

Research on the Innovation of College English Teaching Model in the Age of Big Data

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Abstract: In the 21st century, the English major is a major that is established in almost every college. However, the teaching of professional courses is still extended to the syllabus of the 1980s and 1990s. When entering the university, students always feel that the course is not as good. High school. Moreover, the English major courses are mainly based on listening and reading skills, and have not shifted their focus to more practical aspects such as linguistics, making the English major a pure English learning major. With the advent of the cloud era, big data has attracted more and more attention, and the ability to quickly obtain valuable information from a variety of data is big data technology. Big data analysis is the process of finding patterns, correlations, and other useful information in the process of researching large amounts of data, helping to better adapt to change and make more informed decisions. This paper proposes to study the innovative mode of college English teaching mode in the era of big data. Studies have shown that the new teaching model of colleges and universities under big data can be better accepted by students.

1. Introduction

There are many problems and deficiencies in the current English teaching mode in China's colleges and universities. The most basic problem is that English is not taught as a language skill to teach, learn, and practice. Instead, it is used as a "knowledge" to forcibly inculcate and memorize each. Grammatical rules and new words. In terms of system, we have not encouraged and promoted students to explore the world in English. They did not let students have the process of exploring, thinking, innovating and communicating on their own, so that they can not only learn English that is not practical, but also can not be questioned and explored. Habits, problems encountered can not be good at their ability to use English to seek answers, the ability to learn new knowledge and new skills in English.

Since there are problems in the English teaching mode of colleges and universities at this stage, there are of course many related studies on how to solve the problem. The study of English teaching mode in China must be rooted in the fertile soil of Chinese traditional culture. It must face the world, based in China, based on schools and rooted in classrooms. The study of English teaching mode in China should follow and learn from the latest foreign educational theories, other related disciplines and foreign language teaching research results, and based on the practice of foreign language teaching in China, inherit the excellent teaching ideas and methods of traditional Chinese language teaching, so that foreign objects and local Chemical, Chinese and Western. Of course, this combination should be based on the school and rooted in the reality of classroom teaching. Traditional English audio-visual teaching does not pay attention to the development of video teaching, voice teaching, and listening and speaking teaching. In this regard, Wu Qiong proposed the teaching strategy of English listening and speaking in higher vocational colleges under the new situation^[1]. The diversification modal teaching model is favored by more and more educators because of its fun and diversity. Applying the diversification modal teaching model to university education enables students to learn English from a more diversified approach. While improving the interest of college English teaching, it also enables students to effectively develop their English proficiency and literacy skills^[2]. As a cradle for cultivating practical and compound talents, higher vocational colleges should not only teach students language knowledge, but also pay attention to the cultivation of cross-cultural literacy^[3]. The application of information technology in teaching can

increase the richness of teaching information transmission methods, and is conducive to mobilizing students' enthusiasm for learning^[4]. The traditional teaching model is no longer suitable for the development of modern students. We must keep up with the times and innovate.

Big Data, or massive data, refers to the massive, high-growth, and diverse information assets that require new processing models to have greater decision-making, insight, and process optimization capabilities. In the Big Data Era written by Victor Mayer-Schoenberg and Kenneth Cukier, big data refers to the use of all data for analysis without the use of random analysis (sample survey). 5V features of big data: Volume, Velocity, Variety, Value, Veracity. The core value of big data is to store and analyze massive data. Compared with other technologies, the comprehensive cost of big data is cheap, rapid, and optimized. It takes us to have three subversive changes: it is full data, not random sampling; it is general direction, not precise guidance; it is related, not causal. After 2012, the term big data is increasingly mentioned. People use big data to describe and define the vast amounts of data generated by the information explosion era, and to name technology development and innovation related to it. In the late 1990s, NASA researchers created the term big data, which has been a vague and enticing concept since its inception, and has only recently become a mainstream term in recent years. However, people's attitude towards it is still extreme. Some people have a passion for religious worship. He believes that the era of big data will release great value and is the only way to the future. In the eyes of some observers, big data has become the third productivity outside of labor and capital. And skeptics say that big data threatens intellectual property, threatens privacy protection, and does not form a climate^[5]. Regardless of people's attitude towards big data, the development and application of big data is gradually growing.

It's hard to find a term that is more eye-catching than big data in the business world. The disruption and innovation of big data is reflected in almost every industry. In the context of big data, the business information of enterprises has been effectively collected, summarized and organized, which provides an important reference for enterprises to implement management planning^[6]. China National Petroleum Corporation's hierarchical use of big data distributed storage and parallel computing to achieve rapid and efficient response to oilfield production and operation tracking, key oilfield production early warning, low-yield wells and long-stop status, and reservoir development classification^[7]. The revolutionary changes caused by big data technology in the service industry have the greatest impact, and it is both an opportunity and a challenge for the socialized service of community archives. Big data has a profound impact on traditional file management and utilization. Archives management departments, archives, and archives departments at all levels should actively comply with the challenges of the big data era^[8]. The report of the 19th National Congress of the Communist Party of China pointed out: Accelerate the construction of a manufacturing power, accelerate the development of advanced manufacturing, and promote the deep integration of the Internet, big data, artificial intelligence and the real economy. Wang Huimin explored the deep integration of big data and real economy in HeNan Province^[9].

There are also a lot of researches on big data in college English teaching. Zhang Yunhe's research on college English teaching reform under the background of educational big data^[10]; Dong Yujuan's reform of English major teaching mode under the background of big data era^[11]; Lin Lixun's Internet plus business English teaching mode driven by big data Innovation^[12]; and so on. Although the research of educational big data has been increasing year by year and has become one of the hot spots of research in the industry, there are still some shortcomings in the innovation of English teaching mode under big data. Professor Huang pointed out that the smart learning environment, the new teaching model and the modern education system are the three realms of wisdom education^[13]. The research on the big data English education model requires specialized education cloud platform support, technical staff for big data analysis, and decision makers who dare to experiment with advanced education concepts, which are exactly what we are missing. The construction of the big data English education model is limited by various factors. Although the enthusiasm is high, there is a lack of real and convincing research. Although there is no persuasive research, this does not affect our research on the innovation of English teaching mode. This paper proposes the concept of English teaching mode in the era of big data by defining the concept of big data and the concept of

English teaching mode. Implement the path to provide a theoretical basis for subsequent research.

2. Methods

The flow chart of the English teaching innovation model in the era of big data is as follows:

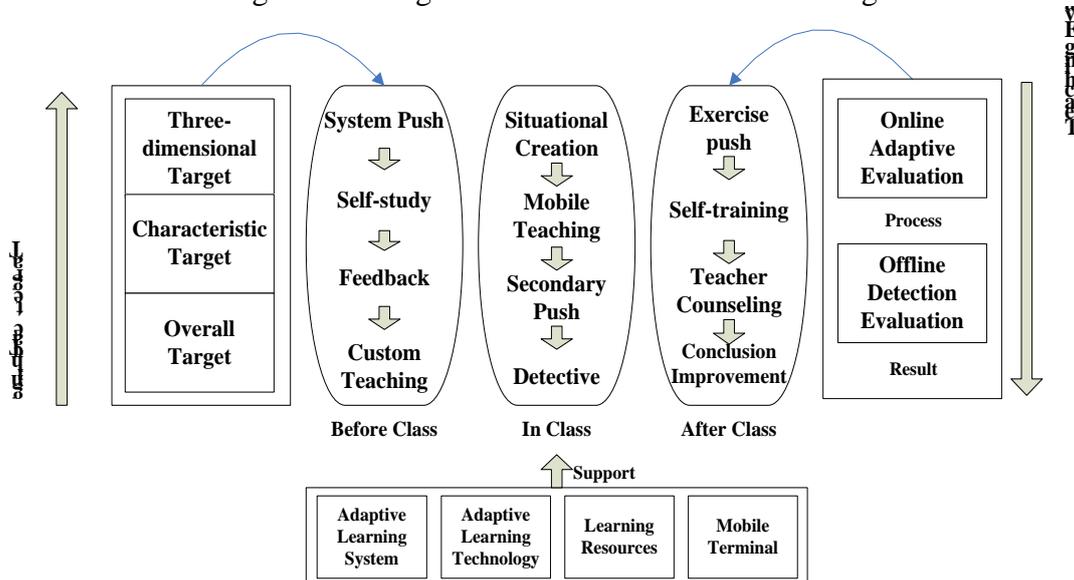


Figure 1. Flow chart of English teaching innovation mode under big data

2.1 Adaptive Learning System.

The adaptive system refers to the establishment of the learner model characteristics based on the data analysis results. The data analysis results collect and analyze the student data information, and analyze the two-way interaction between the students and the system when the self-learning activities are performed. Adaptive systems improve and resolve the indifference issues that arise in traditional education. The English teaching model in the era of big data proposed in this study is the basis for the implementation of adaptive systems through knowledge point slicing technology. The main method steps are as follows:

2.1.1 Knowledge granulation

The knowledge is subdivided into the smallest unit. According to the characteristics of the subject knowledge, all the knowledge of a certain range is finely processed according to the syllabus or the teacher's demarcation, and stored as one of the knowledge particles. With this knowledge granule as the core, other teaching methods, such as micro-classrooms, exercises, etc., are attached to students who are interested or interested in this knowledge point.

2.1.2 Knowledge tagging

Label knowledge with multidimensional annotation and positioning. When the students make mistakes in the relevant topics during the learning process, the system can judge the students' mistakes and realize the second push through the label. Under the support of big data, the author can finally realize the knowledge portrait for the comprehensive situation of a certain knowledge of a certain student.

2.1.3 Knowledge structure

Through the granulation and labeling of knowledge, the knowledge map is formed, and the data generated by using a large amount of data is used for data mining to form strategies and algorithms. After the user learns to generate the demand, the appropriate personalized knowledge system and structure are constructed in the first time. Quickly match granulated, tagged content for accurate push.

2.2 Adaptive Learning Technology.

Adaptive schools start from the individual differences of students, and customize different learning activities for students' individual learning differences, learning environment, learning content and learning strategies. Through personalized and adaptive learning, students make up for the lack of passive learning in traditional education, and fully demonstrate the personality characteristics of students. The main method steps of the adaptive learning technology of English teaching mode in the era of big data proposed in this study are as follows:

2.2.1 Label classification

The classification of knowledge is taken as an example of the new curriculum standard of English subjects. Teachers can divide the teaching content into four major tag modules: vocabulary (V), listening (L), reading (R) and writing (W). Make thinner and smaller labels for the slicing and refinement of knowledge under the four top-level tabs.

2.2.2 Collecting data

Data collection is based on three types: new lectures, review, and grades. The new lectures use the "Training Task List" to collect data, review the use of the "Review Task List" to collect data, and use the "Unit Checklist" to collect data.

2.2.3 Wisdom diagnosis

The big data analysis pass rate is pushed to the teacher according to various models such as student personality and class average.

2.2.4 Precision teaching

Through intelligent diagnosis, teachers choose appropriate teaching methods, effectively implement precise teaching, and improve classroom efficiency.

2.2.5 Advance to the standard

According to the analysis of big data, relevant knowledge will be pushed again, and finally all students will reach the promotion level and achieve the goal of English teaching.

3. Experiments

This experiment uses the teaching mode of big data in college English teaching to verify the role of English teaching mode under big data through students' learning interest, independent inquiry ability and cooperative learning ability, and continuously improve in the process. Improve the teaching model.

The experiment selected two classes of English courses with the same English and similar levels of English learning to conduct experiments. One class used traditional teaching mode teaching and the other adopted big data teaching mode. The subjects were surveyed before and after the experiment. The survey consists of two main parts. The first part is the role of the teaching model used in the experiment on the various aspects of the learning process in the experimental group and the control group, including academic achievement, interest in learning, self-learning ability and cooperative learning ability. Part of the investigation is the adaptation of the experimental group to the English teaching in the new mode.

4. Results

100 questionnaires were distributed in the experiment, 100 were recovered, the recovery rate was 100%, and 100 valid questionnaires, the effective rate was 100%. The first part of the questionnaire survey experimental data analysis is shown in Table 1:

Table 1 Early experimental survey questionnaire

Questionnaire	Mean		Standard Deviation	
	Test Group	Control Group	Test Group	Control Group
Do you like English classes?	1.90	1.86	0.790	0.800
Do you learn before you take English class?	1.42	1.33	0.612	0.589
Is your English self-study ability strong?	1.79	1.62	0.674	0.621
Are you active in English class?	1.77	1.81	0.707	0.683
How do you master your English classroom knowledge?	1.72	1.74	0.516	0.569
Do you like group learning methods?	2.32	2.11	0.773	0.701
Are you interested in the current class of teachers?	1.55	1.42	0.646	0.574

Through the analysis of the above table, it is concluded that the average value of the experimental group and the control group are 1.90 and 1.86, respectively, indicating that the attitudes of the two classes in the English class are basically the same, and the preference for the course is generally below. In the classroom activity, the average value of the two classes is 1.77 and 1.81 respectively, and the activity of the two classes needs to be improved. The acceptance of cooperative learning, the average value of both classes exceeded 2, indicating that most students still like the way of learning cooperative learning. From the analysis of the data in the above table, the initial levels of the two groups are comparable.

At the end of the experiment, the interest and attitude of the experimental group and the control group at the end of the semester were compared and analyzed. The analysis results are shown in Tables 1 and 2:

Table 2 Experimental group and control group English class attitude data

Questionnaire	Class	N	Mean	Standard Deviation	Standard error of mean
Do you like English classes?	Test Group	50	2.516	.674	.0926
	Control Group	47	1.879	.772	.1021

Table 3 Difference test of learning attitude between experimental group and control group

		Levant test of variance equation		Mean equation's test of t		
		F	Sig	t	df	Sig(Bilateral)
Do you like English classes?	Assume that the variances are equal	.201	.647	-4.214	96	.000
	Assume that the variances are not equal			-4.214	96.214	.000

It can be seen from Table 2 and Table 3 that the difference test between the two groups shows that the P value of the equal variance is less than 0.05, indicating that the experimental group and the control group have significant differences in the degree of preference for the English class, showing that the experimental group students English classes prefer.

The second part of the experimental group students' new teaching model adaptive research and analysis data is drawn as shown in Figure 2 below:

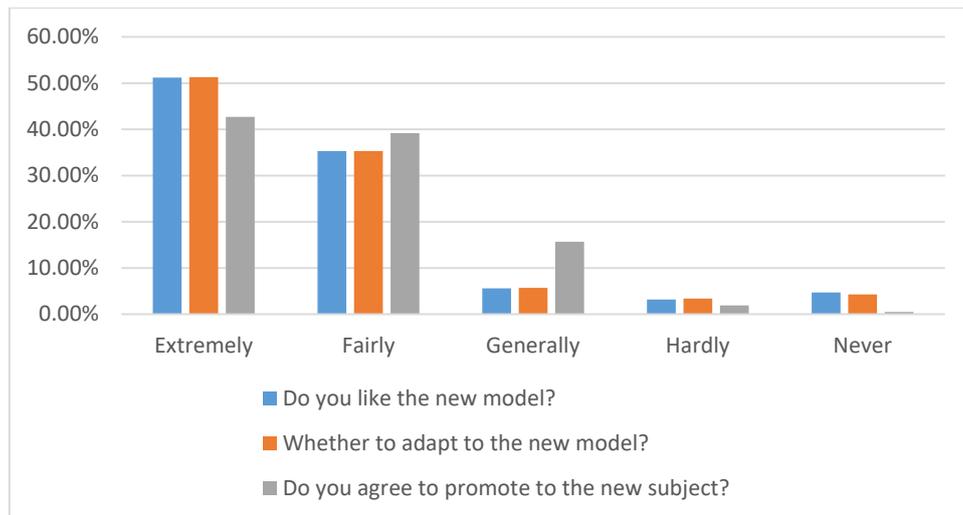


Figure 1. Experimental group students' new model teaching adaptive analysis data

According to the data, most of the students' self-adaptation performance under the new teaching mode is good. 51.3% of the students said they can adapt to the new model, 35.3% of the students said they can adapt to the new model, and only 7.6% of the students said that they could not Very uncomfortable.

5. Conclusion

This experiment adopts the method of action research and quasi-action research. The innovation proposes the basis of knowledge granulation, knowledge labeling and knowledge structuring as big data analysis. The new mode of English teaching under big data breaks the constraints of the traditional model, and it can better adapt to the personality and development of each student than the traditional model. Through big data and other technologies, we can create more new teaching models and improve the efficiency of English teaching in colleges and universities.

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