

Research and Realization of Online English Education Learning Results in the Era of Big Data

Zimu Yang

Lingnan University, Xianggang, China

zimuyang2@ln.hk

Abstract: In the development of social economy and scientific and technological innovation, the traditional teaching mode based on school curriculum has been unable to meet the needs of professional talent cultivation in various fields, and the education field has begun to build and promote the network teaching system. From the perspective of long-term development in the field of education, it is the main topic of online education in the era of big data to use data analysis technology to manage the data information of online learning education in China, discover the latent development rules, and provide effective basis for the optimization of teaching and management process of online academic education. Therefore, after understanding the different stages of the development of Online English education in the era of big data, this paper comprehensively predicts the learning results of online English education in the era of big data according to the intelligent English education teaching system and the overall teaching content, thus putting forward effective measures to optimize the English learning level of college students.

Keywords: Big data era; Network English education; Learning outcomes; intelligent

1. Introduction

After the big data technology concept, the world's economic development and great changes have taken place in technical innovation, such as using data analysis technology, deep mining data to predict the future of hidden information summary, based on statistical techniques, etc., prove that big data is mainly used to describe the definition the era of information explosion produces huge amounts of data and related technology. Especially in the rapid development of computer and information technology, with the large-scale popularization and application of various industries, relevant data shows an exponential growth trend, from hundreds of TB levels to tens to hundreds of PB levels, big data has far exceeded the processing capacity of traditional computer technology and information system. In essence, big data refers to the collection of data that cannot be captured, managed and processed by software and hardware in an affordable time. Only by using new modes can data be combined into diversified information assets with strong insight and decision-making power.[1.2]

And our country network higher curricula education after decades of development, all colleges and universities according to their own teaching characteristic, has carried out at different stages of the pilot run, and in the monitoring system, learning evaluation, education management work, such as the large quantities of data information, such as time, participate in discussions, and online learning, personal information, etc. Nowadays, these data and information only exist in all kinds of network learning and management systems, and do not really play their own application value. If we can use data mining technology and learning analysis technology to build a standardized operating system, and carry out deep mining and standard processing, it can provide effective basis for the design of network learning process and management process. From the Angle of network English education, the pilot colleges and universities in the education innovation, try to use various methods to improve English exam pass rate, and a comprehensive understanding of the students' learning efficiency, patience, concentration, interest point information, ultimately to provide high quality network learning guidance, and build with learners as the core of learning support system, Forming an intelligent network learning environment. In this paper, data mining technology is used to predict and analyze English online learning outcomes of undergraduate students in colleges and universities in a certain area, and basic data such as personal information, test scores, and learning

status of professional courses are systematically mastered[3].

In the era of big data, Online English education in China has experienced three stages of development. First, from the 1940s to the 1980s, it was a period of exploration and development with computer and natural language processing as the core. In this context, the father of computer science and the father of artificial intelligence of the British mathematician and logician Alan Turing first put forward the "machine can think" this question, which not only triggered the scholars of various countries research and discussion, but also developed a variety of functions of human-machine dialogue system; Secondly, from the 1990s to 2010, it belongs to the in-depth development stage with the Internet and corpus as the core. Under the background of widespread Internet, it provides a good foundation for the research and application of language intelligence. Among them, in the research and development of man-machine dialogue system, can use such as DOS, UNIX character command to achieve man-machine dialogue. In the field of machine translation, computer-aided translation (CAT) with translation memory system as its core has developed rapidly. All these studies prove that online English education has research value in practical development. Finally, since 2011, under the background of global in the era of big data into multiple artificial intelligence application period, deep learning, artificial intelligence and big data become language keywords in the field of intelligence research, which not only provides new opportunities for language intelligence research, and continue to optimize the national cyber English education system and application functions. Therefore, based on the integration of existing research literature and from the perspective of Online English education in the era of big data, this paper deeply discusses and predicts the learning outcomes of online English education, so as to provide effective basis for the innovation and development of modern education[4.5].

2. Method

2.1 Intelligent foreign language education system

Under the background of intelligent language development, and cultivate specialized personnel to correct docking language intelligence, and from the teachers team, teaching mode, curriculum design, training program and other aspects to reform the innovation, the basic knowledge of language intelligence and related ability, integrated into the education work, eventually forming the education teaching system are shown in figure 1 below[6]:

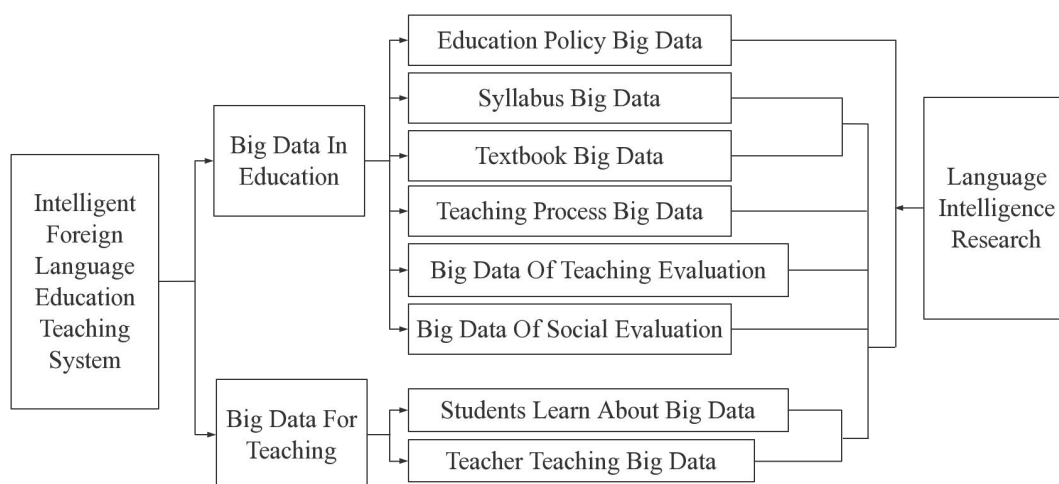


Figure 1 Intelligent English education and teaching system

Combined with the above analysis, it can be seen that the overall system includes two parts: education big data and teaching big data. Among them, the former refers to the data collection generated and collected by the whole educational activities in the field of education, which can not only be used for educational development, but also create potential value in the application, such as

teaching evaluation, social evaluation, teaching process, textbook outline, etc. The latter refers to the teaching data generated from both students and teachers in the actual teaching process[7].

2.2 System Architecture

Taking the learning platform of colleges and universities in a certain region as an example, this paper conducts in-depth research on the functional requirements from the perspective of different users, including students, teachers and system administrators. The overall architecture design chooses B/S architecture, which does not need to install the client program, and the actual update operation is more convenient, but the interaction and real time is too low, the server faces great pressure, and can not make full use of the client resources. The B/S structure diagram is as follows:

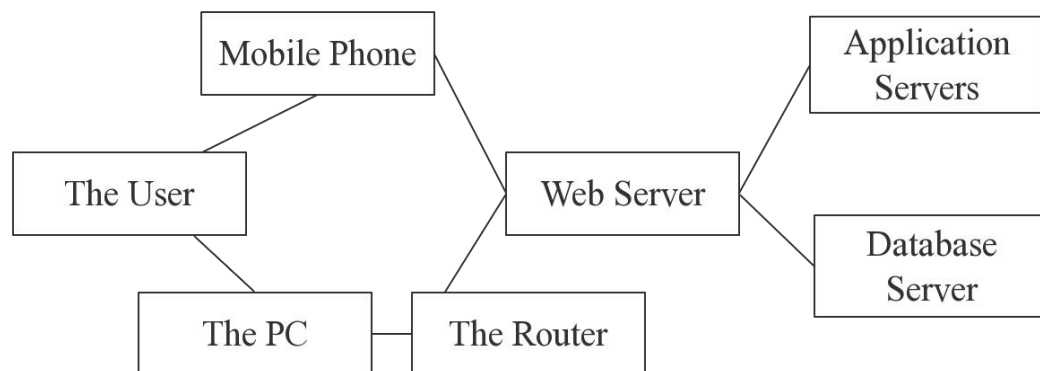


Fig. 2 B/S structure diagram

At the same time, in the system design to ensure that the structure follows the TCP/IP communication protocol, so as to facilitate the system during the operation of expansion and management maintenance. In the era of big data, the network English education platform should use PC or mobile terminal to realize effective connection between browser and server to ensure that users can directly access the learning platform. After registering an account and logging in to the platform, users can operate according to the functions provided by the system, such as online learning, preview materials, uploading information, learning results, etc. And the system administrator can update the content of the server through the browser, upload other better teaching materials, and friendly interaction with students. The specific architecture is shown in Figure 3 below:[8]

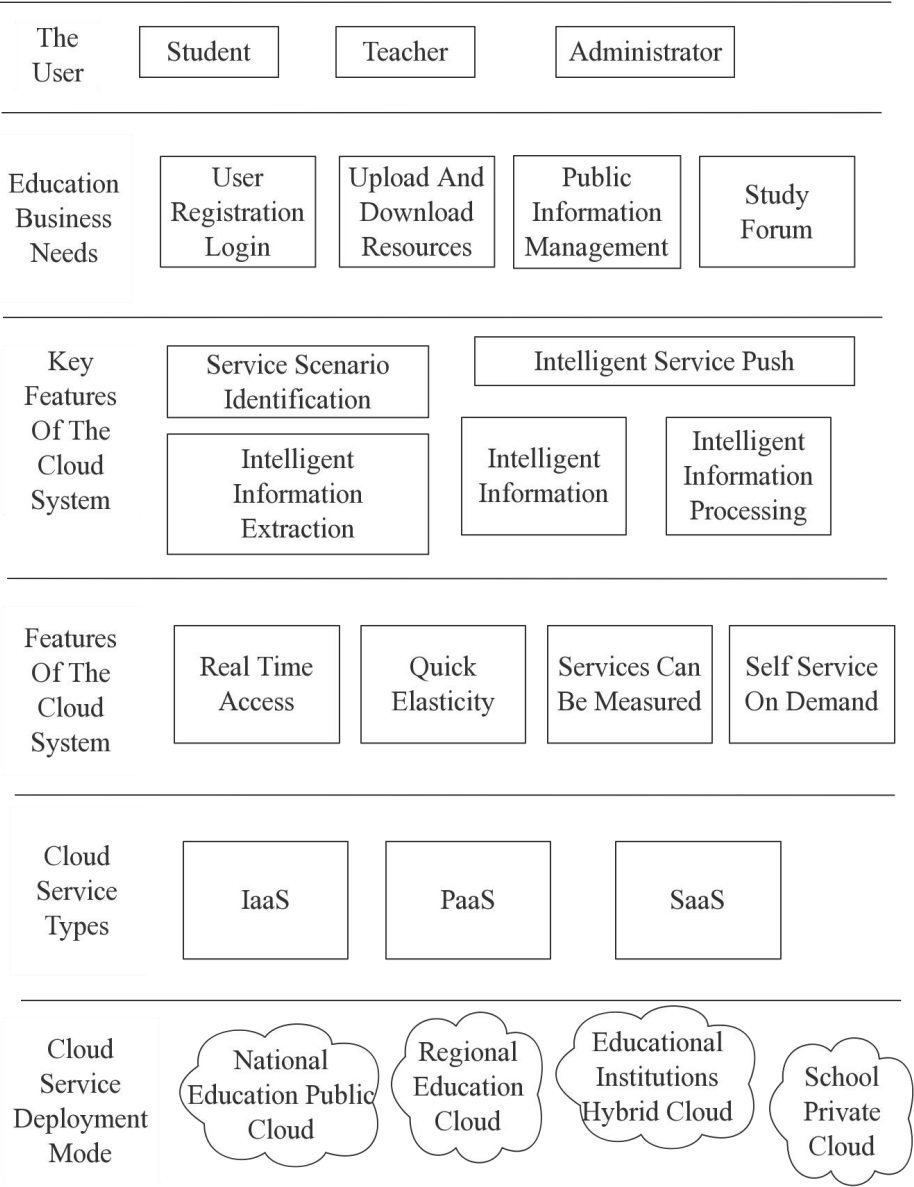


Figure 3 system architecture diagram

2.3 Prediction of Results

After defining the online English learning platform, data classification technology should be used to effectively predict students' academic performance. The specific flow chart is shown in Figure 4 below:

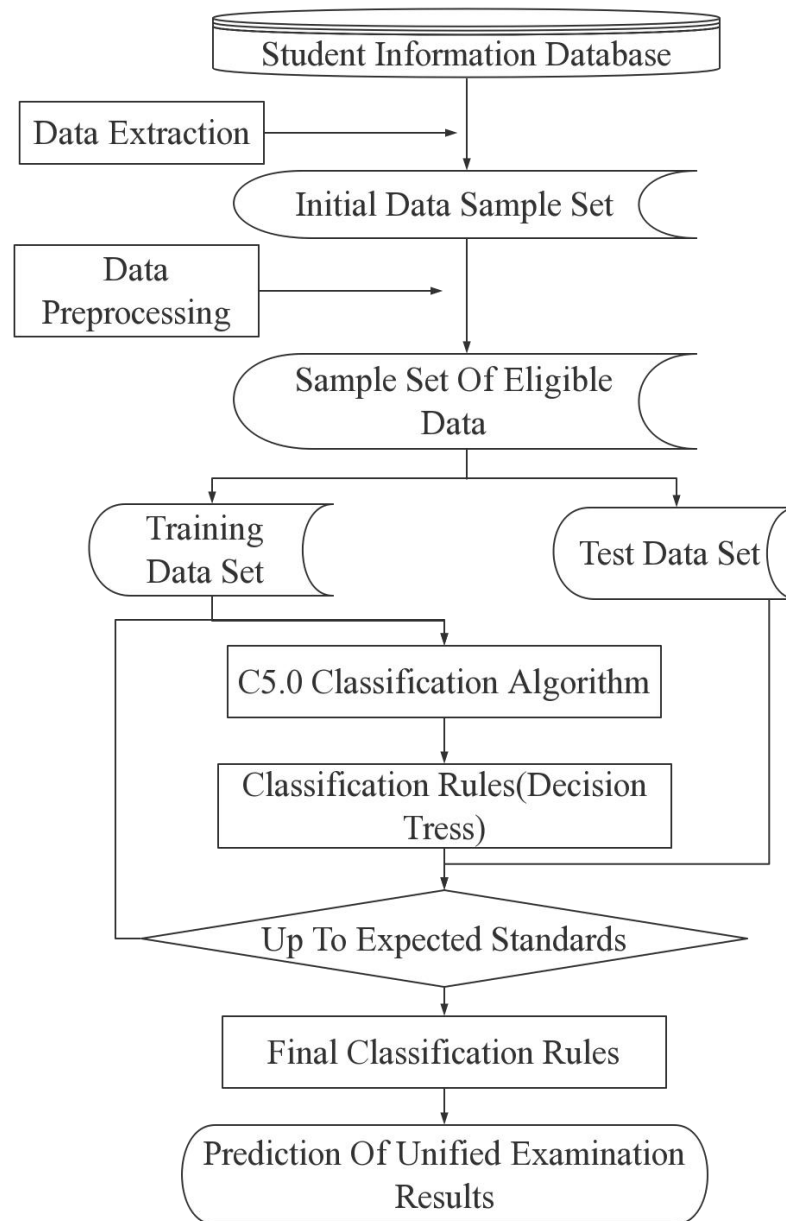


Fig. 4 Prediction flow chart of learning outcomes

3. Result analysis

3.1 System Test

After defining the online English education and learning platform in the era of big data, we should continue to develop the education platform through school-enterprise cooperation, in which schools should provide demand reports and enterprises should design functions according to specific requirements. From the perspective of the construction of online English education platform, after the introduction and upgrading of commercial software, the teaching resource base and online open courses can be effectively integrated. At the same time, in the self-expansion of platform functions, all kinds of data and information can be comprehensively studied to provide technical support for practical reform. The system performance test results are shown in Table 1 below[9]:

Table 1 Performance test results

Test project	The expected results	The test results
A registered user enters a user name and password	Login user account	Normal (often 15s)
The login password is incorrect	Error message	Error message (often 5s)
The entered username retrieval does not exist	Error message	Error message (often 5s)
Viewing learning Records	Display learning records correctly	Can display
View test item analysis	Display test item analysis correctly	Can display
View communication and interaction information	Display interactive information correctly	Can display
Check item bank usage and effect	Correctly display test bank usage and effect analysis	Can display

After the completion of the performance test, the overall system runs more stably and can effectively respond to user requirements. At the same time, in order to deeply explore the application effect of the platform, the individual tracking data are analyzed and studied. The final results show that the learning effect of Online English learners has changed significantly before and after using the platform, and both knowledge mastery and practical application level have been effectively improved.

3.2 Prediction Results

On the basis of mastering the flow chart of predicting learning outcomes of Online English education, this paper makes a systematic study of college students participating in Online English education by using the C 5.0 decision tree method in data mining classification method. In the software environment of SPSS12.0, the relevant attributes are effectively simplified, and the prediction model based on students' unified examination results is finally constructed. The model includes seven attributes including Entrance test English, entrance test computer, College English II, College English 333, average medical courses, online learning situation and degree English, and the accuracy of actual prediction can reach 80.84%. [10]. Since the core of Online English education is to use online learning mode to complete course teaching and achieve the expected learning objectives, students' online learning status directly reflects their daily learning status and attitude. If the online learning condition is good, it proves that the students' learning attitude is more serious, they will stick to the online learning, they can complete all the learning tasks on time, and they are more likely to pass the unified examination. Therefore, it is very important to use online learning status to predict learning outcomes. College English 3 and College English 2 are important courses of Online English teaching. The former's educational requirements are very close to the syllabus of the Unified English test, while the latter's requirements are lower than the unified English test. From the perspective of practical education, English course learning is mainly to improve students' English level and pass the English examination, so these two data should be regarded as the basic content of predicting learning outcomes.

At the same time, combined with the analysis of the above research results, it is found that the average score of the learned courses ranks the fourth, which proves the final achievement of students in online English learning. If students do well in their studies and invest more time and energy in them, their gpa will go up. The attribute of college English entrance test belongs to the analysis content of college students' basic English level. The final result directly reflects the basic ability of students' follow-up Learning English knowledge. Although it is not a key factor, it is closely related to the follow-up learning situation. In the entrance test, the score of computer is to test students' application of computer network. This skill will affect students' learning difficulty

during online English teaching, such as courseware learning, uploading homework, answering questions and so on.

4. Conclusion

To sum up, with the continuous innovation of China's Online English education platform and the steady development of social economy, science and technology, the personalized learning support service system has gained people's attention, and the function design of related systems has entered the development and application stage. , therefore, to research of scholars in our country in the integration of the era of big data network English education on the basis of learning outcomes, continue to strengthen the data mining technology and data analysis technology, the application of study results predict work in education, and pay attention to the combination optimization innovation practice education demand, it can not only get more perfect the research content, It can also be used as an effective basis for the development of Online English education.

Reference

- [1] Qiong wu. Application of Distance Network Continuing Education in English Teacher Training in the Era of Big Data [J]. Chinese Adult Education, 2020(4):3.
- [2] Longmei gu. Innovation and Exploration of Higher Vocational English Education in the Era of "Internet +" -- Comment on "Internet + English Teaching" [J]. Science and Technology Management Research, 2021, 41(10):1.
- [3] Tao yang. Research on The Innovation of Vocational English Education in the Internet Era [J]. Education Modernization, 2020, V. 7(04):99-101+148.
- [4] Yongli wang. Strategies for improving self-efficacy of Young English teachers in colleges and universities in the era of big data [J]. Education Observation, 2020, 9(9):3.
- [5] Lei ma. Research on blended Teaching of Business English Reading Course in the Era of Big Data [J]. Education Research, 2022, 4(11):111-112.]
- [6] Mei yang. Ecological Environment Construction of College English Education in the Context of Big Data -- Comment on English Writing Teaching and Research in the Era of Big Data [J]. Science and Technology Museum Science Research, 2020, 40(8):1.
- [7] Yuanyuan zhang. Journal of Henan Radio & TV University, 2022, 35(2):3.
- [8] Yi you. The Current Situation and Development of Online English Education from the Perspective of Internet + [J]. Journal of Hubei Open Vocational College, 2021, 34(8):2.
- [9] Yong liu, Junping li. Rasch Model based on online Education Degree English Test quality Analysis: A Case Study of Beijing [J]. Journal of Beijing University of Posts and Telecommunications (Social Sciences), 2022, 24(1):113-120.
- [10] Min zhu, Mengjia su. Design and Implementation of College English Online Education Platform Based on Big Data and "Internet +" [J]. Journal of Computer Applications, 2020, 36(8):4.