Innovation and Research of Teaching Management in Colleges and Universities Based on Big Data

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Abstract: Big Data is the Era of Network Technology Innovation. It Not Only Affects Our Life, But Also Permeates All Aspects of Social Change. as the "Foundation" of Talent Training and Transmission, the Mode of Management Education Determines the Individual Training of Students and How to Integrate Educational Resources. Whether Big Data Can Be Applied to Education Management and How to Use Its Characteristics to Innovate Education Management Mode Are the Basis of Promoting University Construction.

1. Introduction

According to the report of the 19th National Congress of the Communist Party of China, we should give priority to the development of education, accelerate the construction of first-class universities and first-class schools, and achieve meaningful development of higher education. The popularity of higher education is getting higher and higher[1]. The educational administration of universities and colleges should keep pace with the times and integrate educational resources and student management. Looking at the world, big data application provides us with a high-quality, high-quality and convenient way of life. Personal information is integrated into big data to strengthen the relationship between people. Today, many colleges and universities have introduced big data applications in education. Moreover, in order to achieve higher efficiency, education needs to balance the relationship between educational resources and educational objects[2]. Therefore, it is indispensable to gradually promote the application of big data in business education.

2. Innovation and Change of Big Data

2.1 Meaning of Big Data

Big data is the product of the rapid development of science and technology, with the characteristics of the times. Because it covers a large amount of information, from a macro point of view, big data is very large. It contains not only all aspects of personal life, but also all kinds of global data and information. In essence, big data is generated through various tools, platforms, systems and other carriers, used for specific purposes and analysis, and has specific attributes.

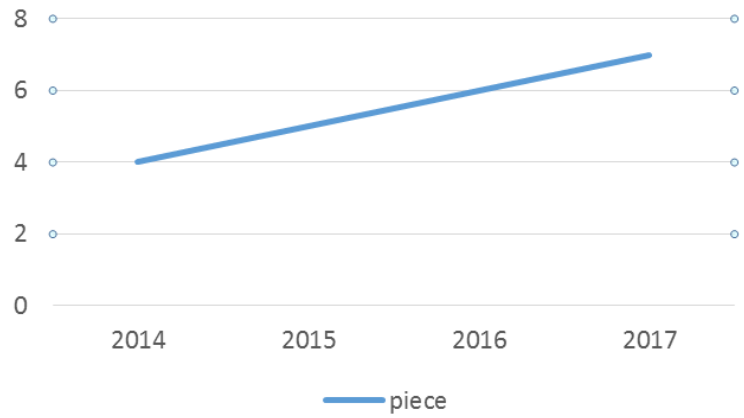

Fig.1 Number of Published Articles of College Students under the Background of Big Data

2.2 Advantages of Big Data Integration

Big data is characterized by huge amount of information, various information and high-speed processing of information. Through the classification and combination of different platforms and system information, this is whether the social value can be realized in business, and in specific circumstances, the social development can be foreseen and even provided in the future. This is unimaginable in the past. Under the background of Internet, the digital application system established in the process of university informatization faithfully records data. These data, large-scale, diverse, have a variety of mood diaries, thoughts, words, general information for emotional users, plus full personal information records, university management, from a single, sole manual management method complex, comprehensive change. And scientific new management methods.

3. The Changes of the Times in the Teaching Management of Colleges and Universities in China

3.1 Current Situation of University Education Management in China

At present, the education management of most universities in China is gradually developing towards informatization and intelligence[3]. The effective integration of resource education and big data sharing channels has greatly broadened the vision of the educated and provided better space for the educators. Neglecting the individual cultivation of educated people makes it difficult for some educated people to enjoy the convenience and efficiency brought by abundant educational resources.

3.2 Problems Faced by China's University Education Management

Operation and management cannot be separated from human management. With the gradual expansion of universities and colleges, operators are faced with the problems of increasing the number of personnel, various types and integrating various resources. On the one hand, high-quality educational resources are shared through multiple channels and platforms; on the other hand, the good and bad of the educated individuals are not the same, which often leads to various problems in the process of appropriate selection of educational resources. This kind of imbalance can not keep the renewal and pace of educational management resources, and lack the classification and integration of educational resources, which is beneficial to every educated person.

4. Innovative Application of Big Data to Teaching Management in Colleges and Universities

4.1 Big Data Brings Advanced Management Concept to University Education Management

MOOC MOOCS developed in recent years is a typical example of changing the guidance method of using big data. MOOC is mainly an open education based on online learning. This, from the basic theoretical knowledge to the high-tech principle has the widespread knowledge[4]. Teachers can also be publishers to ensure the depth of learners' knowledge intake on the premise of

ensuring the uniformity of curriculum education. Compared with the traditional education, the education experience brought by big data not only emphasizes the synchronization of courses, but also overcomes the negative factors brought by the classroom environment for the sake of environment and classroom rules. The publishing house can make full use of the classroom curriculum when it is fully prepared. The best in the era of big data, with rich data resources, students can be more fully mastered according to the school. Then, it is collected from the students' family background, development history, personality characteristics, interests and friendly and friendly state, as well as the students' information consumption credit card usage. Even the use of eating credit card can reflect the students' consumption habits and values.

4.2 Pay Attention to the Character Training of College Students

The personality differences of college students are mainly reflected in personal ability, personal interest and personality. Personalized training is also a necessary condition for future social development[5]. If we can cover the effectiveness of education for all types of students and improve the overall learning level of university students, we can achieve more results with less efforts. First, consider that different students have different cognitive abilities to the same knowledge. Classroom education can provide enough knowledge in a short time, but the understanding of individual students is not enough. On the one hand, students with low understanding ability have sufficient basic knowledge in explaining the open platform; on the other hand, students with high learning ability can open in-depth knowledge discussion. The two aspects of cooperative development do not affect each other, which can improve students' cognitive ability and understanding ability. Second, the use of big data education management to expand students' knowledge. The traditional professional training plan is very targeted, basically no more than professional knowledge points, to ensure a certain range of professional knowledge. Nowadays, many major students need more extracurricular knowledge, and various majors are also integrated. A major structure can not satisfy students' desire for knowledge and social needs. We can use big data platform to combine knowledge, expand knowledge and improve individual comprehensive ability[6]. Open curriculum is growing with more content, various forms and higher professional standards. Students acquire knowledge through multiple channels, and they also share knowledge sources with their classmates. Due to the lack of professional evaluation and knowledge source monitoring, many knowledge can not meet the expectations of students, and even knowledge disconnection and misunderstanding may occur. To this end, through the university education management department and education research department, establish and improve a unified big data platform, manage and manage information sources, and promote knowledge learning through a formal platform.

4.3 Innovative Application of Big Data to Improve Education Management

The feedback of teaching quality is the most direct evaluation of teaching management. The teaching quality also directly affects the smooth implementation of the teaching plan. Students' current learning progress and feedback analysis use, teachers are the pre adjustment of the class, in addition, for the proposal of teachers' higher education standards, the improvement of teaching materials content, promote students to get more motivation[7]. The application of big data makes educational administration more intelligent. From the traditional general management to the future personalized management, the establishment of the analysis system, is the school students, anytime, anywhere, the sea of knowledge, their own hand washing, not only can allow teachers, the times and maintain speed, content update education, teaching reform guidance methods. Teaching concepts. Finally, under the teaching management system, educational resources and teachers and students are linked. Big data is all the measures and results of school management, the growth of school students, the development after work, the position of school staff and the corresponding management records of teaching team.

5. Opportunities and Challenges Brought by Big Data Era to College Teaching Management

5.1 Impact on Traditional “Cramming” Education Mode

Talent training is the main work of universities and the key to distinguish universities from general research institutions. Education is a process of preaching, teaching and melting. The cultivation of students' knowledge system, world outlook and outlook on life is a long-term process. Once the teaching mode is determined, it is difficult to accept the change. In the current education mode, teachers teach in stages according to the simulated content, and guide activities according to the preset feedback that does not feed back the students' feedback in real time. Using data mining technology in big data can help teachers analyze the complex information generated in the process of education and make corresponding predictions[8]. For example, based on data analysis, which content can be learned, which content can stimulate learning interest, and which methods can effectively integrate and improve knowledge. Moreover, the core content of the class can be easily accepted by students at any time. It can analyze the real-time feedback data of students in the teaching process, summarize their recent thinking tendency and behavior tendency, and reasonably prevent the occurrence of counter situations. On the one hand, data mining technology is applied to analyze the teaching data and adjust the teaching time according to the prediction results. On the other hand, new guidance methods such as the teaching led “cross classroom” education mode are summarized.

5.2 Promote the Integration of Teaching and Learning

The research and analysis of students' learning data can help us to predict students' performance and potential problems in the future learning environment. This learning method has many advantages in University and university education, and can solve the potential problems in the current university and university education process[9]. For professional teachers and teachers, we can use the analysis results of big data to extract the mechanical description of students' behavior and psychology in the whole learning process, and comprehensively evaluate the teaching quality. So as to change the teaching methods, update the content of teaching materials, change the teaching mode, and promote the deep integration of teaching and learning. At the same time, a large number of education and teaching data can also reflect the different characteristics of students in learning habits, learning interests, learning methods and so on. Through the campus information system, students can not only obtain explicit learning data such as test scores, practical ability, distribution completion, but also obtain implicit learning data.

6. Conclusion

The coming of big data era brings many new challenges to higher education. The effective use of information resources directly affects the development of universities. The development of higher education is the hope of the country in the future. In the era of big data, in the face of various challenges, how to build a perfect university information management system, analyze huge teaching data, improve teaching efficiency and scientific research level is the primary task. In recent years, with the deepening of education reform, large-scale data management has penetrated into all aspects of education management. This will indeed promote the interaction between education and learning, schools and society, and bring university education to the actual needs of social education. The use of advanced information science and technology and methods makes universities shine in the era of big data, contribute to the education of the motherland, and contribute to the construction of a harmonious socialist society.

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improvement path-- take Yunnan Vocational College Of National Defense Industry as an example(2018YGZ09)

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