

# Application Research on the Evaluation of College English Teaching Effect Based on Big Data Platform Architecture

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**Abstract.** In the development of social economy and technological innovation, enterprises in various fields have increasingly high demand for English talents. College English has put forward new requirements and technical standards for English teaching. In order to adapt to the new social environment and teaching objectives more quickly, college teachers should improve the effectiveness of English classes on the basis of changing the traditional teaching methods and teaching models, and construct a scientific and reasonable teaching effect evaluation system. Only in this way can classroom teaching efficiency and students' learning level be further improved. After understanding the influence of the construction of big data platform on the composition of college English teaching effect, this paper puts forward a college English teaching effect evaluation system with the structure of big data platform as the core. The final experimental results show that the whole system contains multiple functions, which can organically combine the whole process of teaching evaluation and teaching activities, further improve the level of education and teaching, and accelerate the pace of teaching model reform.

**Keywords:** Big data platform; College English; Teaching effect; Effect evaluation; Big Data analysis

## 1. Introduction

The evaluation of college English teaching effect is an important link in the study of modern education reform and plays a positive role in encouraging and guiding the development of education reform. In the study of college English teaching effect evaluation studio, researchers mainly focus on two aspects: one is theoretical research, mainly focusing on index design, evaluation elements, objective evaluation; On the other hand, it refers to practical research, which mainly focuses on classroom teaching activities. It enables teaching evaluators to objectively evaluate each node of the teaching period from multiple perspectives, and then classify and integrate the teaching process data and evaluation results together, and finally complete the big data analysis. From the practical research results, the current college English teaching effect evaluation mainly evaluates teaching activities from the perspective of experts, and gradually ignores the perspective of student evaluation. In the context of the wide application of network technology platforms, the evaluation of college English teaching quality is facing various transformations. [1-3]Therefore, based on the understanding of the development trend of big data platform architecture, this paper systematically studies the evaluation content of college English teaching effect in the new era, in order to discover more valuable data information to help improve teachers' teaching ability and students' learning ability. In essence, big data refers to information that is so large that it cannot be obtained, managed, processed and sorted out in a reasonable time through mainstream software tools, so as to help enterprises make business decisions and serve a more positive purpose. Among them, McKinsey Global Institute regards big data as a data set with a scale so large that its acquisition, storage and management are beyond the capability range of traditional database software tools. It is characterized by low value density, diversification, rapidity and mass. From the perspective of the construction and development of modern society, the strategic significance of big data technology is not to grasp the huge data information, but to correctly process the data containing modern significance. In other words, if big data is regarded as an industry, then the key to realizing profitability of this industry lies in further improving data processing capacity and realizing data value-added through data processing. From the perspective of practical application, big data and cloud computing are like two sides of a coin. The former cannot be effectively processed by a single

computer, so mining and analysis should be carried out according to the distributed structure of cloud computing.[4-6]

Under the background of big data era, the advanced technology theory has transformed the traditional college education management mode and made the higher education in our country present a brand new revolutionary change. College English teaching also faces important opportunities for change. Under the impact of powerful data technology, college English teaching cannot follow traditional technical theories, but pay more attention to the construction and promotion of personalized learning mode. Teachers and students are also in the dynamic balance system under the platform of big data, which can not only provide students with the knowledge framework and training mode of independent learning, but also give full play to the supporting role of teachers. Let college students in a relaxed and pleasant environment, understand and feel college English knowledge ability. The use of big data platform architecture to evaluate and analyze the effectiveness of college English teaching has unique advantages, which are reflected in the following aspects: First, it can provide teachers and students with diversified educational evaluation channels and comprehensively grasp the information obtained by practical education management; Secondly, it can comprehensively judge the status of students' independent learning; Finally, the role interaction between teachers and students is becoming stronger, and the teaching work is in the autonomous control mode, which effectively breaks through the constraints of time, space and region, and fully arouses the interest of college students in independent learning. Therefore, on the basis of a comprehensive understanding of the application content of the big data platform architecture, this paper deeply discusses the content of college English teaching effect evaluation, and then according to the educational innovation and development goals in the new era, puts forward effective college English education management measures, changes the traditional college English education evaluation concept, builds a scientific and standardized education and teaching system, and obtains good educational management effects.[7]

## **2. Methods**

### **2.1 Evaluation system**

In this paper, the research system takes the teaching activities carried out in the network recording classroom as an example, and uses the cloud platform technology architecture and distributed cluster computing and storage function to conveniently process the teaching behavior data and classroom evaluation results after comprehensively collecting the relevant data of education, teaching and effect evaluation. The evaluation object of the design system is the classroom teaching process, which mainly discusses the teaching activities, teaching evaluation and communication between evaluation objectives during the teaching period, so as to optimize the teaching level of teachers and students' learning ability, and ensure that the quality of classroom teaching meets the expected requirements. Combined with the analysis of the evaluation system of college English teaching effect as shown in Figure 1 below, it can be seen that big data analysis technology should be used to systematically collect classroom learning behavior data and evaluation data, and then data mining, machine learning and other methods should be used to conduct in-depth research and finally obtain perfect evaluation results. Among them, the feedback tracking function will transmit the evaluation results to all evaluation elements, and achieve dynamic tracking strictly according to the evaluation results, so as to improve the quality of college English teaching class.[8-9]

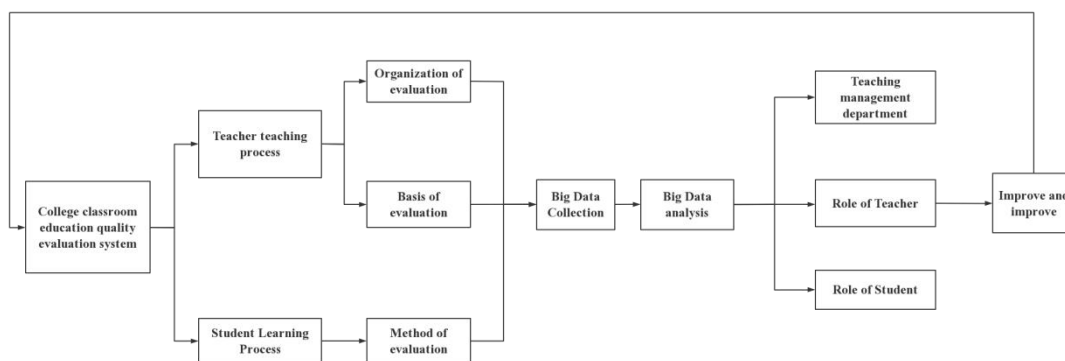


Figure 1. Structure of college English teaching effect evaluation

## 2.2 System Design

The big data platform architecture can be used in the evaluation of college English teaching effect to build the system architecture as shown in Figure 2 below, which includes the classroom end, the server end and the user end. It mainly provides convenient services for teachers and students in colleges and universities, and the service collects many contents such as teacher tracking, student panorama and VGA screen.[10-12]

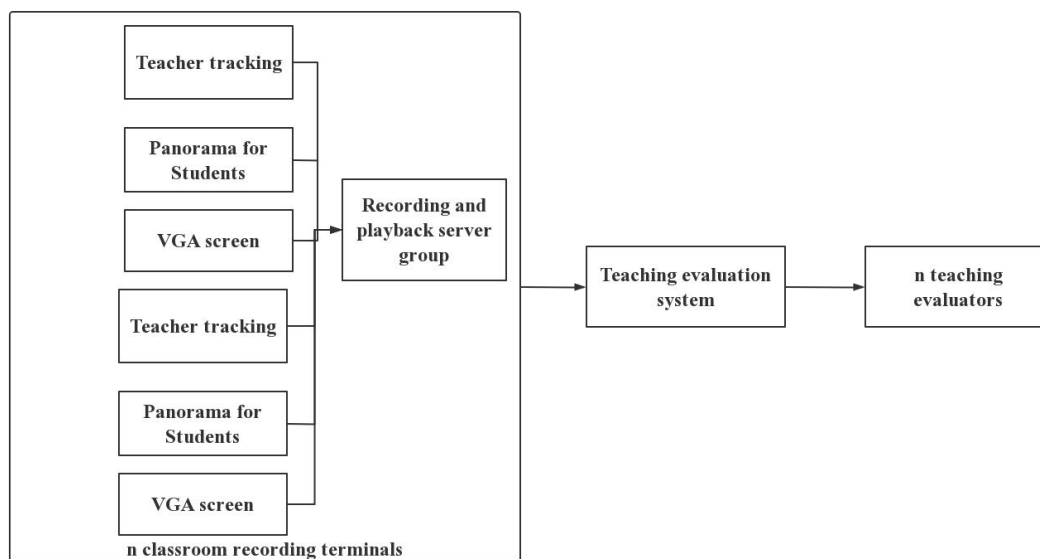


Figure 2 System architecture diagram

In the overall system design, the B/S architecture can better meet the needs of classroom teaching of different courses. Combined with the B/S architecture diagram shown in Figure 3 below, it can be seen that the evaluation system of college English teaching effect constructed thus consists of three levels: First, the business expression layer will set the interactive interface of different users and systems; Secondly, the common functional layer will enable users to carry out effective data transmission between the system server, and directly feed back the results of big data analysis to users; Finally, the data analysis layer will complete data analysis in the system to obtain data results after citing a variety of big data analysis methods, which is also the core part of college English teaching effect evaluation research.

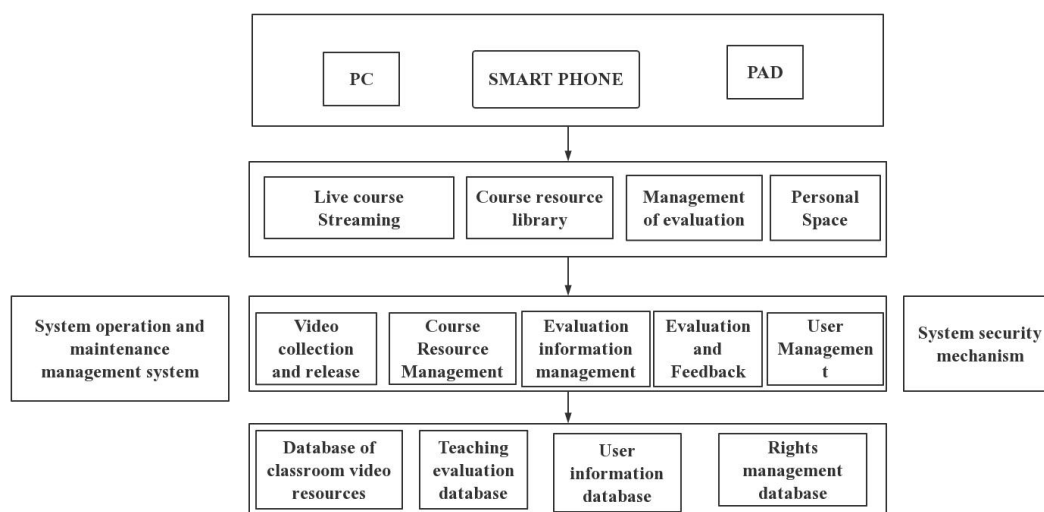


Figure 3. B/S architecture diagram

## 2.3 System Functions

The research system in this paper is fundamentally different from the traditional evaluation system design. It will design and optimize the evaluation function of college teaching effect according to the real-time and dynamic classroom teaching data and quality evaluation results. According to the analysis of the system functional structure diagram shown in Figure 4 below, teaching objectives, teaching activities and teaching results are closely related. In the process of education evaluation, teaching preparation evaluation should be proposed according to teaching objectives, formative evaluation should be proposed based on teaching activities, and summative evaluation should be proposed according to teaching results, so as to provide effective basis for practical education management innovation.[13-15]

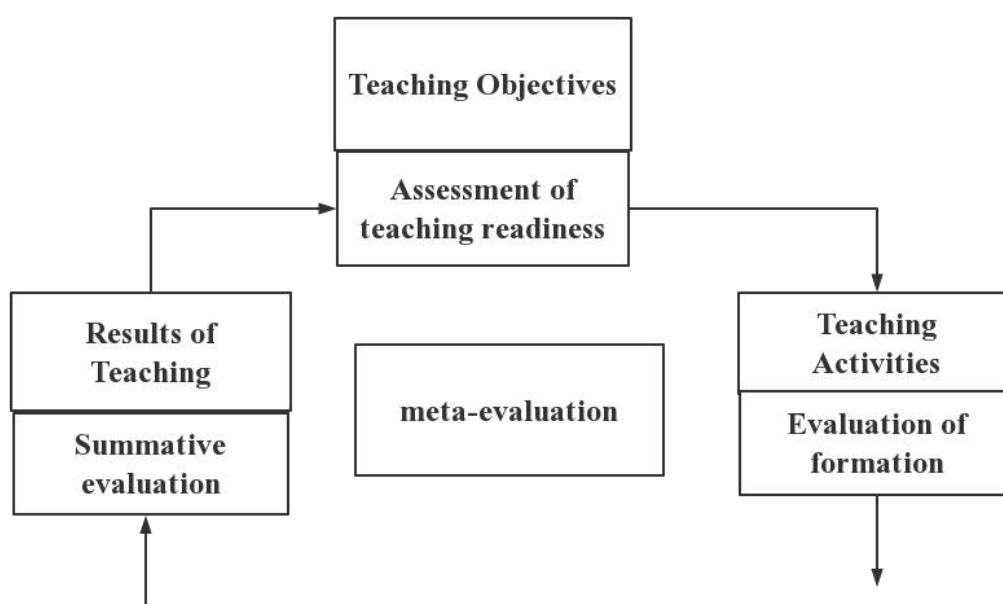


Figure 4 Structure diagram of system functions

## 2.4 Evaluation Content

According to the situation of college English teaching in the new era, the following work should be done to construct the evaluation system of college English teaching effect by using the big data

platform architecture: First, the basic system of practical evaluation should be clearly defined, and colleges and universities should provide full support in management, technology, talents and other aspects. Only in this way can various evaluation indicators be guaranteed to play their role. After the establishment of the regular classroom teaching evaluation mechanism, the real-time and final evaluation are integrated together, and learn to use the evaluation results to promote classroom teaching guidance; Secondly, in the context of big data, data information of all evaluation subjects should be collected to ensure the authenticity and perfection of various information resources. Coding and classification in strict accordance with regulations can further improve the collection rate and cleaning rate of data information, so as to cope with the pressure faced by traditional data storage. Finally, it is necessary to choose a flexible and effective teaching evaluation method with multiple subjects and comprehensive contents to guarantee the authenticity of the evaluation results and lay a solid foundation for the construction of the popularization evaluation system. For example, after studying the correlation between the evaluation results of various subjects, we can understand the correlation between teachers' self-evaluation and others' evaluation, put forward effective suggestions to optimize the quality of classroom teaching and promote teachers' professional development, and help students actively participate in diversified practical activities, so as to improve the level of college English teaching.

### 3. Result analysis

Based on the analysis of the big data platform architecture diagram shown in Figure 5 below, it can be seen that the advantages of big data technology can be fully demonstrated in the evaluation of college English teaching effect: first of all, interactivity. The evaluation of college English teaching is carried out in the digital platform, which can promote the interaction between teachers and students and effectively convey various data information. Second, experience. College English teaching under big data technology pays more attention to the cultivation of students' comprehensive application ability, which will exercise students' listening, speaking, reading, writing and self-expression ability. Therefore, practical teaching evaluation should also be comprehensively analyzed from various aspects, so as to provide effective basis for subsequent education innovation. Finally, constructivism. In the framework of big data platform, college English teaching pays more attention to arousing students' learning interest and building and promoting the knowledge system of online learning platform. Therefore, practical education evaluation should also start from this, so as to break through the limitations of traditional educational management thinking.

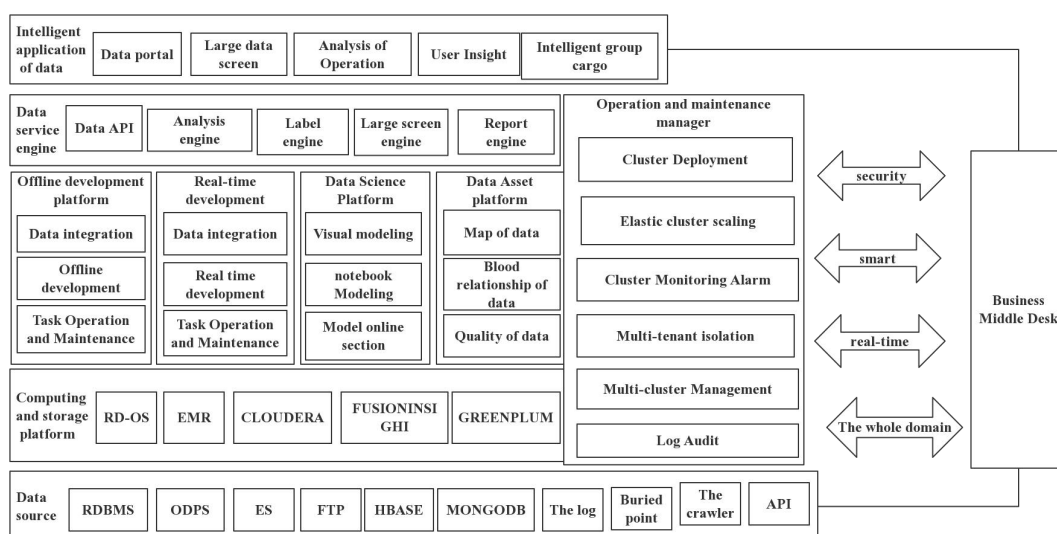


Figure 5 Architecture diagram of big data platform

To construct a college English teaching effect evaluation system based on the big data platform, the following principles must be strictly observed: First, show the advantages of college English courses. Compared with the teaching objectives, teaching process and teaching content of other disciplines, English is fundamentally different. Therefore, when evaluating the teaching effect, the characteristics of English classroom teaching should be fully considered. Only in this way can the value judgment be more scientific and reasonable and the feedback information be more positive. Secondly, put forward the diversified evaluation objectives. The main body of college English classroom teaching is students, and the final teaching effect is also demonstrated by students, so the classroom teaching evaluation is dominated by students. As the organizer, implementor, assistant and manager of classroom teaching, the actual classroom teaching evaluation pays more attention to the observation of teachers' familiarity with teaching objectives. Through the organic combination of self-evaluation and others' evaluation of technology, to ensure that the final results have the objectivity, justice, comprehensive, can accelerate the pace of classroom education reform; Finally, organic combination of qualitative evaluation and quantitative evaluation. The two methods can present the final evaluation results in more detail and authenticity to ensure the in-depth and accurate data information.

## Conclusion

To sum up, under the development trend of economic globalization and with the extensive application of information technology, English, as one of the most widely used languages, has become one of the public compulsory courses offered by colleges and universities around the country. Based on the architecture of big data platform, the evaluation system of college English teaching effect is designed and promoted. Although relevant research is not mature and needs to be gradually improved through repeated use, with the continuous development of social economy and science and technology, a course teaching effect evaluation system that meets the requirements will certainly be built in the future to truly meet the requirements of talent cultivation for the development of the new era.

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