Research on the Impact and Countermeasures of Big Data on the Educational Management of Colleges& Universities in China

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Abstract: In recent years, with the rapid development of all fields of society, China's higher education has achieved new development and innovation. With the development of information technology, it is affecting people's study, life and work at a speed beyond our imagination. Information technology has connected the world into a community, and the era of big data has come. College education management is also an important part of education and teaching. The efficient and scientific operation of school management will directly improve the quality of teaching, and also provide a better learning and working environment for teachers and students. Through the use of big data, the quality of China's university education management has been significantly improved, to a certain extent, to promote the development of China's university education management. However, influenced by many factors, there are still many problems in the educational management of some universities in China in the era of big data. Based on this, the paper mainly studies the impact of big data on the educational management of colleges and universities in China, and puts forward corresponding optimization countermeasures by analyzing the characteristics and nature of big data.

Keywords: Terms Big data, Colleges, Educational management, Influence, Countermeasures

1. Cognition of big data

In the trend of global integration, the development of big data has attracted people's attention and attention, and big data has been integrated into people's production and life, bringing great convenience to people's production and life. The term "big data" was first proposed by Apacheorg in the open source project, and then Alvin Toffler and others predicted the arrival of the era of big data in the 1980s. Big data refers to the efficient, intelligent, fast and accurate analysis and management of massive data that cannot be collected, analyzed and processed by conventional software. Its core is not to master massive data, but to store, manage and analyze massive data professionally.

Big data can not only play a huge role in industrial production and management, but also effectively improve the effectiveness of educational management in colleges and universities, and provide more efficient and convenient information resources for the cultivation of talents in colleges and universities. From the current application of big data, the ability of big data to collect, store, analyze and manage data is many times higher than that of traditional database software. [1]Big data is characterized by large flow, high efficiency, large amount of data and multiple types. Besides, it is more professional in data processing and can realize data analysis and value extraction. The specific advantages are as follows:

1.1 Improve core competitiveness

To provide more valuable resources for the development of colleges and universities, improve the competitiveness of colleges and universities, promote the development of colleges and universities. Big data is the product of the development of the information age. At present, all walks of life have recognized the application of big data. The application of big data in various fields can effectively carry out data mining and sorting. After a small amount of data analysis, the most valuable part can be extracted as strategic resources for development. Big data industry regards data as assets, which can not only produce huge utility for industrial enterprises, but also analyze and study the data resources of colleges and universities, provide more valuable resources for the development of colleges and universities, improve the competitiveness of colleges and universities, and promote the development of

colleges and universities.

1.2 Is conducive to strategic selection and decision-making

It provides data information support for university's development decision making and facilitates scientific decision making. Both the development of the enterprise, and the development of colleges and universities, is the need for data analysis and processing, and big data has the function of the whole sample analysis was carried out on the huge amounts of data, and the process of data collecting, sorting and analysis very quickly, for all areas of strategic choice, development and decision-making to provide more valuable data and information basis, To help them make more scientific choices.[2]

1.3 Personalization of services

It is possible for colleges and universities to realize the diversification of talent training and meet the diversification of social needs. Data analysis is the most obvious feature of the large data, through analysis and study of a large amount of data, can make the correct judgment for the education management work of colleges and universities, aimed at the needs of society and students need to be personalized custom, it is more advantageous to the development of colleges and universities, so as to realize the diversity of talents cultivation, to meet the diversification of social needs.

2. Influence on university education management

In the era of big data, the educational management staff of colleges and universities clearly position the application of big data in higher education management based on the concept of variables. Under the influence of big data, the educational management of Chinese universities has also changed. The impact of big data on the educational management of colleges and universities in China is multifaceted and multi-level, with both positive and negative impacts.

2.1 Influence on educational management decisions

In order to deal with the advent of the era of big data, in 2016 the Ministry of Education issued "much starker choices-and graver consequences-in planning education informatization, put forward to build the campus data network, build campus digital education resource, the school curriculum, teaching resources, teachers' teaching ability assessment, student information into the campus big data repository, realize campus intelligent management. The decision-making of educational management in colleges and universities needs a lot of information resources. Traditional data processing only makes statistics on the state of university education management superficially, while the emergence of big data can directly provide more comprehensive and detailed data for education management decision-making, and university administrators can extract valuable data from it. In order to make full use of these data to analyze the enrollment rate, enrollment situation and social and student needs, and provide convenience for the final decision of education management work. In addition, in the context of the Internet, the development of big data has achieved considerable depth and breadth. Through the network data platform, in-depth analysis of educational information can not only make decision-making data more diversified and multi-level, but also improve the quality of university education management.[3]

2.2 Influence on college enrollment

With the development of Internet technology, big data has been widely used in college enrollment. As the enrollment range of colleges and universities in China is becoming more and more extensive, the major Settings of major schools are also increasing, for examinees, their choice space is becoming more and more large, but for college management teachers, it is necessary to carry out a large number of data information analysis, in order to solve the diverse selection of enrollment problems in the education management work. Big data application and promotion, make the college managers can through the vast amounts of information analysis, investigates the present conditions of the recruitment of students and professional statistics, sorting and analysis, and provide the valuable data to college admissions, would help the recruitment of students work more targeted, but also can avoid some problems in admissions in advance, let all the education problem from the source control and management, It has realized the effective development of college enrollment management.

2.3 The impact on the complexity of higher education management

Through the application of big data, colleges and universities should be good at digging deeper information from it, and improve the dynamic and comprehensive of education management.The traditional educational management of colleges and universities is only the work of education administrators, while ordinary teachers are only responsible for teaching, and the staff of other departments also perform their own duties. They have little understanding and participation in the educational management of colleges and universities, and the root cause of this phenomenon is that the data basis in the decision-making of educational management of colleges and universities is relatively poor. And big data applications in university education management, can effectively change the status quo of the lack of data, single, [4]can not only make the data information is more transparency and openness, and the data accuracy and diversity can also be present, such can let education workers are involved in the education management work, realizing the richness and the full participation of education management in colleges and universities, Such educational management and decision-making are more meaningful.

2.4 Influence on teaching quality and efficiency of colleges and universities

In the era of big data, the educational management staff of colleges and universities clearly position the application of big data in higher education management based on the concept of variables. Under the traditional management and teaching mode of colleges and universities, teachers' thinking ideas are always formed around students' academic performance, and lack the combination of practice and theory, let alone the cultivation of students' subjective initiative. The effective application of big data can not only change the rigidity and monotonicity of traditional teaching mode, but also stimulate the enthusiasm of students. Both students and teachers can establish their own accounts and achieve unified management with the support of big data. Communication and learning on the big data platform can improve students' independent learning ability and self-control and meet their different needs. Teachers can also manage and analyze students' learning status and progress through the platform, which is conducive to the rapid improvement of teaching quality and efficiency.

3. Problems existing in current university education management

In the Internet era, the educational management of colleges and universities is marching towards the direction of information, and the network system of most colleges and universities has become perfect. Although big data has been able to bring great convenience to the educational management of colleges and universities, there are still various problems in the actual application process, which need to be traced to the root and solved fundamentally.

3.1 Lack of adequate understanding

In China's educational reform, great changes have also taken place in the educational management of colleges and universities. However, due to the lack of sufficient understanding and attention to big data by the management of colleges and universities, and the lack of a complete mechanism system for the data information system of colleges and universities, in the specific application process, It is inevitable that the communication between various departments is not smooth, data information can not be shared and other problems, and there are certain security risks in the operation practice of the network system, which also brings a very negative impact on the education management of colleges and universities.

3.2 Lack of standardization of data information

The education management of colleges and universities involves the range, the system is more complicated, there are links between various agencies, to make big data can play its effectiveness in college education management work, we must ensure the data unity and standardization of information, so as to ensure the effect of the data flow between the various departments. However, the lack of standardization of data information is also the existing problems and drawbacks in the current educational management of colleges and universities.[5] Because of the lack of standardization of data, the big data technology cannot give full play to its maximum value, and also affects the efficient development of educational management of colleges and universities.

3.3 Complexity of educational management

The educational management of colleges and universities is different from the management of enterprises, because the educational management of colleges and universities not only needs to ensure the study of students, but also needs to collect, sort out and analyze the information of students, which is related to a large amount of data information, and the data information is not regular, is quite complicated and complicated. Simple is one of the student management data, for example, contains the name, student id, achievements and other relevant data and information, and this information is not simple text description, there will be some pictures or video, so it is difficult to use the same kind of symbols to express, that is to say, the traditional data information processing system has not meet the needs of university education management work, Only big data can provide high quality service for the educational management of colleges and universities.[6]

3.4 Bound by traditional management concepts

Although in the reform and development of the new education system, people's thinking concept has undergone great changes, and the educational management of colleges and universities is constantly innovating, but from the current situation of educational management and teaching situation, the traditional management concept has always constrained the administrators of colleges and universities. Although the application of big data is highly recognized, theory and practice cannot be combined, and there is a lack of communication and interaction between teachers and students. All kinds of teaching software and education system have not played their real value. For example, big data information management can make comprehensive analysis of students' information system and learning system, and then make up for students' shortcomings and improve students' learning efficiency through information resources. However, due to the lack of professional technical personnel in colleges and universities, these data are difficult to be effectively managed and applied, and lack of effectiveness.

4. The role of big data in university education management

4.1 Carry out personalized education and learning

Nowadays, many colleges and universities are digital colleges and universities in the era of big data, and the learning mode of many colleges and universities has changed to a certain extent. The phenomenon of skipping classes has been common in colleges and universities.[7] And for this kind of situation, education administrators in colleges and universities should use big data and other related auxiliary technology innovation, through the analysis of the data collected in a timely manner to the students in class a different student data of individual differences in learning, analysis of the law behind the data structure, thus increasing the accuracy of the university education management and targeted, so as to achieve better according to their aptitude, To establish the individualized management of education and the diversified education concept of talent training.

4.2 Timely grasp the students' ideological and behavioral dynamics

College education administrators have the responsibility and obligation to grasp the students' thoughts and behaviors in time, which is also a way to ensure students' safe and healthy life and study. However, in the actual process of higher education management, there are many students' ideological and behavioral dynamics are often ignored in the process of education management. Many education administrators in China must have a deeper understanding of the timely grasp of students' ideological and behavioral dynamics. They cannot spend all their time and energy on scientific research, or ignore the grasp of students' ideological and behavioral dynamics due to the lack of correct guidance methods, resulting in a lack of attention and understanding of students. Cause some students with relatively weak self-control ability to do some wrong behavior in violation of college rules. In view of the deficiency of the working methods of university education administrators, data technology and other auxiliary technologies should be adopted to improve the management measures. Colleges and universities based on big data technology and other auxiliary technology of the early stage of the training and publicity, can effectively increase the education of colleges and universities management staff awareness of the big data function, so as to improve the use of big data technology, make big data technology and other auxiliary technology in master dynamic university students' thought and behaviour play a crucial role.

4.3 In terms of governance, the democratic and scientific governance of colleges and universities has been improved

With the support of big data, computer technology has been introduced into the teaching of colleges and universities in China, and many courses have achieved cloud teaching. Communication platforms have also been established between teachers, which provides more scientific suggestions for the governance of colleges and universities. It is convenient for the upper level to convey tasks to the lower level, and also convenient for the lower level to supervise the upper level. It not only helps to collect students' suggestions, but also improves the efficiency and quality of university governance.[8]

In the aspect of teaching, it improves the pertinence and effectiveness of college teaching. With the development of Internet technology, big data has been widely used in university teaching. With the deepening of education reform, the dominant position of students has been significantly improved. Many colleges and universities have reformed the traditional classroom mode. Flipped classroom has become the current trend of college classes, which greatly improves the dominant position of students in class. The application of big data to analyze students can have a clear understanding of students' learning, which can be used as reference materials for teachers' curriculum research, and can make the design of teaching links more targeted and reasonable. Big data can also be used to scientifically select textbooks and divide classroom groups. At the same time, through the application of big data, students can also find suitable learning materials and formulate learning tasks, thus effectively improving the quality of class.

In the aspect of assessment and evaluation, the dynamic and comprehensive management of college education has been improved. College education is to promote students' all-round development. Examination-oriented education is not the main purpose, but quality-oriented education is the important content of college education. Through the application of big data, colleges and universities should be good at digging deeper information from it, and improve the dynamic and comprehensive of education management. First of all, colleges and universities can get to know students' emotion, knowledge, morality and ability so as to make correct teaching plans. At the same time, colleges and universities should understand the talent market, and constantly adjust the current teaching strategy. Secondly, colleges and universities can use big data to adjust the current situation of students

In particular, we should pay more attention to the cultivation of students' thinking and moral quality, and constantly adjust teaching strategies for their weak places. Finally, colleges and universities can apply big data to realize dynamic management of teachers and establish supervision mechanism. Meanwhile, they can change teaching concept from results-based evaluation to process-based evaluation.[9]

5. The application strategy of big data in college education management

Based on the deepening and development of Internet technology, big data has been widely used in all walks of life, and has also been affirmed and recognized by people. University education management work to improve the work efficiency in the process of the development of the new era, we must strengthen the consciousness of college administrators of big data in time, make all kinds of data and information to be able to serve the college management, must carry on the optimization and training of professional talents at the same time, in order to enhance the core competitiveness of university, to realize the healthy and stable development of universities.

5.1 Improve the attention of university administrators to big data

In order to make big data play the most effective role in university education management, it is necessary to improve the attention of university managers to it. Only by increasing the attention to big data, can the actual value of big data be fully played, so that big data can be applied and promoted in practice. At the same time, teachers also need to cooperate with education managers to carry out teaching management work, integrate big data information, transform it into a part of college education management work, realize the analysis and research of data information, and achieve the quality improvement of college management work. , for example, the current management of college education is no longer limited to the simple classroom teaching, the networked multimedia education has been integrated into the various branches of classroom teaching, this teaching model not only improves the traditional teaching mode of oneness and boring, also make the students learning resources becomes more extensive, and through the technology of data, It can also realize the analysis and management of

students' habits and behaviors and improve learning efficiency. Therefore, the development of educational management can be further promoted only by improving the attention of administrators to big data technology and applying big data technology to students' information system and management system.

5.2 Further improve the big data platform for university education management

In the process of the rapid development of science and technology in China, most universities and colleges have established information websites and big data platforms, which can realize the exchange and communication between teachers and students, students and families and schools. Moreover, through the dissemination and sharing of data, it can also make the education management work achieve multidimensional comparison. Although the current data platform has been in service for the management of colleges and universities, but with the network development of education management in our country, also need to further perfect the education management platform construction, to establish relevant system, avoid the influence of various unfavorable factors, in order to effectively avoid big data to the ill effects of education management in colleges and universities in our country, Make it a scientific and efficient communication platform.

5.3 The big-data college education management needs to be refined

It has become an inevitable trend of the development of education to move towards the big data of university education management, and it is also a key project in the construction of colleges and universities in the future. Only by improving the level of big data information management technology, can the efficient development of university education management be realized. Therefore, whether the human resource management system, students' archives management, scientific research, thinking or dynamic, etc., all need under the support of big data technology efforts in the direction of the fine, make full use of intelligent mobile terminal technology, [10]equipment, and big data information analysis and so on favorable conditions, education management to realize scientific, systematic and refinement. At the same time, it is necessary to further strengthen the fine consciousness of university administrators, improve and enhance the management system, and make the construction of universities more modernized and informationized.

5.4 In-depth mining and analysis of big data technology

Big data technology has been integrated into all fields of society, and will play a considerable role in the development in the future, but to the big data technology to really relate to the education management of colleges and universities, have to deep mining and analysis, it is also the core of big data technology application, only to dig deeper into its effectiveness, Only in this way can we obtain information resources that are more conducive to university education management. At the same time, it is also necessary to analyze and study the social status quo and students' needs, such as students' mentality and learning state, teachers' teaching evaluation and curriculum design, and their correlation with each other. Only in this way can the effective development of big data technology be realized and better serve the educational management of colleges and universities.

5.5 Cultivate modern big data technical personnel

In the context of global integration, the competition of the future society is the competition of talents, so the cultivation of modern big data technology talents has become another key task of university education management. In order to achieve the standardization of university education management and establish a big data platform, it is necessary to cultivate big data technical personnel with professional quality. Only in this way can the advantages of professional teams be brought into play, multi-dimensional data information can be effectively integrated, and data islands can be avoided. Only training professional big data technical personnel can make the educational management of colleges and universities have a more holistic view, more comprehensive analysis of data information, and promote the continuous innovation of the educational management of colleges and universities. Therefore, regular learning and training of big data technical talents is very necessary. Only by strengthening learning can they continuously improve their professional ability, combine theory with practice, and promote the efficient development of big data technology.

6. Conclusion

To sum up, the arrival of the era of big data provides a new idea for the educational management of colleges and universities in China. The combination of information technology and educational management of colleges and universities facilitates the management of students, teachers, teaching and other work, enricifies students' spare time life and builds a charming university campus. Both school management and teachers should let the idea of big data go deep into their hearts and implement it into their daily management and teaching work, so as to guide college students to be dream chasers in the new era, strive hard to realize their personal dreams and national rejuvenation, and pursue their dreams bravely with their youth and blood.

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