Application of Big Data in College Information Education

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Abstract—**With the advent of the information age, the growth rate of data has obviously accelerated. Big data has become a mainstream trend in society. How to make full use and exert the value of big data has become the core of breakthroughs in various fields. Rational and effective use of large data will certainly promote the development of university information education. Therefore, this paper puts forward some suggestions based on the analysis of big data, the application of big data in university information education. Combining with practical problems, a reasonable solution is given.**

Keywords—Big data; Informatization; College Education

I. INTRODUCTION

With the progress of science and technology, the big data era has arrived, computers and the Internet have spread to all aspects of human life, and information technology has been closely related to all walks of life. With the advent of the information age, multimedia has been integrated into human life and work. Informatization not only promotes the progress of society, but also brings us into the big data society. With the outbreak of big data, the value of big data in human life and all walks of life is increasing. As an educational institution, universities not only have a large amount of data and information, but also can dig deep into the value of large data. Therefore, on the one hand, they can use information technology to develop education; on the other hand, they can also promote the development of information technology. In order to make full use of big data and promote the development of information education in universities, this paper discusses and analyzes the practical problems faced in the big data era. [1]

II. BIG DATA

Big data is the product of the information age. It is a fusion of rapidly developing and diverse information expressed in the form of information. It is a potential force to promote social development. It is the sum of information data. It is essentially different from traditional data. Traditional data only stores the existing information, but does not analyze the potential value of big data. Big data will focus on the analysis of the correlation between data, and dig the data in depth, so the development of big data represents the development of social productivity[2].

Everyone is not only the user of data, but also the producer of data. In this era, people are constantly dealing with all kinds of data. Whether the price comparison of food market or the use of various communication tools to understand the stock market, it can be said that the use of data has become an indispensable part of life. At the same time, people's behavior output can become the source of data generation, such as the use of social software and Internet applications.

In big data era, people can't control the generation of data by subjective. Once the behavior of data occurs, the generation of data will be irreversible.

Although big data provides considerable convenience for people to use data because of its five characteristics, the authenticity and value of these data need careful screening. If used rashly, not only can't achieve the desired purpose, but also may be counterproductive.

The big data era has changed the understanding of time and space. In the traditional way of life, the behavior habits of people are greatly influenced by time and space. Some behaviors can only be completed in specific environment. For example, students can only attend classes during the working hours of teacher and in the classroom. However, the big data era has completely subverted understanding of space-time. Many behaviors will not be confined to a certain space-time environment as in the past, such as online shopping, online learning and so on.

III. INFORMATIZATION OF HIGHER EDUCATION

The further development of society and the replacement of the times require the education reform, and the informationization is a point of the reform, but also the key point. The development of education informationization has greatly strengthened the comprehensive national strength of our country, and has also played a certain role in promoting future development in our country. The state has promulgated a series of documents, which clearly shows that the development of information technology is crucial. Universities must attach importance to the development of information technology in education, and try their best to speed up them.

Compared with other countries, the informatization construction of higher education in our country started late and began to develop in the 1990s. However, in this short period of decades, the progress is very fast, and the development process is also very ideal. With the continuous development of

Internet technology, information technology has been gradually improved. At present, the information construction of most universities in China has made great progress. Great achievements have been made in teaching, scientific research and other fields. Our information system of higher education has gradually formed a rudiment. The history of higher education is unique. Nowadays, the colleges and universities have completed the stage of infrastructure construction of information system, and are gradually developing towards the stage of rapid improvement.

A. Scientific Research Informatization

The informatization of scientific research refers to a kind of research mode in which is used in the field of scientific research to provide convenience for projects or collect data, so as to make scientific research easier to carry on. The informationization of scientific research can not only make full use of information technology, but also promote the exchange and development of various kinds of scientific and technological resources, so that all kinds of information can be gathered together, thus forming a certain scale of scientific research information construction. Therefore, it is constantly affecting the research methods of the whole project in this century. While promoting the development of future scientific research projects, it also strengthens the ability and solidarity spirit, provides great convenience for the development of research work, and promotes the development of overall science and technology.

B. Teaching Informatization

The informationization of teaching means that the contents and methods of teaching in Colleges and universities concentrate on using informationization to carry out all kinds of work, including teaching and other tasks. The purpose of using informationization in teaching is to improve the comprehensive teaching level of universities, to train more talents for the country and society, and to provide a more suitable way for the teaching methods, and to promote the development of domestic teaching undertakings. Therefore, information-based teaching is the key to the development of higher education and the only way to the whole education industry. It can not only improve the traditional teaching methods and equipment to a large extent, but also provide convenient conditions for the learning environment, teaching environment, teaching resources and many other aspects according to modern information technology. It lays a foundation for the future development of higher education and makes the whole education industry step into the big data era.

C. Management Informatization

The informationization of management means that the teaching management of colleges and universities provides methods and ways for teaching management through a series of information technologies. Advanced management concepts and methods are very helpful to the teaching management of colleges and universities. Whether it is the management of office affairs or the effective way for teachers and students to do basic data, it improves the teaching management. Not only

aspects of management efficiency, but also saved a lot of human and material resources.

IV. TEACHING INFORMATIZATION IN BIG DATA

The focus of education informationization is the development of technology and construction in the whole education industry. It is to combine some work in the field of teaching with informationization technology so as to improve the efficiency of education and increase the coverage of information technology. Education informationization is an important measure for the development of the whole education industry[3]. It plays a vital role in the promotion and improvement of the teaching process and resources. Therefore, we must take education informatization as the focus of development, otherwise, there will be fundamental problems, and the application will also encounter bottlenecks. The construction has gradually received the attention of all walks of life, and its development direction cannot be wrong. It is necessary to combine the overall purpose of running a university with the informationization in order to train a lot of talents for the motherland [4].

A. Sharability of resources

The development of any technology cannot be separated from the advantage of resource sharing, which not only promotes the progress and perfection of various functions, but also benefits society. Therefore, we should attach importance and strengthen to the sharing of educational resources, so that can be applied to all areas of the education industry. For universities, resource sharing means that teaching resources can be supplemented and updated in time, which provides an opportunity for students to understand more comprehensive and timely knowledge, and greatly improves the teaching quality of universities and the comprehensive quality of serving students.

B. Diversity of Teaching Model

The traditional teaching mode is too single, does not combine with the characteristics of the development of the times, and teaching means have great space for improvement. Therefore, making the teaching mode more diverse has become another major feature. Its abundant information resources and mode selection have made great changes in the whole education industry and for the whole higher education. The development of the cause has played an indispensable role.

C. Diversity of Teaching Interaction

Traditional classroom teaching can mainly achieve communication and interaction between teachers and students, but information-based teaching can not only enable better communication and interaction, but also enable students to have an opportunity to exchange with each other, and even between teachers can build a bridge of communication, thereby enhancing the enthusiasm of teachers and students, for the informatization lays a solid foundation.

V. PRACTICAL PROBLEMS OF BIG DATA IN COLLEGE INFORMATION EDUCATION

A. Problems of Availability and Feasibility of Large Data

Under the background of big data, people can judge facts directly through big data. The data sources of colleges and universities are complex, repetitive, and different levels. This hinders data processing. If there are problems in information processing, it will be difficult to integrate information, which will loss of high-quality data and reduce the feasibility of data. How to select available data from large data is the biggest problem we are facing at present.

B. Data is too complex

The analysis and integration of university data information is the key to achieve high quality. Only in the process of analysis and integration can the value of data be discovered. Because of the complexity of the law of University education, it is required that universities not only use the general analysis model of data analysis and integration, but also need to test the correlation of data and carry out the data among them. Therefore, in the process of education, a large number of adjustments and modifications will be made to the data, which greatly increases the difficulty of the work. How to analyze the reasonable data in the fast updating and changing large data is also a problem that we are facing at present.

C. Causing the disclosure of personal privacy

Many colleges and universities lack professional information technology departments. In this way, information collection under the background of large data will lead to the complete exposure to the Internet, which will cause serious leaks information, not only many problems for the life and learning of students, but also many unnecessary troubles for educators. So how to protect data and information is the core.

VI. APPLICATION

A. Evaluation of Teaching Quality by Big Data

In order to improve the quality of teaching, find and solve problems in time, teachers can supervise the daily performance of student according to the network platform, interact with students and get feedback, and adjust teaching content, methods and process in time. Teachers will evaluate the teaching quality at the end of each semester[5]. Big data can form a scientific and effective teaching management mechanism in the teaching evaluation, promote the orderly conduct of teaching management, and make teaching work more efficient.

B. Comprehensive Analysis of Teachers' Professional Skills

The professional skills of teachers play an important role in teaching quality. Big data can not only store and learn information, let education departments realize the value of data, but also can effectively analyze professional skills. Relevant departments can use the Internet to collect teaching materials, analyze and summarize the advantages and disadvantages of teaching classes, so as to improve teaching

quality. The teaching level can also improve the utilization rate of the classroom and facilitate the formulation of plans for the next study. Teachers can also get effective ways of teaching content and methods through the analysis of big data, so as to better realize teaching improvement and implementation.

C. Realizing the Individualization of College Students

With the rapid development of education, the individualized curriculum has become the educational goal concerned by the education department. Individualized learning is the goal of educational reform in Colleges and universities[6]. Big data can effectively avoid the influence of differences in traditional methods. It can realize the self-selection of courses on the Internet. Through the analysis of information, the learning performance can be obtained from the analysis of information. Graduates find the corresponding student information, analyze the correlation between them, and combine the professional requirements and the own abilities, through predicting the achievements and the importance of each course, to make learning courses and plans suitable for their own development for students.

D. Realize the Reasonable Planning of Learning Time

Nowadays, many college students lack the ability to plan their own time reasonably, which will not only waste time, but also affect their learning efficiency. Big data technology can analyze the life and learning of College students, remind them when their learning efficiency is not high, make reasonable plans and arrangements for college students, and help them improve their learning efficiency.

E. Correctly guide public opinion on campus

Campus public opinion determines the thoughts of students, determines the cultural atmosphere of the campus, and plays a decisive role in the stability of the campus. By mastering the big data, the campus public opinion platforms such as micro-blog, micro-message, forum and website can understand the public opinion trends. By collecting and processing information, they can influence the thoughts, effectively control the development of the things that affect the stability of the campus and maintain the stability of the campus.

F. Analysis of Learning Behavior

In the project of collecting and recording information about the time to class, class performance, homework completion and self-study, the system can analyze the process and integrate these data through imaging and Internet technology. When the factors of learning behavior change, the system will make a reminder to help students plan to learn time and improve learning efficiency.

VII. THE STRATEGY OF BIG DATA IN COLLEGE INFORMATION EDUCATION

A. Scientific planning of data

The quality of university data is uneven, not all the data accumulated by colleges and universities are useful for

University education. Because many colleges and universities do not have professional information collection and processing departments, and the awareness of information technology personnel is weak, they cannot correctly distinguish between high-quality and low-quality data, so colleges and universities must plan and process the data reasonably and accurately.

B. Strengthen data management

Guaranteeing data quality is the premise of improving data accuracy. Only by analyzing and integrating high-quality data can promote college education. Therefore, in the process of realizing information education, it is necessary to strengthen the management of data. In the process of data collection and integration, professional information processors should not only ensure the speed of data processing, but also ensure the quality of data. Establishing high-quality database and strengthening data management is the only way for information education.

Information education covers a wide range of subjects, including arithmetic, information management, intelligent artificial and electronic technology, which are closely related to information education. Any subject teaching can use big data as the basis of research, so the focus of cultivation of students cannot be limited to this subject. The arrival of big data has clearly demonstrated that is the cornerstone of the whole field of education. The development speed of computer mainly depends on the development of computer hardware. At present, the processing of large data is our constant concern. In the big data era, information education should take big data as its core. Moreover, the practical performance is very strong. In the aspect of practical operation, it follows the development of big data, strengthens and establishes corresponding experimental links.

C. Establishing and Perfecting the Information Education System of Colleges and Universities

In colleges and universities, the various functional departments of the school need to share the data of colleges and universities, and there will be obstacles in the communication between different departments. This requires establishing the specialized information technology functional departments, improve the management system, the formation of high-quality data control and management center through the unremitting efforts of information technology departments, predict the direction of development accurately. In order to

keep abreast of the development and improve some doubts in information education, we should combine the direction of big data to improve and summarize a set of exclusive information education and teaching programs. The basic knowledge of information education has been quite mature at present. We should combine the development of big data and establish the information- education model of major universities.

VIII. CONCLUSION

College information education is an important part of our country's education. The core position of information education is gradually reflected. Big data can renew educational ideas, penetrate into all aspects of colleges and universities, and greatly promote the development of information education. Big data is a great opportunity for information education, which requires me. We should seize the opportunity, strengthen the management of data, establish and improve the management mechanism of University data, and realize the effective development of big data in University informatization.

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