Research on Intelligent Teaching of Vocational Education Based on International Cooperation Cloud Platform

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Abstract: With the rapid development of network technology, various domestic schools have changed from traditional teaching to the integration of information technology and curriculum, and entered the era of using advanced multimedia equipment to assist teaching. In the ten-year development plan for educational informatization (2011-2020), it is also stated that it is necessary to "build an intelligent teaching environment and provide high-quality digital education resources and software tools".

1. Introduction

Since the reform and opening up, China's international cooperative school running of vocational education has experienced the initial stage of learning from 1978 to 1992, the expansion and development stage from 1993 to 2002, and the rapid development stage of active planning and continuous development from 2003 to 2012. Since 2013, it has entered a new era of improving quality and efficiency and taking the lead, and its exchange and cooperation has become increasingly diversified, The scope and fields of exchanges and cooperation are expanding, the degree of exchanges and cooperation is deepening[1] , and the content of exchanges and cooperation is richer. In the upsurge of international cooperation in running schools of Vocational and technical education, the importance of teaching Chinese as a foreign language is becoming increasingly prominent. However, there are relatively few academic studies on Teaching Chinese as a foreign language from the perspective of vocational education. It is found through the retrieval of China HowNet, 2004 one belt, one road occupation of international cooperation in 2021, has only 24 papers. The contents are mostly the analysis of the framework, mode and way of international cooperation in occupation education at the macro level, or the study of international cooperative education in occupation education from the specific perspective of "one belt and one road" and law. In the same period, there were only 7 articles on the research results of "talent training in international cooperative running of vocational education", including 3 doctoral theses and 2 master's theses. The influential articles were "Research on international exchange and cooperation of China's Higher Vocational Education"[2] .

Research on the five-year teaching model of Sino foreign cooperation in running schools in China's higher vocational colleges. Based on the key words "Chinese" and "Mu class", 86 research results were obtained from 2014 to 2021, of which nearly 60% of the papers appeared in 2015 and 2016]; Based on the key words "Chinese" and "smart teaching", there were only 6 research results from 1999 to 2021. It can be seen that the research on smart teaching of international exchange and cooperative running of vocational education has not attracted extensive attention, and the research results are not rich. This study introduces the cloud platform of international cooperation in vocational education into teaching Chinese as a foreign language to carry out smart teaching, This conforms to vocational education[3] .

The development trend of "going out" is also the inevitable requirement of the development of information technology. It has certain theoretical value and practical significance in the research and reform of international cooperative teaching in vocational education[4] .

2. Current Situation of Teaching Chinese as a Foreign Language

Teaching Chinese as a foreign language is a kind of Chinese teaching, also known as Chinese, which is aimed at people from countries or nationalities whose mother tongue is other languages. That is to say, its teaching object is Chinese as the second acquired language. The development of teaching Chinese as a foreign language will help promote Chinese to the world, spread the excellent culture of the Chinese nation, and expand the economic, cultural The exchange and cooperation in language is of great strategic significance to improve the influence of Chinese in the world At present, there are three main subjects of teaching Chinese as a foreign language in China: Chinese teaching for foreign students in Colleges and universities, Chinese teaching in profit-making Chinese training institutions and Chinese teaching in international schools for foreign primary and secondary school students. There are two most widely used and influential textbooks, namely, the new practical Chinese textbook and the Chinese course According to the differences of teaching contents, the courses of Chinese as a foreign language can be divided into four categories: language element courses (such as core grammar and primary Chinese grammar), comprehensive Chinese courses (such as introduction to Chinese and hello Chinese), and professional Chinese courses (such as business Chinese) And HSK special courses. By November 2018, 26 Mu courses for Chinese as a foreign language had been launched, including 5 language element courses, 11 Chinese comprehensive courses, 4 professional Chinese courses and 6 HSK special courses; mu production institutions are all first-class universities in China, mainly including Beijing University (13), Beijing Language and Culture University (5) and Shanghai Jiaotong University (4) , Beijing Normal University (1), Tsinghua University (1), Wuhan University (1), National Taiwan University (1)] , these four kinds of courses have obvious differences in teaching objects, teaching objectives and teaching contents, while Chinese comprehensive courses have the typical characteristics of second language teaching and are the representatives of Chinese teaching courses. Under the background of international cooperation in vocational education, general international exchange colleges are mainly aimed at foreign students at senior high school level, and their Chinese foundation is weak This course is suitable for Chinese comprehensive courses[5] .

Under the background of international cooperation in vocational education, the problems existing in teaching Chinese as a foreign language in higher vocational colleges are mainly reflected in: (1) the teaching objectives can not reflect the characteristics of higher vocational education and lack of support for follow-up courses and students' career development. (2) there are many contents, and it is difficult for teachers to find high-quality multimedia resources when preparing lessons. (3) The teaching contents, teaching methods and evaluation methods can not adapt to the characteristics of students, resulting in students' lack of enthusiasm and initiative in Chinese learning. (4) students have a lot of exercises and homework, and teachers have a large amount of correction, so it is difficult to make statistical analysis of teaching data and students' learning process data. (5) The development of digital resources and information technology has not formed a systematic teaching design idea, the application of information technology, especially mobile Internet technology, has not been brought into full play, ubiquitous learning mode, mobile learning mode and personalized learning mode have not been formed, and the implementation methods and ways of online and offline hybrid learning need to be explored.

3. Characteristics and Advantages of Cloud Platform for International Cooperation in Vocational Education

With the rapid development of Internet and information technology, the establishment of Chinese International Education cloud platform is an inevitable choice for the development of teaching Chinese as a foreign language. The international cooperation cloud platform for vocational education selected by our research group is jointly developed by Tang Feng Chinese and Chinese and foreign experts and partners in various fields[6] .

The cloud platform integrates educational administration management, teaching resources, testing and educational application. It includes four modules, namely user module, application module, management module and resource module. The users of the platform are divided into three categories: school managers, teachers and students. It is not only the teaching management platform of the school, the working platform of teachers, but also the learning platform of students; The application module is the core of the platform, which can realize the functions of resource search, resource matching, network attendance, online problem setting, online homework, online correction, test analysis, test explanation, online test paper generation, online release, online answer, online marking, online analysis, intelligent statistics, self created question set and test paper; Users can manage test questions, assignments, test papers, resources, courses, classes, students, etc. through the management module; The resource module is the total resource base of the platform, mainly including question base, homework base and resource base. There are three typical characteristics of the cloud platform for international cooperation in Vocational Education:

First, the platform has rich audio and video, pictures, documents, exercises, test papers and other teaching resources, as well as excellent teaching plans and courseware of many famous schools and teachers at home and abroad, which realizes the mining and integration of multimodal teaching materials, which is conducive to improving the utilization of resources and the efficiency of teachers' lesson preparation. Second, it realizes diversified, fragmented and personalized learning methods, It enhances students' enthusiasm, initiative and creativity in learning; Third, the platform uses network information technology to support the national standardized evaluation system, establishes the teaching evaluation service system and standards throughout pre-school, middle school and post-school, realizes the intelligent examination system and data statistical analysis, and can put forward personalized learning suggestions according to the statistical analysis results. The platform takes the Internet as the medium and makes full use of modern educational technology, It can mobilize as many teaching information resources as possible to build a good learning environment for students. Under the organization and guidance of teachers, it can give full play to students' initiative, plot and creativity, so that students can truly become active builders of knowledge and information, realize intelligent teaching, and achieve good teaching results.

4. Application of Cloud Platform for International Cooperation in Vocational Education in Teaching Chinese as a Foreign Language

4.1 Preparation Before Class

Realizing the information association among classes, students, teachers and courses on the cloud platform of international cooperation in vocational education is the premise and foundation of intelligent teaching. Administrators can create classes through the international education management information service system on the platform and add class information according to the system prompt. While generating and storing class information, the system will automatically generate a class unique registration code, Students can use the registration code to automatically associate with this class; The administrator can also create teacher accounts and course information, assign teachers and arrange courses for classes. The system will automatically associate the information among classes, students, teachers and courses without manual operation. The administrator can modify, delete, add and query the corresponding information to achieve efficient management, Before the class starts, students need to scan the cloud classroom QR code of the cloud platform for international cooperation in vocational education, install an app on the mobile phone, log in through the assigned user name and password, and after logging in, students can modify the user name and password. The app is mainly used to receive courseware, homework, exercises, test papers and other teaching resources pushed by teachers, so that students can complete exercises on the mobile phone, It will automatically record students' learning process, homework completion and other information

4.2 Group Cooperative Learning

Under the cloud platform environment, the roles of teachers and students have changed dramatically. Teachers have changed from classroom teaching subject to classroom organizer, guide, supervisor and manager, and students have changed from classroom listener to classroom subject. Through personal adaptive learning before class, students have basically mastered relevant knowledge points, In the classroom, group cooperative learning is mainly used to test the learning effect, enhance students' ability to understand, master and apply knowledge, and cultivate students' comprehensive ability. Group cooperative learning is carried out in the learning community as a unit, teachers assign corresponding learning tasks for each learning community, and the multi screen cooperation, projection, equipment synchronization and Resources retrieval and other tools will facilitate the communication, exchange, discussion and sharing of various learning resources and feedback problems among members. After the task is completed, each learning experience will display the learning results and conduct interactive evaluation: teachers will conduct comprehensive evaluation and individual evaluation of students according to the specific performance of each group of members, and listen and read according to the weak links in students' learning, Special intensive training in vocabulary, grammar and text understanding, so as to improve students' language application ability and level as a whole. The whole process is basically completed by students, and teachers are only responsible for organizing, guiding and answering questions. With the support of information technology, the group cooperative learning method based on learning community will not only help students build a new knowledge system and improve the overall learning effect, but also make their cooperation closer and cultivate their sense and ability of teamwork.

4.3 Personal Adaptive Learning

Group cooperative learning and individual adaptive learning are mutually integrated and complementary. Group cooperative learning is mainly used in the classroom and individual adaptive learning is mainly used outside the classroom. Before class, teachers will push Sino Thai bilingual teaching videos and corresponding pre class exercises to the cloud classroom, put forward preview requirements and assign homework, Students will learn the knowledge as a whole before class, find their own learning difficulties and feed them back to the platform. After pre class preview and in class learning, teachers will formulate different knowledge strengthening and consolidation learning plans according to individual differences in knowledge mastery, and carry out special training for students, Students are required to complete the teaching video after class. The teaching video is jointly completed by Chinese teachers and Thai teachers, and knowledge points will be repeatedly strengthened in a variety of ways (such as font effect, situational application, Qin subtitles, etc.) in order to facilitate students to master. Teachers can upload or select topics from the homework question bank according to the teaching plan, and customize personalized online homework, new class warm-up Expansion and improvement and other daily exercises. The cloud platform for international cooperation in vocational education has a special homework management system with flexible and diverse types of homework questions, and the system will automatically complete homework review and record students' homework completion. The use of cloud platform teaching completely breaks the restrictions of traditional classes and realizes mobile and Autonomous ubiquitous learning. Students can learn according to their needs, Search and find relevant audio, video, courseware, pictures, cultural development materials, reading materials and other learning materials on the platform. In addition, the smart classroom is also equipped with small tools such as Chinese phonetic notation, HSK vocabulary level identification, simple and complex conversion and so on, which is convenient for students to learn.

4.4 Statistical Analysis of Teaching Data

The language teaching question bank in the cloud platform for international cooperation in vocational education collects thousands of language test questions and supports eight categories and 20 categories

of question types, such as single choice, multiple choice, judgment, question and answer filling, drag and drop filling, sentence sorting, stroke order temporary Cai, etc. teachers can combine test questions with daily teaching for phased level test, personalized special intensive practice, mid-term examination, etc. The platform can automatically mark the objective questions through the objective question marking system, and provide subjective question marking tools (comments, scoring, star reviewer, etc.) to assist teachers to complete the online marking of subjective questions

The cloud platform for international cooperation in vocational education focuses on the collection, statistics and analysis of teaching process data, supports the automatic recording of the data of each teaching activity, homework, examination and classroom performance of students and teachers, and puts forward personalized learning suggestions according to the statistical results. Taking the test paper analysis as an example, the platform supports multi-dimensional performance statistical analysis, such as single person single time, single person multiple times and multiple person single time, It provides the comparison and score distribution map of each part of the test paper, personal score and average score. Teachers can view the answer of each question, the selection of each option and the corresponding student list. Through these data, students can intuitively understand their personal achievements and the gap with their classmates; It can help teachers understand the distribution and trend of students' achievements, analyze students' strengths and weaknesses, put forward targeted learning suggestions, customize learning programs for students, and improve students' autonomous learning ability and learning interest..

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