpoints, or asking questions. In teaching organizations and activities, there should be a buzzer function, and in knowledge and skill training, there should be a voting function. Moreover, functions such as text, voice, and file functions should be used to provide functional support for English major teaching innovation.

5.2 Construction of a New Classroom Teaching Model

In the context of smart teaching, teachers should also transform traditional teaching models and construct teaching models that match technological conditions and tools. Among them, the microcourse teaching mode, flipped classroom teaching mode, blended learning mode, project-based teaching mode, inquiry-based teaching mode, etc., all conform to the characteristics and functions of a smart teaching environment, with strong flexibility, personalization, and interactivity, providing more possibilities for the development of English major course teaching activities in universities.

For example, in the practice of the intelligent teaching of English courses at universities, on the basis of the "New Skills English" tutorial, a U campus teaching management platform, which has basic functions such as resource sharing, task publishing, student situation recording, and testing, is configured. Universities also configure an external research portable learning app, which has functions such as recording, translation, listening testing, and voice testing. Throughout the entire teaching process, teachers have constructed an online teaching model that innovates and optimizes the basic process of English curriculum teaching. Before class, the main use of the U campus computer is for teachers to independently release learning tasks and supplement resource management sections, whereas students are responsible for completing tasks and sharing viewpoints. During the course teaching process, on the basis of the application of the functions of the U campus computer, teachers summarize students' task completion status, explain key knowledge content, organize students to read and share opinions, set up group activities on

the basis of textbook content, and organize the evaluation process. In the after-school stage, teachers organize students to assign and record oral activity assignments, requiring students to record and upload content, and the teacher completes the review process on the platform.

In the entire process of the innovative construction of teaching modes, teachers have completed the innovation of teaching modes on the basis of the platform's functions, achieving the integration of the entire teaching process and technology. Moreover, in the process of integrating classroom and extracurricular activities, teachers use a smart teaching platform and adopt a model of promoting learning and teaching through competitions, exchanging ideas, and making progress with each other on the platform. For example, teachers organize English competitions with the theme of "loving the Party and the country", requiring students to write speeches and use smart platforms to communicate across spaces.

5.3 Innovation in Curriculum Teaching Philosophy and Methods

Exploring innovative paths for college English course teaching in the context of a smart disciplinary teaching environment while changing the teaching basis and teaching mode, teachers' teaching methods should also be further innovated. For example, teachers use the platform's personalized customization feature to enhance the teaching effectiveness of English major courses. In practical teaching, diverse teaching content is designed on the basis of students' interests and needs, real cases and materials related to students' majors are selected, and students are guided for discussion and analysis. In this process, by utilizing the rich resources of the subject intelligence teaching platform, we provide students with more diverse learning materials and activities, such as online reading, listening training, and writing practices, to meet the learning needs of students at different levels of interest.

The intelligent teaching environment of disciplines provides more possibilities for innovative teaching methods and enhanced interactivity in the teaching of English majors in universities. On the one hand, teachers can use virtual resources, smart resources, and online resources to stimulate students' interest and attention in learning. On the other hand, teachers can utilize the interactive features of the subject smart teaching platform to conduct online discussions, group collaborations, virtual experiments, and other activities, encouraging students to actively participate in classroom interactions.

In addition, the construction of a disciplinewise teaching environment provides more flexible evaluation methods and personalized feedback conditions for the teaching of English major courses in universities. Teachers can conduct teaching evaluations through online quizzes, homework submissions, and self-directed learning tasks to obtain students' learning situations in a timely manner. On the basis of students' learning performance and needs, personalized learning suggestions and feedback can be provided to help students improve their learning methods and enhance teaching effectiveness.

6. Conclusion

In summary, it is necessary to innovate English teaching in universities on the basis of the intelligent teaching environment of disciplines, which is an inherent requirement to overcome traditional teaching barriers and improve teaching quality. This article combines the basic connotation of a disciplinary smart teaching environment and proposes innovative practical measures for disciplinary smart teaching environment teaching on the basis of specific teaching cases, exploring the basic path of innovative teaching in English courses in universities. In the innovation of English subject teaching in universities, the configuration of online teaching tools is a prerequisite, the construction of classroom teaching models is the core, and the innovation of course teaching methods is the key.

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