

# *Discussion on the application of big data technology in the information management of college education*

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**Abstract:** With the continuous development of the current society, the development speed of science and technology is getting faster and faster. Under the background of the development of the information age, colleges should attach importance to the application of big data technology and carry out diversified information management. College administrators should pay attention to the application management of big data technology, find out the current problems in the application of big data technology and solve them in time.

## 1. Introduction

The application of information technology has effectively promoted the progress and development of society and brought great convenience to people's lives. In the process of development, educational institutions should clarify the central tasks of educational institutions and use information technology to truly promote the development and progress of education. Analyze the application value of big data technology, understand the problems in the application process, and promote the better development of universities.

## 2. Overview of the Application of Big Data Technology in the Information Management of College Education

For the current social development, the application value of big data technology is very high, before analysing the related issues of the application of big data technology in college management, we must first understand the basic concepts and related overviews of big data<sup>[1]</sup>. For big data can be regarded as the integration of some modern information, in the process of practical application can effectively promote the development speed of the industry, big data has become an important condition to promote the development of the current industry, universities in the process of development, to continue to optimize the existing data information, extract valuable data information. The purpose of big data is very obvious, it can predict the future development trend in time, and from the current actual situation, it can continuously optimize and combine various data information and put forward some valuable information. Big data can be regarded as the sum of personal data information, which can truly retain the accuracy of the data itself and integrate all kinds of data. Use big data technology to strengthen the connection between data, and use data technology to carry out

decision-making research. In the process of education management, colleges should use big data to analyse and integrate all kinds of information, understand the main content of the development of colleges, and clarify the development direction of colleges. In the context of the current development of the information age, universities need to process more and more data information in the process of information management <sup>[2]</sup>. Big data technology has played a certain role in information management, which can integrate and optimize all kinds of data in a short time. From the current reality of big data transmission management, modern big data technology can directly collect and sort out all kinds of data, and then store them in a specific database. Continuously dig deeper into all kinds of data information, give full play to the role of big data technology, so that it can meet the needs of the current development of the times.

### **3. The Application Field of Big Data Technology in the Information Management of College Education**

Judging from the actual situation of the current education information management of colleges, the application of big data in the construction and management of college informatization is very wide, and it has achieved a very ideal educational effect after application. In the process of informatization construction, college educators should use big data technology to promote the development of informatization <sup>[3]</sup>. Understand the actual needs of students, respect the individual differences of students, and formulate scientific training programs so that they can truly adapt to the development needs of students. In the context of the current era of big data, the application advantages of big data technology are very obvious, educators can directly use big data technology to analyse students' actual situation and hobbies, but also can understand students' personality characteristics, tap students' strengths, so that students can better improve themselves. Big data can be used to carry out teaching quality evaluation, and all kinds of data information involved are mined and analysed. Use big data to mine and analyze information content and carry out comprehensive management <sup>[4]</sup>. In the process of development, colleges can also directly use the professional skills of big data analysis teachers to improve the overall educational effect and enhance students' cognitive ability. Analyse the advantages and shortcomings in classroom teaching, use big data to evaluate teachers' professional ability, improve teaching quality, and improve the application rate of classroom teaching.

### **4. Existing Problems of Big Data Technology in the Information Management of College Education**

#### **4.1. Feasibility Needs to be Improved**

For the current development of life, colleges are also facing certain competitive pressure in the process of development. In the process of development, colleges should use data technology to carry out education management, integrate all kinds of data and information, and clarify the main direction of college management development. From the actual situation of the current college management, the data and information sources within the college are very extensive, and the information has the characteristics of diversity and repetition <sup>[5]</sup>. If this data information cannot be integrated with the help of modern technology, it will lead to some difficulties in the subsequent processing of the data. Data cannot be processed and processed in a timely manner, and it is difficult to fuse all kinds of data. How to obtain high-quality data in the current social development, and analyse and integrate the data is very important. Educators should truly tap the potential value of big data, understand the actual situation of the current development of colleges, and make appropriate adjustments in combination with effective methods in the process of analysing various data information <sup>[6]</sup>. From the current actual management situation, many managers cannot modify and adjust various types of data in a short time

in the process of data management, and data management is difficult. Moreover, in the process of carrying out various data integration work, there are loopholes in the data integration mode, which cannot be found in time after problems, resulting in the accuracy of data needs to be improved.

## **4.2. Unreasonable Resource Allocation**

Judging from the actual situation of the current digital construction and management of colleges, many colleges in China are not equipped with professional information technology departments in the process of education information management and construction. Although some teachers have carried out education management, the results are not satisfactory<sup>[7]</sup>. In the process of data management, some educators do not realize the importance of data management and do not meet the development requirements of the current era of big data. In the process of sorting out all kinds of data information, some of the students' information may be exposed to the network, which will cause certain troubles to the development of students and the development of education work. In the process of using big data technology to manage student information, some colleges have not stored all kinds of information in time, nor have they encrypted student information. In such a situation, the student's information is not protected, and the student's personal information may be leaked. In the process of development, colleges should fundamentally realize the importance of data information privacy protection and truly ensure the balance of all types of data. Understand the actual situation of the current development of universities to ensure the stability of data development<sup>[8]</sup>. Teachers should be fundamentally aware of the importance of data management and attach importance to the application and management of information technology. Integrate all kinds of data-based information to establish a perfect data sharing platform.

## **5. Application Strategy of Big Data Technology in the Information Management of College Education**

### **5.1. Strengthen Quality Management**

In the context of the current era of big data, colleges should attach importance to the application and management of information technology and give full play to the role of science and technology. Understand the main content of data management, ensure the quality of data management, and do a good job in data analysis with the help of modern technology. In the process of analysing and researching various data information, the validity and accuracy of the analysis conclusions should be ensured<sup>[9]</sup>. In the process of development, colleges should pay attention to the application of big data technology and consider some comprehensive issues. First of all, with the help of big data technology, it is necessary to ensure the speed and quality of data collection. After the data collection is completed, the various types of data collected need to be extracted and organized. In this link, the principle of rationalization and precision should be followed, and some noise data should be removed. Extract effective information in strict accordance with the relevant requirements and standards to ensure the efficiency and quality of data use. After completing the data processing work, it is necessary to integrate all kinds of effective information collected, in order to ensure the effectiveness of data integration, it is necessary to hire professional data processing personnel to analyse and process the data information with the help of professional technology. Build a complete database and store valuable information into the database. It is also necessary to consider the follow-up data management problem, establish a sound data management mechanism, and comprehensively improve the actual quality and effect of data processing in the data preparation stage, so as to lay a foundation for the application of subsequent data. In the process of development, colleges should attach importance to the construction and management of educational informatization, and establish a scientific data

planning system in combination with the actual situation of educational development. Information staff should have a strong awareness of informatization, understand the importance of informatization construction and management, and fundamentally realize the value of data and filial piety<sup>[10]</sup>. In the process of managing all kinds of data information, it is necessary to do a good job in data sharing, and at the same time do a good job in data planning and research in combination with the actual situation. In the process of processing various types of data, to analyse the value of the data, it can be adjusted appropriately according to the actual situation. Ensure that the data can meet the application of various types of databases, establish a sound data planning system, constantly plan and screen the data, and adjust it according to actual needs.

## 5.2. Continuous Improvement of Data Management System

For the development of colleges, the introduction of big data technology to carry out education management is particularly important. Managers should analyse the development model of colleges and deeply understand the connection between various management systems and the development of big data. Build a sound management system to integrate various work contents in education management<sup>[11]</sup>. All departments of colleges should carry out close communication and contact, integrate all kinds of data and information involved in management work, and uniformly store them in specific data resource databases. It is also necessary to realize the sharing of data information and analyse the actual role of various types of data information. In the process of developing colleges, it is necessary to establish a special information technology department in light of the actual situation. Establish a sound management system so that various departments can cooperate closely. Communicate in a timely manner on current management issues and reduce some of the barriers to resource sharing. In the process of information education management, colleges should continuously analyse the use of existing technologies if they want to truly play the role of big data technology<sup>[12]</sup>. The technical department should establish a sound management system, and at the same time clarify the central content of data management work and clarify the main direction of the development of colleges.

## 6. Conclusions

All in all, in the current social development, colleges should pay attention to the application of big data technology. In order to better adapt to the needs of the current era, universities should continue to study the use of big data. Carry out diversified education management work to realize information management of education. Scientifically plan all kinds of data, formulate a sound quality management system, establish a sound management system, and truly contribute to the development of education.

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