

Research on the standardization of higher education management under the background of big data

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Abstract: In the context of the era of big data, in the face of massive data, it is necessary to pay attention to the comprehensive, diversification and scientific data analysis, so as to provide strong technical support for scientific decision-making in related fields. For the management of higher education, the previous teaching management mode can not be backward and cannot meet the needs of the development of The Times, so we should pay attention to the organic combination with big data technology, to promote the practical work more standardized and scientific, and achieve good management results. In a precise and methodical manner, it is necessary to proactively explore the extensive utilization of big data in teaching management. This approach should be grounded in the integration of traditional teaching management methods with big data-driven practices. It is essential to emphasize the effective utilization of micro-class teaching as a supportive tool. Additionally, appropriate measures must be implemented to guarantee the comprehensive utilization of big data. Practical experiences have demonstrated that this approach can ultimately lead to a significant enhancement in the quality of teaching management.

1. Introduction

The era of big data has triggered a series of new technological innovations, made innovative breakthroughs in data collection, mining, storage and analysis, and brought significant changes to all walks of life, and promoted continuous development and progress. The field of education has also been deeply affected. In the current development process of higher education management in China, there are still some backward and unscientific problems, and the relevant teaching management work is carried out in a single, relatively random way, and has not achieved the expected effect. Therefore, in order to solve the outstanding problems of reality, the university education workers should actively explore innovation, can under the support of big data technology, through the data collection and analysis of teaching management related, to take a more standardized work mode, it is important to improve higher education management level has an important role in promoting.

1.1 A related overview of the big data

In essence, big data is actually a brand-new social phenomenon, which is the product of the development of The Times to a certain stage. In the background of the rapid development of science

and technology, big data is the inevitable result of the development of social informatization, and also represents the main characteristics of the new era. Big data is rich in connotation, has huge information resources, and can also exchange and transmit information, which makes big data technology promote the reform and development of all aspects of society[1]. The combination of big data technology and the field of education can integrate the information resources, build a broad platform for communication between teachers and students, and break some restrictions in space and time, contributing to the realization of cross-regional talent training.

As a product under the background of the information age, big data has the following remarkable characteristics: huge data volume, diverse data types, and fast data processing speed. The greatest value of big data is to collect and store massive information, and adopt relevant technical means for scientific analysis, and the efficient and convenient transmission of data information, which makes big data provides great help for people's production and life, and meet a lot of practical needs.

The advent of the era of big data can make it easier for universities to manage education. The Internet can complete many extremely complicated problems with the past, and the exchange and cooperation between universities and universities, and the interaction and communication between universities and students will become very convenient. But at the same time from another perspective, the era under the background of big data, colleges and universities for their education management mode had to make new review, must need to innovation as a way out, only in the education management innovation, can make college education management more efficient, also can ensure that the talent more beneficial to the society.

2. The profound impact of big data on higher education management

2.1 Provides a new teaching platform

In the context of the era of big data, a new teaching platform can be used for the development of higher education management, no longer adopting the traditional teaching management mode, and will not be strictly limited by space and time. The goal of cross-regional talent training can be achieved with the help of the Internet. There are many excellent higher education institutions in the world. They can use big data to collect and integrate high-quality information resources, and share teaching resources, so as to promote the interaction and communication between various institutions and universities, and shorten the distance between them[2]. For instance, colleges and universities can adopt a collaborative approach through an integrated educational platform, which facilitates open course instruction on the platform. This allows for the sharing of quality educational resources. Students are no longer constrained to attend classes at specific times or locations. Instead, they can access any course at any time and in any location, provided they have a mobile network device. Furthermore, they have the opportunity to present their own inquiries and perspectives on the material. Through this novel intelligent learning platform, students gain access to a wealth of knowledge and information, enabling them to engage in self-directed learning and exploration.

2.2 Promote the innovation of teaching mode

For the development of teaching management in higher education, after the integration of big data, the traditional single and backward teaching mode will be broken, providing a new teaching method and promoting the innovative development of teaching mode. The previous teaching mode is limited by the teaching place and time. With the support of big data, the main position of students is more prominent. Students can actively acquire knowledge through different ways and collect high-quality course teaching resources on the Internet. Based on the application of big data technology, when the students use the computer for web browsing, the network will record the

students, after the actual learning condition feedback to the students, so students can learn a comprehensive reflection, foster strengths and circumvent weaknesses, master more scientific learning methods, develop good learning habits, obviously this based on big data technology teaching mode more scientific and novel, compared with the traditional teaching mode more human, can meet the demand of students 'learning, stimulate students' active learning motivation.

2.3 The frequency and level of scientific research communication were improved

According to the convenient information transmission function of big data, institutions of colleges and universities can conduct extensive cooperation and communication, and the staff of colleges and universities can have more opportunities for scientific research institutions to communicate, and the level of scientific research exchange will be significantly improved. College students, for example, in the library access to learning materials, the previous data access scope is limited, can only look at the school library collection, difficult to get more information resources of other institutions, but big data makes data access become more convenient and fast, the library has a high degree of information, students can take the way of information access, get more required information, and can conduct a comprehensive in-depth understanding of information, so as to avoid consuming a lot of time to collect information, significantly improve the efficiency. In addition, for scientific research institutions and staff of different universities, the unique functions of big data technology can also achieve more convenient academic communication, such as text, pictures, video, audio, which will significantly improve the level of communication and provide great support for the development of higher education management[3].

3. Standardized path of higher education management under the background of big data

3.1 Explore the wide application of big data in multiple disciplines

Through the various impacts of big data on higher education management, it can be seen that in order to promote the new development achievements of higher education in the new era, it is necessary to improve the level of education management through the full and extensive combination with big data technology, so as to promote the high-quality and sustainable development of higher education. Colleges and universities in the process of exploring the big data of specific application way, in order to give full play to the huge advantages of big data, need to pay attention to widely used in the multidisciplinary, for any subject education work, teachers should look for the fit between and big data, the real flexible use of teaching management data in the process of the new channels, achieve more close communication between teachers and students, better meet the actual demand in daily learning activities, completes the management of students, to achieve better teaching management effect. With the support of big data technology, more convenient resource sharing can be developed among different disciplines, so that students can acquire more abundant knowledge and ability, which can be helpful to cultivate students' innovative consciousness and innovative thinking[4]. In addition, colleges and universities also organize relevant activities to lead students to different colleges and universities for extensive learning and communication, expand their horizons and absorb more knowledge, so that students will achieve higher achievements in learning and development.

3.2 Combine big data teaching on the basis of traditional teaching management

Every student is a unique individual, who have different personalities, educational backgrounds and cognitive abilities. However, they traditionally adopt a consistent teaching management mode,

treat all students in the same knowledge transmission mode, and do not pay attention to targeted education for students, leading to the failure to achieve the expected teaching management effect. In the context of big data, on the basis of the higher education management mode, we can combine the use of big data teaching methods, collect and analyze the data and information of students' actual learning situation, and adopt more suitable teaching management methods for them. For example, for those students with poor learning foundation, teachers should take offline and online methods to give them more care and guidance, prompting them to consolidate the learning foundation and gradually realize independent learning and self-management; for students with good learning foundation and strong self-management ability, they should have less traditional management constraints and pay attention to their self-management initiative to guide the realization of personalized development[5].

Firstly, it is imperative to emphasize that the utilization of big data should not be employed for the purpose of controlling students' thoughts and behavior. Instead, it should be leveraged responsibly to enhance learning experiences and optimize educational processes. In the process of carrying out education management for college students, the relevant staff must fully understand the actual situation of students, really grasp their thoughts and behaviors, so as to make the corresponding guidance, to create a good learning and living environment for them. But, now many college education management staff ignore the student main body status, often ignore the comprehensive understanding of learning, for the importance and urgency of the work content lack of clear understanding, did not really implement students, but more time and energy in the scientific research management, or work method is not scientific, lack of timely attention for students' thought behavior, also did not provide effective guidance and help, thus seriously affected the work results. With the rapid development of big data and related advanced technology, the university education management standardization provides great support, related education management staff should enhance the consciousness of big data application, can use big data to collect students 'thought behavior dynamic situation, on this basis, take effective measures to provide better quality service for students' learning and growth.

Secondly, it is essential to direct students towards personalized learning endeavors facilitated by the utilization of big data. With the support of big data technology, the construction of digital campus can be explored to promote new changes in the learning mode of college students, and can better meet the actual learning needs of students. Now there are some college students skip phenomenon, in order to realize standardized teaching management, teachers can play a unique role of big data related technology, through the student data collection and analysis, students have different differences in learning, explore the data reflect the relevant laws, so that teachers can take more targeted and more accurate education management, do according to their aptitude, this can encourage students to realize personalized learning and growth, help to cultivate talents with diversified ability quality.

3.3 Give full play to the auxiliary role of micro-courses

In the context of big data, many new auxiliary teaching methods have been produced, and micro-course is one of them. By adopting micro-course teaching methods, the breakthrough and innovation of traditional teaching mode can be made up for many teaching disadvantages. Students can explore and learn more independently, and have a higher interest in learning. It needs to be paid attention to that micro-course is only auxiliary. Although it has many teaching advantages, such as short, concise, flexible and convenient, it also has the limitations of teaching application and cannot completely replace the traditional classroom teaching form. Teachers should view micro-lessons correctly and promote the improvement of teaching quality by reflecting the unique advantages of

micro-course teaching. Micro lesson teaching is a key link to making micro class, because the micro lesson teaching service object is the students, so the teacher should revolve the students' interest demand and cognitive ability for micro lesson video production, in addition to the difficult content in the classroom teaching using micro lesson teaching, teachers should guide students to use micro lesson extracurricular independent preview and review, to help students to deepen the understanding of related content and master, promote the teaching efficiency.

3.4 Take effective measures to ensure the full use of big data

First, to build an education management data platform. The core content of the application of big data in university education management is data, which needs to be effectively collected and sorted out, otherwise the real application of big data cannot be realized. At present, many colleges and universities have begun to pay attention to the construction of education management information, and established a relevant information management system with a certain scale, but they are generally limited by limitations, and can only be used in a certain department of colleges and universities, without realizing the sharing and application of data. Therefore, colleges and universities should be combined with the actual situation, set up the agency is responsible for managing the relevant data information, can build a more systematic education management data network platform, covering the scope of the database, to ensure to the school education management data collection, timely update, dig data value, realize the data sharing, to related education management work to provide reliable data information reference.

Second, build a high-level management team. In the context of the era of big data, it is precisely because of the emergence and development of big data technology that new and more values will be created under the guidance of new thinking concepts. In the application of big data in efficient education management, it is necessary to pay attention to explore the value of data, which also puts forward higher requirements for the big data thinking and analysis ability of relevant personnel. However, it is apparent that numerous current managers in colleges and universities lack a profound understanding of big data and possess insufficient utilization capabilities. To attain the objective of standardized education management, it is imperative to enhance organizational training and learning initiatives. This involves cultivating a high-caliber management team, elevating their ideological awareness, and proficiently mastering the education management data platform. Subsequently, through the collection and organization of data, scientific methods and tools must be employed for analysis. Only in this manner can we effectively provide support for practical education management endeavors.

Third, we will improve the standard system of data use. In the use of big data technology in the process of education management data acquisition, due to the basic data volume is very large, diverse types, also scattered in different departments, due to the data acquisition standards, the data will be messy, in summary analysis will encounter some difficulties, this will affect the embodiment of data value maximization. At the same time, in the process of the application of big data, there may also be data and information security problems, leading to the disclosure of students' personal privacy information, and then harm to students' study and life. Therefore, colleges and universities should attach importance to the establishment and improvement of the data use standard system, clear unified data collection and application standards, strictly manage the scope and authority of use, ensure the security of data information to the greatest extent, in addition, do a good job of data connection and sharing among various departments.

4. Conclusion

To sum up, since entering the era of big data, data technology and thinking have been widely

used in various industries, and they have also had a profound impact on the management of higher education. In the new period background, college education workers should keep pace with The Times in thought, deeply realize the significance of big data, starting from the actual situation, actively explore education management standardization path, full use of big data technology to provide convenience for practical work, promote teaching mode innovation, so to better carry out related teaching management, training the talents needed for the society.

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