

Research on the development direction and strategy of university education and teaching management informatization based on big data technology

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Abstract: In the era of big data, the internet has developed rapidly. Under the influence of big data technology, colleges and universities have also begun to attach importance to the combination of education and teaching technology and big data. Efficient use of big data for education reform has promoted the rapid integration of education and teaching in Chinese universities with social information. This has gradually become the inevitable development direction of college education in the information age. The article first introduces the characteristics of data fragmentation and wide-ranging in the education management of colleges and universities with big data as the core. Then it analyzes the challenges of the development of information management in colleges and universities under the era of big data. Finally, propose a development idea to deal with the challenge.

1. Research background

1.1 Literature review

In order to improve the effectiveness of talent education and student management, colleges and universities should constantly improve their management structure, and take big data technology as an important means to promote the informatization process of school teaching management. Colleges and universities continue to absorb the past experience of teaching management, so that big data can be integrated into the information management of education and teaching in a timely manner (Tan and Sun, 2018). In the 21st century, the digitalization process is obvious, and information technology has developed rapidly. In the context of the big data era, the network information resources are more abundant, and the education industry has gradually begun to intensify the reform of education and teaching management, taking big data technology as an important basis for the reform. In order to promote the rationalization of school education resources allocation and improve the level of school education and teaching management (Zhao, 2018). With the rapid development of Internet and cloud computing, data began to show a large-scale growth, and data content gradually became complex. Big data has a great impact on university education and teaching management. Under this background, colleges and universities must pay attention to the impact of big data on teachers and students' learning and life, and make good use of the effective application of big data in university teaching management (Li, 2017). In the era of big data, the demand for information in higher education is increasing. Colleges and universities gradually attach importance to the impact of big data technology on education and teaching. The mastery and application of big data technology in Colleges and universities can directly affect the direction of future reform of higher education, and provide a new way of thinking for education and teaching management (Sun, 2013).

1.2 Purpose of research

The development of big data technology has made tremendous contributions to the development of information technology in China. Traditional teaching mode can not meet the requirements of schools for personnel training, nor can it meet the needs of society for talents. Colleges and universities need to rely on big data technology for the reform of education and teaching, which has become a necessary choice for colleges and universities to improve the development of education,

but also an important research topic for the development of higher education. Through the application of big data technology, colleges and universities further excavate and analyze the problems of insufficient management and backward teaching mode in teaching. In order to promote the reform of school teaching methods and the rational use of teaching resources. Although many colleges and universities have formulated the application plan of big data technology in the development of education and teaching management informationization, the corresponding teaching staff, as well as the education and teaching management model are not perfect. The sustainable development of colleges and universities requires that these problems be solved. For this reason, it is of great significance to study the development direction and strategy of informationization of university education and teaching management centered on big data technology.

2. The characteristics of information management of education and teaching under big data

2.1 Fragmentation of data information

With the development of the Internet, the term big data is used more frequently. Large data can not be integrated with conventional information processing software in a very short period of time, so new processing mode is needed. To some extent, the mastery of big data technology can make the information and data acquired more and more abundant, and the information growth rate is fast. The information acquired through the processing of new data processing mode can promote the improvement of decision-making power and insight, and learn from it the ability to optimize the new information processing process. In schools, the informationization model of education and teaching can be developed more quickly and efficiently (Xiang, 2017). According to the actual situation of the major universities, we can see that the teaching content of the school and the information contained in the management methods for students have not been well organized, and the fragmentation characteristics are obvious. Fragmentation of information will easily lead to the problem of low value of fragmentation information. Institutions of higher learning do not have strong ability to deal with information, which will cause some resistance in school education and student management. The immature information management mode will also lead to the increase of the cost of information management and the adverse impact of informationization of education and teaching management.

2.2 Education and teaching information management dimension scanted

Different groups of college students usually show a certain diversity, which makes the inconsistency of style in school education and teaching management widespread. This has resulted in a wide range of characteristics of information management in higher education and teaching. Schools can learn about students' interest in reading through the statistics of library books borrowing information, or through the analysis of students' use of one-card card to understand students' economic situation (Wan, 2018). Big data in campus can reflect students' learning and living conditions more accurately. By processing information with big data technology, schools can understand the dynamics of teachers and students in a timely manner, which provides a great help for schools to carry out education, teaching and management work.

3. In the era of big data, the development of informationization of higher education and teaching management is facing challenges

3.1 The information construction mechanism is not comprehensive

In the process of informationization development of higher education and teaching, the concept of scientific construction occupies an extremely important position. The role of big data technology will not only affect the level of information processing at the social level, but also affect the education and teaching in Colleges and universities. At the present stage, there is still much room for the development of informationization of higher education and teaching, which can be popularized and popularized in schools from the perspective of technology. However, there are also

many problems in development. In some colleges and universities, a management organization needs to be responsible for a number of information processing work. Traditional university information infrastructure and network center are interrelated, and information center is related to information infrastructure in practical application process. Some advanced universities will set up corresponding institutions based on relevant information, such as information construction office. In the era of big data, the orientation of teaching management informationization needs to be reformed. This is because, in the information construction and practical promotion, the phenomenon of information overlapping is obvious, and the data is miscellaneous, which has produced resistance to the development of education and teaching informationization.

3.2 Low level of information technology

With the rapid development of information technology, colleges and universities have set up a lot of information construction equipment and network technology equipment. Many colleges and universities also install high-level laboratories and multimedia classrooms on campus. The popularization of some high-tech equipment in Colleges and universities has made them meet the requirement of scientific education on hardware equipment. However, some colleges and universities only develop software systems according to their own department's needs. Teachers and students and other user groups can not directly get the information they need when using the platform, which is inefficient and inexperienced. There is a big gap between the information software designed by colleges and universities and the mainstream software products of the Internet, and it is difficult to upgrade and maintain the software.

3.3 Colleges and universities invest heavily in information management and weak supervision of network security

The construction of the information development system of higher education and teaching needs a lot of money, the cost of computer maintenance is high, and the storage of computer will consume a lot of money. At present, in the process of the construction of educational information management model in most colleges and universities, software attaches great importance and business status concept is weak. Colleges and universities are accustomed to investing a lot of money in multimedia equipment and teaching instruments, and the construction of information technology has remained at the level of simple multimedia technology. Although some colleges and universities spend a lot of money to buy a lot of computer machinery equipment and network servers, but did not make full use of these hardware equipment. With the rapid development of big data technology, teachers and students have a great demand for network information, a high demand for content quality, the connection between computer terminals and the Internet in universities, and the investment of funds and manpower in education information management, but it can not avoid the emergence of network security problems, the weak supervision of University network, and the guarantee of campus network security in the process of teachers and students acquiring network information has become a key concern.

4. The development strategy of college education teaching management with big data technology as the core

4.1 With the network platform as the foundation, innovate the teaching mode of college education

Under the big data environment, both teachers and students need more knowledge, so updating the management mode of education and teaching informatization has become a key development issue in Colleges and universities. Teachers need to familiarize themselves with the development model of education management informatization in the era of big data, and then make reasonable analysis and formulate appropriate strategies. Teachers should attach importance to past experience and adopt students'opinions in time, analyze the data systematically, and then formulate a new teaching model. Schools should focus on promoting the work of educational management

technology, and improve the level of education and teaching management by improving the information of network communication platform and educational content.

4.2 Perfecting the information mode of college education management

Information in traditional data is generally incoherent and incomplete. But now big data technology can easily solve this problem. If we want to change the traditional management mode of colleges and universities, we need people to understand the new teaching mode, and then make rational use of it. The development of educational informationization in Colleges and universities attaches great importance to the humanized management, and needs to consider the future development of the school. In view of some decision-making in Colleges and universities, it is necessary to use scientific methods to predict and reasonably and carefully distribute the needs of teachers and students. Colleges and universities can also rationally apply intelligent technology in business to the reform of information management in higher education and teaching, thus providing a basis for the judgment of information managers in Colleges and universities.

4.3 Greatly strengthen the construction of network security

Institutions of higher learning, affected by the impact of social data, began to innovate teaching and enrich teaching content, thereby improving the richness and quality of campus network content. In the process of using big data information, there will be some unavoidable security problems. Teachers should pay attention to these problems and remedy them in time. Colleges and universities should take effective remedial measures against network vulnerabilities so as to better maintain network security and solve network security problems more quickly. Students need a good learning environment in the learning process, so schools should be responsible for data security. The archives of teachers and students in Colleges and universities should be placed in the internal campus network, and safety management should be strengthened at the same time. Campus network managers need to take part in relevant training, increase the ability of network security management, and provide students with a good learning environment.

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3) Guangzhou philosophy and social sciences planning 2019 annual project,”A study on the promotion strategy of guangdong universities with strong characteristics in the new era”(2019GZGJ200)

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