Real-time Online Education of College English Based on Cloud Computing

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Abstract. The implementation of internationalization makes English education more and more important. In colleges and universities, English is an important basic course. With the popularization of cloud computing, more and more universities are applying cloud computing to English teaching. Cloud computing provides new ideas and methods for college English education. In view of this, this paper proposes a study of cloud-based college English real-time online education. This article first describes the impact of cloud computing on college English education, and conducts research through controlled experiments and questionnaires. The experimental results in this article show that after an experimental period, the students in the experimental group have made significant progress, especially in the listening level. The listening level of the students in the experimental group has increased by 57%. In contrast, the control group has improved, but Obviously lags behind the experimental group. In addition, students also have a good opinion of real-time online education. Although the advantages and disadvantages of real-time online education, the advantages outweigh the disadvantages in general, and most students say that this education method is more novel and attractive. The research results of this paper provide a new idea for the future teaching model of college English education and have good reference value.

Keywords: Cloud Computing, College English, Real-Time Online Education, Controlled Experiments

1. Introduction

Cloud computing, as an Internet-based computing method, is based on the centralized sharing of resources. It centralizes all resources on the network, integrates and manages them, and then provides these resources to users in the form of services. The characteristics of cloud computing allow users to use their own resources without installing various applications, as long as they can be accessed through a browser. At present, cloud computing has entered the field of education and has become an important auxiliary means for current teaching. With the continuous deepening of college English teaching reform, modern educational technology and online teaching platforms are increasingly...
applied to college English teaching. This online teaching platform can meet the needs of students to choose useful learning resources anytime, anywhere, and according to their own personality, so that learners can better carry out autonomous learning, stimulate learning interest and enthusiasm, and achieve the ultimate goal of effectively improving learning results. At present, most domestic and foreign scholars have explored mixed teaching from teaching methods such as class appreciation and classroom flipping, but have not yet done research from the perspective of real-time online education. Moreover, in the past teaching practice, it is easy to overlook the balance between teaching progress and student interest, lack of a centralized and effective teaching interactive solution, and fail to really establish a complete teaching model.

To cultivate a large number of international talents with an international perspective, knowledge of international rules, participation in international affairs and international competitiveness, they must be proficient in English. The English level of international talents is mainly cultivated and improved through college English courses. Faced with new economic and social changes and new requirements for talent training, how to focus on improving the comprehensive English quality of college students and exploring new media technology teaching paths based on cloud computing has become a new choice for college English teaching reform [1-2]. Among many information technologies, real-time online education has adapted to the requirements of today's era and students' living habits with its convenience, fragmentation, mobility, socialization and other characteristics, and attempts to develop real-time online education and teaching to become a university in the information age. The new path of English about teaching reform, how to use new media technology and cloud computing technology, make full use of the mobile teaching advantages of real-time online education, and explore cloud-based college English real-time online education, it is very necessary and urgent to study contemporary college English Real-time online education has profound implications for the reform of English education [3-4].

Aiming at the current reform problems of college English education, this paper proposes a real-time online education study of college English based on cloud computing. Firstly, it expounds the relationship between cloud computing and college English education, and verifies the viewpoint of this article by using controlled experiments and questionnaires. Through research, this paper finds that real-time online education of college English is helpful to improve students' level in all aspects, especially the improvement in listening.

2. Method

2.1 Cloud Computing and College English Education

(1) Elaboration of the concept of cloud computing

Cloud computing, as a brand new IT technology, is considered to be the third revolution after the relay of PC and Internet in the IT field. As far as higher education is concerned, while cloud technology has brought great opportunities to college English teaching reform, it has also brought many challenges and adverse effects [5]. For example, cloud technology can realize remote and virtualized English teaching modes; cloud technology can realize various English training modes without a venue and no teaching materials[6].

(2) Huge opportunities brought by cloud computing technology to college English teaching reform

Since the founding of New China, discussions on English teaching models have never stopped. In a sense, the nationwide foreign language learning system is not only related to the cultivation and practice of Chinese English culture, but also to the future and future of the Chinese nation. If we cannot adapt to the tide of technological reform and reform the existing English teaching model, the strategic goal of the great rejuvenation of the Chinese nation may fall on the British wooden bridge of "fraction certainty". Specifically, the positive effect of the cloud search ability of science and technology before the fourth revolution on college English teaching is mainly reflected in the following aspects.
1) Cloud computing technology has accelerated the development of distance English teaching models. Distance English education is an education model based on network thinking [7-8]. This educational model circumvents the live classroom teaching system that has been around for thousands of years. In remote English teaching mode, educators can transfer general information about classroom and English exams to the computer of the educated person through a computer terminal. As long as the educated person is familiar with general computer operations, they can easily browse or download the relevant English course outlines, examination outlines and instructional videos, and the examination methods can also take computer examinations.

2) Cloud technology is changing the characteristics of traditional English training models. The traditional English training mode has the characteristics of on-site interpersonal interaction. Teachers and students must face-to-face linguistic or physical activities. Trainers and trainees must also have one-on-one meetings and exchanges [9-10]. With the advancement of science and technology, especially the implementation of open and distributed ant algorithms for cloud computing, the traditional English training model has undergone tremendous changes. Under the cloud technology model, trainers and students do not have to face each other, but can communicate and communicate online. Each client can quickly find its own entry point with the help of cloud database, so as to obtain the English materials or English test questions that they want to learn. This greatly simplified the tedious traditional procedures and optimized the modern English education training mechanism and concept.

3) Cloud computing technology has broadened the speed and channels of knowledge acquisition for college English students. The electronic functions of the library are being strengthened. Cloud computing is a computing model that can provide dynamically scalable virtualized resources to users through the Internet as a service. Users do not need to know how to manage those infrastructures that support cloud computing. Under this model, the speed and channels of knowledge acquisition for college English students will change greatly. The concept has been largely out of date [11]. Due to the enhancement of the library's electronic functions, most English learners can call up all the materials and service information they need from the cloud server, and some English teachers' questions can be searched from the cloud And download, which greatly saves exam costs and study time.

4) Cloud technology is changing the efficiency of college English multimedia teaching models. Three-dimensional English course mode quietly started. In the existing media environment, students can use three-dimensional and even six-dimensional animation presentations through sound and photoelectric overlay technology. Stimulation can greatly stimulate the surface cells of the brain of college English learners, and then increase the consciousness of the learners, thereby improving the efficiency of English acquisition. Under the cloud technology environment, a three-dimensional curriculum model for college English learners came into being. Learners will not only be strongly perceived by 5D-6D, but will also be supported and filled by real-world scenery, water, electricity, thunder, etc. The learning efficiency will be greatly improved, and situational teaching will greatly improve the standardization of dumb English.

(3) The huge challenge of cloud technology to the reform of college English teaching

1) The big data storage capacity of cloud technology will reduce the enthusiasm and initiative of college students in English learning. With such a large amount of cloud server data, most participants will feel powerless. This psychological intuition is especially serious in the consciousness of college students [12]. From this perspective, the large data storage capacity of cloud technology will reduce the enthusiasm and initiative of college students in English learning and affect the learning effect.

2) Differences in cloud communications will distract college students' English learning, resulting in reduced learning efficiency. The diffusion of clouds is mainly reflected in the tree structure display of data storage topology and ant algorithm [13]. The massive information retrieval capability of cloud technology will infinitely magnify the lack of legal protection rights such as personal privacy, unit secrets, and state secrets. Protecting privacy has become a basic common sense that citizens must have in the era of big data. Cloud technology will bring misunderstandings and property damage to the operation of college students' e-commerce model.
2.2 Online Live Lessons

Online live lesson is an online course development model developed with the help of a live broadcast platform [14-15]. At present, there is no accepted strict definition of "online live broadcast" in academia. According to the definition of "online learning" in the United States, "online learning" refers to education in which teaching activities and content are mainly transmitted through the Internet, including online resources, media, tools, interactive activities, courses, teaching methods, etc. Live broadcast education is more convenient and fast, adapting to the time fragmentation of modern people. Has good development prospects. From a user's perspective, online live education has three major advantages. First, it greatly saves users time to go to offline educational institutions. Users can turn on the computer on time and immediately enter online classroom learning. The second is to break through space constraints, and users can freely choose courses offered by teachers and institutions from across the country and even around the world. The third is to make the scarce resources of famous teachers no longer in short supply, and everyone can enjoy the opportunity to face-to-face and online interaction with famous teachers. The online live lesson is an effective combination of "on-demand + live broadcast, online learning, and platform interaction" based on Internet technology and online platforms. It supports mobile terminals such as PCs, iPads, and smartphones to teach at any time. Teacher participation, real-time teaching mode, in which a certain size group can participate in interaction.

The core technology of online live broadcasting is based on the Internet platform, which disseminates information online through video. It is intuitive, fast, rich in content, highly interactive, and not limited by region. In the past, teaching videos on the Internet were mostly recorded and played videos, which lacked interactivity and made it difficult to attract users. Live broadcast can make up for this shortcoming. In recent years, the rapid popularization of smart mobile terminals such as smart phones and tablet computers, and the rapid development of mobile 4G technology and networks have provided basic conditions and possibilities for students to use the Internet to watch online course broadcasts anytime, anywhere.

The rapid development of online live broadcast and online education has drawn great attention from all walks of life, not only attracting the widespread participation of college students, but also providing a new technical platform for colleges and universities to carry out live webcast teaching, creating a good atmosphere of public opinion and enhancing the students' Learning interest user habits and stickiness.

3. Experiment

(1) Experimental object

Taking 120 students in four classes of a major in a certain college as an experimental object, the students of the four classes were divided into two groups, namely the experimental group and the control group, for teaching experiments. The experimental cycle was one semester. In order to ensure the reliability of the experiment, before the experiment, the students in the four classes were tested for the bottom, and it was confirmed that the students in the four classes had comparable English scores and there was not much difference.

(2) Experimental design

The experimental group uses real-time online teaching methods in English classes, while the control group uses traditional teaching methods. After an experimental cycle, the students of the two groups are examined for their grades, and the results are sorted and analyzed. A questionnaire survey was used to issue questionnaires to students in the experimental group to ask students' views on real-time online education of college English. In this questionnaire survey, 60 questionnaires were distributed, and 60 questionnaires were recovered. The recovery rate was 100%, of which 58 were valid questionnaires, and the valid rate was 96.7%. The results were collated and analyzed.
4. Discuss

4.1 Analysis of Experimental Results

After an experimental cycle, students were surveyed, and the results of the survey were analyzed.

![Figure 1. Analysis of experimental results](image)

It can be seen from Figure 1 that after an experimental cycle, the English scores of the students in the experimental group and the control group have improved, but the students in the experimental group have improved faster. In terms of spoken language, the experimental group has increased by 46%. On the level, students in the experimental group have increased by 43%, and in the listening level, students in the experimental group have increased by 57%, and students in the comprehensive level have increased by 51%. The improvement is very obvious. In contrast, at the level of speaking, the control group increased by 32%. At the writing level, students in the control group increased by 28%. At the listening level, the students in the control group increased by 25%. At the comprehensive level, the students in the control group increased by 33%. Obviously worse than the experimental class.

4.2 Analysis of Questionnaire Results

A questionnaire was sent to the students in the experimental group, asking the experimental group's opinions and feelings about real-time online education in college English, and sorting the results. The results are shown in Table 1.

| Positive influence                                      | Negative influence          |
|----------------------------------------------------------|------------------------------|
| To broaden our horizons                                  | Easy to fatigue              |
| Help to improve listening level                          | Autistic                     |
| It is convenient to save resources                       | Lack of communication        |

As can be seen from Table 1, any thing has two sides. Real-time college English online education has both good and bad aspects, but in general, the advantages outweigh the disadvantages, which is an education method that can be promoted.
5. Conclusion
With the development of science and technology, there have been various changes in English teaching methods. The research purpose of this article is to conduct research on real-time online education of college English. To this end, this article conducts a study of controlled experiments and questionnaires. After researching in this article, it is found that real-time online education of college English has good and bad effects on students, but overall the advantages outweigh the disadvantages. After an experimental cycle, the students in the experimental group have significantly better English scores than those in the control group. There are better progress, which shows that the viewpoint of this article is feasible, and it also provides a paradigm role for subsequent college English education.

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