

The Influence of Big Data on China's Higher Education Management and Improvement Strategies

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Abstract

With the development of information technology, big data has gradually penetrated into the field of education, especially promoting the reform and innovation of university education management. By using big data analysis technology, the prediction and analysis ability of education big data can be used better. Aiming at the problems of big data in university education management, we put forward top-level design, system planning, establishment and improvement of rules and regulations, and construction of evaluation system, so as to greatly optimize the education and teaching decision-making and management level of some colleges and universities in China.

Keywords

Big data; university education management; influence; optimization; strategy.

1. Introduction

The so-called big data refers to a kind of data science that can be used as a new idea and new method to solve the technical problems in the scientific field through the research on some aspects of the massive data, through the in-depth study of the common data problems in different scientific fields, and comprehensively expressing the internal relations and laws between different data. In addition, big data can also be used as a technology platform, mainly including big data acquisition, preprocessing, analysis and other technologies. These technologies are not only the foundation for the development of big data, but also one of the ways for big data to reflect its own value. Moreover, as a technology, big data naturally has the attribute of tool. With big data, we can easily attack the essence of things through complex phenomena, so as to show the huge potential and energy of big data. The education big data that this paper will elaborate refers to the collection of data generated in the process of a series of related activities with education as the main content, collected according to the needs of educational activities, and all the data that can promote the progress of education and have the possibility of creating greater potential value. In the current world environment, education big data plays an important role. To a certain extent, it should be positioned as an important strategic asset to promote innovation in the field of education, a scientific force to guide all-round reform in the field of education, and a fundamental force for the development of intelligent education in the new era and new stage, so as to realize the drive of educational management and educational decision-making towards scientific, personalized and human The ultimate goal of sexual development. This paper takes the impact of big data on modern university education management as the main research object. Firstly, it analyzes the impact of education big data on education management and decision-making, and then analyzes the effective application of big data in education management decision-making, including the enrichment of education data collection methods from the perspective of big data, the creation of education data platform from the perspective of big data, the establishment of education data platform, and the application of big data in education management decision-making; From the

perspective of big data, data mining and analysis improve the effective use of data; from the perspective of big data, the improvement of education management and decision-making evaluation mechanism.

2. Characteristics of Big Data in University Education Management

2.1. National Strategic Needs

With the rapid development of big data, its influence is increasingly extensive. In this situation, the state has promoted big data to a strategic height. The State Council's Guiding Opinions on actively promoting the "Internet plus" action, the action outline for promoting the development of big data, and the development plan for a new generation of artificial intelligence have been issued in succession. "The 13th five-year plan" clearly put forward that "big data should be regarded as a basic strategic resource, and action to promote the development of big data should be comprehensively implemented, so as to accelerate the sharing and development of data resources, open application, and realize social governance innovation and industrial transformation and upgrading". At present, the domestic and international situation and social development environment have put forward higher requirements for the management of College Students' education.

2.2. Requirements of Educational Law

Einstein believed that the ultimate goal of education is to cultivate students' overall ability of judgment and independent thinking. The deep connotation of education is big education, which has the characteristics of "whole process" of lifelong education and "Trinity" of family, school and society. Compared with the traditional education concept, the modern education under the background of big data has stronger real-time, coherence, comprehensiveness and naturalness, the analysis and processing of education is more complex and diverse, and the educational application is more diversified and in-depth. In the era of big data, new technologies such as computer, mobile communication and cloud computing will be gradually integrated into the whole process of education, which can collect more micro data of the whole process of teachers' teaching and students' learning in real time and continuously, master the current situation of education development, formulate educational policies scientifically, allocate educational resources reasonably, improve education system, and carry out various forms of teaching and training. At the same time, according to the collected big data analysis of students' personality, it is conducive to carry out personalized learning, comprehensive evaluation and teaching feedback prediction. (Chen Wen, Pu Qingping, Zou Fangming 64-66)

3. The Impact of Big Data on China's Higher Education Management

3.1. The Positive Influence on the Management of Higher Education

3.1.1. Conducive to the Collection of Information Data and Providing Reference for Education Management

In the trend of gradual penetration in the era of big data, the integration of the Internet of things and information technology into university education has broken through the traditional limitations and optimized the quality of education data collection. The big data education management mode has the characteristics of non organization, dynamic and microcosmic, and the data processing system is more diversified and meticulous. Big data education management can comprehensively grasp the traces of teaching, timely collect the big data of student information, teacher information and social information, and use the data analysis system for analysis and processing, so as to provide reference for the formulation of university education

management strategy, and promote the university education management to be more scientific and personalized.

3.1.2. Giving Feedback Teaching Information Timely and Promoting the Effect of Teaching Students in Accordance with Their Aptitude

In the big data environment, the teaching mode and teaching methods of colleges and universities are diversified, and the content of education management is also changing. Colleges and universities have a large number of students. When students use the information technology education platform to learn, the learning platform can optimize the way to explain educational knowledge according to students' learning time, learning feedback and other data, so as to construct targeted teaching strategies.

3.1.3. Optimizing the Allocation of Educational Resources and Shortening the Distance Between Teachers and Students

In the big data environment, university education resource management has also been developed. The use of big data management platform can optimize the allocation of teaching, laboratory, dormitory and other resources, and maximize the value and efficiency of education resources.

3.2. Impact on Education Management and Decision Making

3.2.1. The Influence of Educational Big Data on Educational Decision Makers

Because the quality and ability of some educational decision-makers are insufficient, there are inevitably biased educational decision-making problems, mainly reflected in the lack of professional quality of decision-makers, blind and arbitrary decision-making; some objective problems are not investigated, that is, through their subjective assumptions and one-sided reasoning to make decisions.

3.2.2. The Impact of Education Big Data on Education Decision Making Environment

Nowadays, educational decision-making in China is affected by many factors, which makes it more difficult for decision-makers to effectively carry out relevant work, and the educational debris data cannot be fully controlled, resulting in the relevant decisions cannot be made in time, and cannot keep up with the changes in the current situation, so that its scientific effectiveness is affected. This kind of decision-making must be based on relevant information data, so that big data technology can play a great role in decision-making.

3.2.3. The Influence of Education Big Data on Education Management and Decision-Making Organization

In the traditional decision-making mechanism, the pyramid structure is generally used for coordination and cooperation, and there is a clear hierarchical division of labor system. As a result, the internal data feedback speed of the mechanism is slow, the relevant information cannot be transmitted timely and effectively, and huge human and material resources are consumed, so that the educational decision-making cannot be modified with the change of the situation.

3.2.4. The Influence of Education Big Data on the Solution of Educational Problems in Educational Management Decision

In the original educational decision-making mechanism, due to the poor internal relevance of the mechanism and the lack of communication between organizations, the relevant decision-making information cannot be effectively transmitted in the process of transmission. At the same time, there may be some loopholes in the information overload or scarcity, which makes the decision-making difficult to base on the reality and cannot be guaranteed Its scientific validity. The combination of big data technology and decision-making mechanism makes the decision-making method of education no longer single, but also increases the processing

methods of various educational problems. In the process of the original educational decision-making, the problems are usually analyzed and dealt with based on the problems themselves, and the corresponding decisions are finally made.

3.3. Negative Influence on Student Management

3.3.1. Data Information Security

In the context of big data, the security and privacy of personal information and data are affected. How to maintain the balance between privacy and freedom has become the focus of university education management. Whether the use of data management platform, operating system, or school mail system, management system, all involve school data privacy and personal privacy, which is also the adverse impact of big data.

3.3.2. The Data Standard System Is Not Perfect

The focus of big data is data sharing, which is to integrate independent and scattered data to obtain better data results. However, the current lack of standardized data system in higher education leads to the phenomenon of "information isolated island", which has a negative impact on education management. At the same time, in the big data environment, the traditional education management mode has been subverted, and the relevant data management technology and talents are not mature enough to cope with the data management system and give full play to the value of big data.

4. The Improvement Strategy of Big Data in University Education Management

4.1. Updating Education Management Concept based on Big Data Background

With the in-depth development of the era of big data, university education management also needs to use the advantages of big data, comply with the trend of big data education management, update the concept of university education management, and establish advanced awareness of big data application, so as to promote the quality of university education management. At present, Internet mobile terminal technology is widely used. Smart phones and tablet computers have been widely used in students' life and learning. Based on this situation, college education management can strengthen students' ability to collect data resources, guide students to actively collect learning information, obtain more resources for their own learning, and further improve the quality of learning. For example, in the process of university library management, big data technology can be integrated into it, and the data system can be used to collect students' reading preference, reading interest and frequency information, conduct overall analysis on college students, and reasonably purchase book resources, so as to meet the reading needs of students and realize the personalized development of library education management. In this way, it can not only improve the quality of book resources procurement, improve the application value of book resources, but also predict students' reading preferences, guide students to read more valuable books, and promote the improvement of students' learning literacy.

4.2. Strengthening the Construction of Educational Management Information System

Computer technology is the support of the development of big data era, and also the foundation of information system construction in Colleges and universities, which is of great significance to the development of education management in Colleges and universities. In the era of big data, university education managers need to strengthen the importance of information construction, increase the financing and investment in the construction of information system, and ensure the scientific and information management mode of university education management under

the premise of normal operation. For example, in the process of educational informatization construction in Colleges and universities, colleges and universities can cooperate with the government to attract the government's investment in information construction, improve the educational resources, student management and teacher management system, establish a perfect education data collection center, and comprehensively grasp the real-time situation of education management, so as to realize a scientific and institutionalized management mode.

4.3. Emphasizing the Sharing Value of Data Information Management

Based on the environment of big data era, data analysis and prediction is an important content of university education management, which is of great help to the foresight and predictability of university education management, and is conducive to the development of university education management. Therefore, we should combine big data information technology with university education management, emphasize the value and significance of data analysis in education management, exchange and share all kinds of educational data, break through the traditional data management mode, change the "independence" of data, and effectively focus on the integration and sharing of educational data.

4.4. Improving Education Management and Decision-Making Evaluation Mechanism

To improve the teaching level evaluation mechanism, we need to combine big data technology to collect and classify the information involved in teaching work, analyze the information data, and synthesize a scientific and effective evaluation result. Educational work involves a variety of information and a huge amount of information, which also makes the evaluation of teaching quality and decision-making level difficult. To ensure the scientific and effective evaluation is the focus of educators. Big data technology provides a great help to deal with this problem from the aspect of information.

5. Conclusion

Big data technology has been widely used in various fields, which brings great opportunities and challenges to modern university education management. Colleges and universities should grasp the opportunity and make full use of big data technology to promote the rapid development of university management informatization and realize the reform of educational technology, management mechanism and development concept. In the process of specific implementation, the principle of "green technology" and the concept of "people-oriented" should be taken as the core to strengthen the construction, sharing and application of big data resource database, so as to ensure that big data can truly become a powerful guarantee for promoting the informatization of university education management, the comprehensive development of students and the internalization of university construction.

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