

Design of College Oral English Intelligent Online Course Based on Big Data Analysis

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Abstract: The online course teaching of spoken English intelligence in colleges and universities has the characteristics of big data such as a large number of registered users, massive real data and dynamic data analysis. From the educational point of view, the convenient access to information in the era of big data brings opportunities for educational reform, especially the technological progress brought by big data is of great significance to educational model innovation. The effective introduction of big data technology not only helps to improve the construction quality and use efficiency of curriculum resources, but also helps to optimize the research and development mechanism of curriculum resources, so it has great research and promotion value. In intelligent online courses, students' dominant position, which has been neglected by traditional classrooms, has been paid attention to again. The online intelligent course emphasizes the correspondence and cooperation between teaching and learning, emphasizes the degree of transformation of students' oral English knowledge, and requires oral English teaching to serve the improvement of students' ability. Through big data technology, this paper analyzes and grasps each student's oral English learning preference and learning progress, which can stimulate students' interest in oral English learning and realize differentiated oral English teaching.

1 INTRODUCTION

The arrival of the big data era has not only changed people's lifestyle, but also faced a huge opportunity and challenge for all walks of life. Big data technology has been popularized, greatly facilitating people's production and life. In the field of education, big data technology can also play a role, which can effectively promote the development of digital English teaching in colleges and universities. The intelligent online teaching of spoken English in colleges and universities has the characteristics of large numbers of registered users, massive real data, dynamic data analysis and other big data. From the perspective of education, the convenient access to information in the era of big data has brought opportunities for educational reform, especially the technological progress brought by big data is of great significance for the innovation of educational model (Chen, Huang, et al. 2019). The effective introduction of big data technology not only helps to improve the construction quality and use efficiency of curriculum resources, but also helps to optimize the research and development mechanism of curriculum resources, so it has great research and promotion value. The

intelligent online teaching of spoken English provides teachers with a simple way of investigation, which is easy to assess and can improve students' learning ability in listening and speaking. Intelligent online teaching of spoken English has great potential. It can hold lectures, dubbing, debates and other activities on the Internet to stimulate students' interest in learning and improve learning efficiency (Yan, Zhou, et al. 2022). This kind of autonomous learning is not only reflected in the time and place of learning, but also in the autonomy of learning content, learning progress, learning mode and learning methods. However, the current online courses are made with the idea of designing classroom teaching, which is no different from offline classroom teaching. Students are not interested in the content of online courses without considering the characteristics of learning.

The intelligent teaching of spoken English in colleges and universities has broken the traditional teaching mode. By adding advanced digital technology to teaching, the way of thinking of English teachers has changed, and the relationship between teachers and students has changed. The research on online intelligent teaching of spoken English will be a further innovation of online teaching

methods and a beneficial exploration of the concept of intelligent teaching. It will not only help to improve the English learning level of online expanded students, but also have an important meaning for intelligent teaching of spoken English in colleges and universities (Tan, 2019). In combination with the current situation and development trend of college oral English intelligent teaching reform, it is still necessary for scholars to carry out research on online course design of oral English intelligent teaching based on big data analysis and change the traditional oral English teaching mode, which is a beneficial exploration of innovative education and teaching methods. How to apply big data conditions to promote education development still requires in-depth research (Zhang, Zhao, et al. 2021), (Chu, Sun, et al. 2017). As the key content of English teaching, oral English teaching in colleges and universities has also started to break through traditional innovation activities in the era of big data.

2 DESIGN OF COLLEGE ORAL ENGLISH INTELLIGENT ONLINE COURSE BASED ON BIG DATA ANALYSIS

2.1 Proceed from the Educational Needs

Oral English teaching aims at improving students' English communicative competence, transmitting English language and culture, and cultivating English practical ability, which is the main way to improve students' comprehensive quality. Compared with the traditional oral English teaching, the new oral English teaching method can better meet the learning needs of students, and the university classroom is no longer the main front of education, and students can take advantage of the fragmented time to learn English knowledge anytime and anywhere (Zhang, 2020). This online and offline integrated teaching mode has gradually been recognized by teachers and students. This traditional mode of education will directly affect the effectiveness of the cultivation of students' autonomous learning ability, and students' level is uneven, making it difficult to teach students in accordance with their aptitude, thus students lack innovative consciousness, innovative thinking and innovative ability (Wang, 2021). Among many influencing factors, the educational demand has a high degree of influence on the intelligent online course. Besides the requirements of educational

objectives, how to meet the teaching needs of teachers also needs to be considered emphatically by the intelligent online course. The college oral English teaching mode based on big data analysis is shown in Fig. 1.

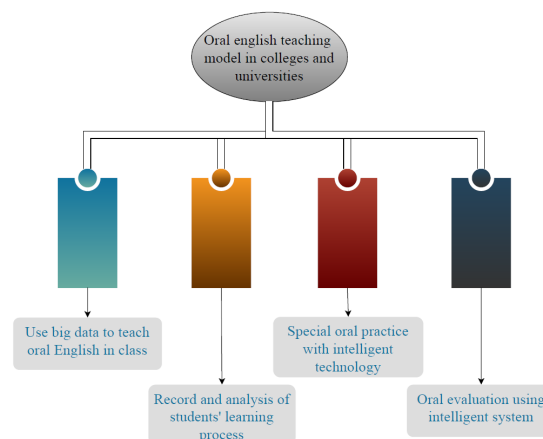


Figure 1: College Oral English Teaching Mode in the Age of Big Data

Students can use AI technology to detect their own learning situation at any time, and find out the weak points of their own knowledge in time. Through targeted training, IBU's own knowledge system is insufficient, and then their abilities in all aspects can be developed. Through this "four step" model, we try to make every student speak English and improve their application ability (Tan, 2021). At the same time, the learning platform can also build a question bank by itself, that is, teachers can design their own oral teaching content according to their own teaching priorities and difficulties, and students can enter the exercises to follow, practice and challenge. Through big data technology, analyze and master each student's oral English learning preferences, learning progress, etc., and achieve differentiated oral English teaching while stimulating students' interest in oral English learning.

2.2 Proceed from Learning Needs

In intelligent online courses, students' dominant position, which has been neglected by traditional classrooms, has been paid attention to again. The online intelligent course emphasizes the correspondence and cooperation between teaching and learning, emphasizes the degree of transformation of students' oral English knowledge, and requires oral English teaching to serve the improvement of students' ability. In this process, teachers should adjust preview content and teaching

progress and control video time, and their teaching methods can be carried out according to teachers' "personalization", so as to attract students' attention and preview effectively. Classroom stage: In the flip classroom teaching, teachers get rid of the usual basic knowledge teaching, answer the difficulties and questions that students feedback before class and ask questions about students' basic knowledge (Jin, 2017). "Share, set top, edit". Class groups can help teachers to form different groups of students according to their situation, and implement hierarchical teaching. Students learn in class groups, and teachers grade and evaluate in class groups.

Teachers can check students' reading, interaction and scores in performance statistics. Starting from the needs of students' oral English learning, the arranged teaching contents, tools and methods should be conducive to the cultivation and promotion of students' ability. Teachers can check students' reading, interaction and scores in performance statistics. Besides daily interactive discussions and comments, teachers can also use the class group function to issue tests and exams, and evaluate and grade all students. Of course, teachers should perform their duties and evaluate students' preview before class, learning attitude and implementation of activities. This kind of teaching evaluation mode can not only promote students to be positive, but also innovate teaching methods.

2.3 Starting from Teaching Resources

Teachers and students actively interact with each other and provide guidance to learning groups that are lagging behind. Through communication and understanding, teachers and students can narrow the gap between teachers and students, improve students' learning interest, thinking innovation and practical application ability, and lay a foundation for future social life. In the age of big data, traditional teaching methods can no longer meet the needs of college English teaching. Digital technology is increasingly used in teaching. Digital English teaching is becoming more and more mature. It is inevitable for teachers to change teaching methods and master digital teaching methods. Teachers make micro lesson videos before class of intelligent online courses, control teaching objectives in many aspects, enrich teaching content, and ensure that teaching videos can also attract students in an unattended environment (Liu, Chen, et al. 2020). Through learning micro lesson videos, students can grasp the practice time independently and watch the fragmented learning repeatedly. In the era of big data,

college English teachers can make full use of online education resources for intelligent oral English online course teaching, especially when correcting students' oral pronunciation, teachers can use pre collected pronunciation skills, oral improvement cases, etc. to improve classroom teaching efficiency.

Use intelligent online courses to carry out English teaching, analyze the learning data of all online students in general, and master the learning characteristics of the overall students. At the same time, the continuous learning data of each student is analyzed to understand the learning situation of each student. Students can practice following the assigned dubbing clips before class, and use the software's own functions such as verification of phonetic symbols, original voice following, system scoring, and netizen interaction to stimulate students' interest in practice. Teachers can collect students' dubbing clips and analyze voice problems, and give one-to-one guidance on correcting sounds in class.

3 ANALYSIS AND DISCUSSION

3.1 Adhere to the "Student-Centered" Teaching Philosophy

In the online course research of college oral English intelligence based on big data analysis, we should adhere to the "student-centered" teaching concept. According to the data analysis of students' online spoken English teaching, the following adjustments are made in the follow-up online spoken English teaching strategies: First, because the pronunciation and intonation of words are the basis of learning spoken English, we should increase the learning content of words' pronunciation and intonation, especially the practice of vowel pronunciation and vivid intonation, and guide students to learn from some movies and videos with standard pronunciation. Online oral English teaching is "student-centered". Teachers can analyze and mine the overall teaching data of students, and then adjust teaching strategies according to the results. Teaching objectives are sometimes difficult to achieve, not necessarily because of students' intelligence, but to a large extent because teachers' teaching methods do not respect students' cognitive development laws and cannot arouse students' inner resonance.

Make full use of online teaching tools, for example, uploading oral English test or oral English training resources in the oral English learning platform, requiring students to complete the test and training tasks as required, and monitoring students'

learning situation through data analysis function. In the "lead-in" link, teachers introduce the topic of oral English teaching through pictures or discussions, and stimulate students' interest through warm-up activities. After activating relevant vocabulary, teachers conduct oral English training, and teachers issue oral English tasks. The teaching implementation plan of the online course of oral English intelligence is shown in Fig. 2.

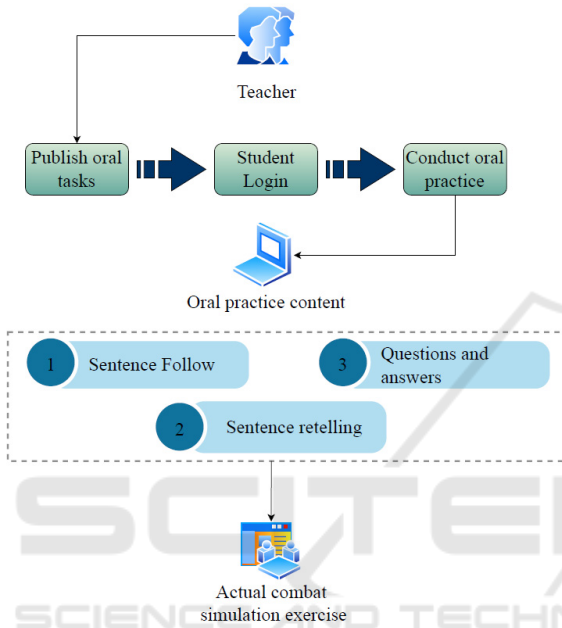


Figure 2: Teaching Implementation Scheme in the Online Course of Oral English Intelligence

The above learning methods are applicable to students' autonomous oral learning. In order to ensure the effect and quality of autonomous learning, teachers should standardize the selection and use of software, and use the social function of the software to form an artificial intelligence learning group of the class. Regular oral ability testing activities should be held to guide students to correctly and fully use the learning software and strive to improve their oral practice ability. The similarity between students is measured by the correlation coefficient. Assuming that the collection of curriculum resources representing the participation of students and students in scoring is used, the similarity between student i and student j is:

$$sim(i, j) = \sqrt{\sum_{p \in I} R_{i,p} - R_i^2} \quad (1)$$

Among them, $R_{i,p}$ refers to student i score on curriculum resources p , and R_i refers to student's score on curriculum resources.

In all course resources, find out the course resources with the highest score in N and recommend them to students. It is predicted that student u will score the course resources as follows:

$$P_{u,i} = \sum_{n \in N} sim(u, n) \times R_{n,j} - R_n \quad (2)$$

Among them, $sim(u, n)$ is the similarity between student u and student n calculated previously, $R_{n,j}$ is the score of student n on course resources j , and R_n is the average score of student u on course resources.

Then use the following calculation method to find out the similarity between curriculum i resources and curriculum resources j .

$$sim(i, j) = \sqrt{\sum_{u \in U} R_{u,i} - R_u^2} \quad (2)$$

Among them, $R_{u,i}$ represents student u score on i resources of the course, and R_u represents student u average score on curriculum resources.

Single guidance can make up for students' weak points and develop their advantages. Both of them are the concrete embodiment of the "student-centered" teaching concept, which should also be implemented in other online teaching designs. Finally, the improvement of oral English fluency is based on the basic abilities such as word pronunciation, intonation, stress and rhythm. It is a skill that needs to be accumulated and developed. It guides students to use information teaching tools such as English fluency to strengthen the frequency of English use and practical application ability.

3.2 Data Analysis

Every student grows up in a different living environment, and his learning style and thinking level are different. To realize students' differences, we should know and understand students' personality characteristics and learning styles in various ways,

formulate specific and targeted suggestions and guidance for each student, and teach students in accordance with their aptitude so that they can know themselves, tap their potential, break through themselves and develop better. Big data is also conducive to helping students practice oral English outside the classroom, so college English teachers can properly guide students' extracurricular oral English practice and provide some help. Online courses depend on the active participation of teachers and students, and whether they are good or bad depends on the actual effect. Therefore, interactive activities are an important factor affecting the effect of online learning. At present, all online courses are designed with interactive learning modules, so that learners can communicate and share. Although the data analysis is objective, many subtle factors will be discarded. When using the data analysis results to adjust teaching strategies, teachers should combine their own teaching experience, use the data analysis results scientifically and reasonably, judge the accuracy of students' spoken pronunciation by analyzing the information content, and score them, so as to encourage students to constantly correct their pronunciation, which also brings a favorable reference for teachers' teaching evaluation. Combine the objective data analysis results with teachers' subjective initiative to form a more scientific teaching strategy. Through the research of a class of 60 students, through the test of students, the data of task point test is shown in Fig. 3.

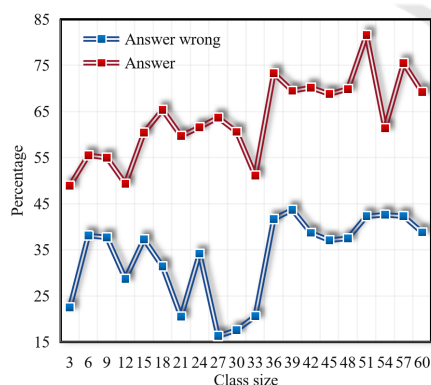


Figure 3: Task point test diagram

Students have a certain understanding of preposition recognition, but they are not accurate enough. According to the above data analysis results, in the follow-up study of this class, it is necessary to strengthen the training of vocabulary usage of various parts of speech, especially the vocabulary usage training mainly focusing on adverbs and prepositions. On the whole, the proportion of correct answers is

higher than that of wrong answers, which shows that oral English training in intelligent online courses is very effective.

In the future, education and teaching are faced with more possibilities and diversity. Students are playing an unlimited potential towards a wider learning world and creating an immeasurable future. The diversified development of education, the continuous innovation of personalized teaching, and the in-depth combination of traditional teaching methods make education and teaching develop from multiple perspectives. Through the analysis of students' chapter learning times, we can get the number of students' chapter learning times (A), their class's chapter learning times (B), and the overall course's chapter learning times (C). Based on the above three results, we can make further experimental analysis and get the trend chart of students' chapter learning times as shown in Figure 4. According to the trend chart of students' learning times in Fig. 4, in August 2021, the number of chapters taught in the course is the largest, which is the peak of the overall learning times trend. The number of chapters taught in other months is slightly lower. Preliminary analysis shows that the content taught in August 2021 is the part that students need to focus on.

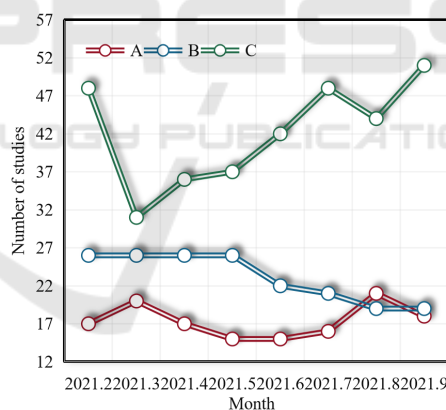


Figure 4: The trend of students' chapter learning times

Through research, we can draw a preliminary conclusion that big data analysis technology is helpful for college oral English intelligent online course teaching. The basic principle of the integration of big data analysis technology and oral English teaching technology is to use data to guide teaching and use teaching to verify data. Technical details such as data collection, analysis and characterization need to go through a certain period of practical research to get the answer. The above learning methods are applicable to students' autonomous oral learning. In order to ensure the effect and quality of autonomous

learning, teachers should standardize the selection and use of software, and use the social function of the software to form an artificial intelligence learning group of the class. Regular oral ability testing activities should be held to guide students to correctly and fully use the learning software and strive to improve their oral English practice ability.

4 CONCLUSIONS

Big data analysis is a beneficial innovation in the design of online courses of spoken English intelligence in colleges and universities, which can effectively improve the quality and teaching efficiency of online courses of spoken English intelligence, hoping to provide some enlightenment for the innovation of teaching mode of online courses of spoken English intelligence. Describing the characteristics of students' oral English learning, taking students as the center, and adjusting the teaching strategies of higher vocational teachers in a targeted way will have obvious help to the quality and efficiency of students' oral English learning. According to the content of teaching materials and the requirements of oral English teaching in higher vocational colleges, teachers will share the video of the micro-lesson of summarizing difficult knowledge points and electronic courseware of oral English teaching on the platform before class, and publish preview tasks and homework. Students log in to their personal accounts, check the teaching materials provided by teachers, and complete the preview homework by consulting their own materials. It not only meets students' general learning needs, but also meets students' individualized learning needs, respects the objective law of coexistence of commonality and individuality in students' learning, and makes targeted and dynamic adjustment of teaching strategies in combination with teachers' teaching experience, which can form a more accurate judgment on the application of teaching strategies. In the actual teaching work, teachers should combine the professional characteristics and employment trend of college students, constantly innovate the content, form and method of oral English wisdom class, enrich the oral English teaching resources and promote the all-round development of college students' oral English.

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