Research on the Education Management of College Students under the Background of Big Data

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Abstract: With the continuous development of big data technology, the education management of college students has become more and more important. Therefore, colleges and universities should use big data technology to conduct a comprehensive research and analysis of the education management of college students, so as to improve the education quality of college students and realize the comprehensive growth of college students. This article discusses how to reform the education management method of college students and combines the latest educational big data technology. It can not only provide practical information for the education work of colleges and universities, but also provide students with personalized teaching programs for students to promote their overall growth.

1. Introduction

The development and application of computer technology and mobile communication technology have improved the informatization development process of education. College education has also entered a new era of intelligent management, and the management and service mode is also constantly innovating. As a dynamic field, big data has become an indispensable tool in the education management of college students, providing a strong support for the education reform. With the advent of the era of big data, the traditional personalized, scientific and refined management mode can no longer meet the needs of college students 'education and management in today's society, so it is necessary to carry out transformation.

2. Development opportunities faced by student education and management in the era of big data

2.1 It is conducive to the change of teaching mode

The arrival of the era of big data college students' education management mode change, using big data technology, teachers can understand the needs of students, to develop a targeted and effective personalized education plan, so it can effectively improve the traditional education mode, let students have the opportunity to achieve self development, so as to achieve the best learning effect [1]. With the progress of technology, teachers are no longer the leader of the traditional classroom, but have become an important force to promote the development of higher education science. In this era of big

data, the popularization of Internet technology enables students to acquire knowledge through various learning channels, which brings unprecedented opportunities for the development of schools, enables them to meet different needs and cultivate more excellent talents for the country and society[2].

2.2 It is conducive to the innovation of teaching management channels

The traditional management mode of education management problem is prominent, the efficiency of university education management is low, cannot effectively complete the tasks issued by the superior, resulting in the frequent mistakes and delay in the education management work. At the same time, with the development of science and technology, the traditional education management mode has been unable to meet the needs of today's society. Therefore, more flexible and diversified management methods should be adopted to reduce the human data processing process, improve management efficiency, avoid mistakes, so as to effectively use resources. With the advent of the era of big data, the application of modern technology provides new possibilities for the education management of college students. The traditional hierarchical management mode has been unable to meet the needs of efficient and accurate management in today's society. Therefore, the adoption of modern technology, such as the establishment of a diversified education management platform, can effectively improve the efficiency of management, and reduce the communication and cooperation between various departments, so as to improve the overall operation effect. By improving the teaching methods of universities, we can greatly improve the efficiency of teaching management[3].

3. Problems in college students' education and management in the era of big Data

3.1 The construction of the management platform is not perfect

In the era of big data, colleges and universities pay more and more attention to information management. However, from the perspective of the actual information platform construction, there are still many challenges, such as the uneven distribution of educational management data, the lack of clear responsibility division in the management system, and the lack of systematic information management platform, which is unable to achieve unified management.

3.2 The big data literacy of educational managers is not high

With the development of big data technology, student education management is facing unprecedented challenges. Most managers rely on their own experience to conduct management operations and lack effective data analysis ability, resulting in a lack of accuracy in the decision-making process. Therefore, in the current context of big data, it is necessary to strengthen the data analysis ability of managers to improve the accuracy of decision making. The application of big data technology can improve the data processing ability of educational managers, but if they lack the corresponding knowledge and skills, they cannot make full use of the advantages of big data. At present, the education managers of many colleges and universities still need to improve their cognition of big data, and the education management of big data is still in the initial stage, with the lack of necessary skills and knowledge, leading to low management efficiency[4].

3.3 The big data security problem cannot be solved

In the field of higher education, the information security of students has been concerned. Especially in the era of big data, due to the development of network and computer technology, students' personal information may be leaked, and may be used by illegal elements. Therefore, we

must strengthen the monitoring of these issues. With the development of big data technology, the education management of schools needs to pay more attention to information security, and strengthen the review and protection of data to ensure that they are not infringed upon by the outside world.

3.4 Difficult to process massive information

With the development of science and technology, the current colleges and universities have realized a comprehensive network coverage, students can through mobile phones, computers and other network terminal daily communication and network interaction, these interaction activities will not only produce a lot of text, video, audio and images, but also can build a huge data information database, provide strong support for the development of the school. These rich information reflects students' personality characteristics, such as way of thinking, interests and hobbies, etc. Their application can provide valuable resources for schools, so as to guide education work more effectively and promote the development and growth of students. For example, we can explore students' reading preferences, thinking patterns, interests and hobbies through statistical analysis. In addition, we can obtain relevant information from students' social media to help us better understand their needs and provide a reference for our education. These data will help us to better grasp the daily life of our students, and provide the basis for our education management. Although the application of big data can bring a lot of convenience, its use is limited due to its huge data volume and complex structure, as well as its rapidly changing characteristics. Therefore, in order to effectively use big data, advanced data mining technologies need to be developed. However, the current education system and scientific research resources are still insufficient to support this demand[5].

4. Analysis of College Students' Education Management Strategies in the Era of Big Data

4.1 Reasonable use of big data technology to build a scientific data platform

Although the current data platform of college student education management has made some progress, there are still many challenges to overcome. Therefore, we need to strengthen the R & D of the data platform and its related products, and build a diversified data platform to ensure the effective implementation of university education management. In addition, continuous improvement is needed to make full use of modern technology. Through the use of advanced big data technology, we can build a perfect education management data information platform, so as to more effectively collect and integrate students' relevant information, so as to greatly improve the education management level of colleges and universities.

4.2 Reasonable application of new media software to carry out educational management work

According to big data analysis, the number of weibo users in China has reached the first place in the world, indicating that weibo has played an important role in the social field. Among them, the university group has been dominated, through the data analysis of college students, the current total of thousands of colleges and universities opened the official weibo, students can through weibo and schools to carry out information exchange, so as to better understand the training aim and education of colleges and universities goals, at the same time also able to use weibo to provide their own ideas and opinions, for the construction of colleges and universities development can help. Students can also get detailed information about the school on the university's official microblog, which is also critical for students to choose the ideal school. Through online media channels such as school microblogs, students can obtain more information resources, so as to expand their horizons and guide them to pay attention to social hot spots. In addition, schools can also use Weibo to expand publicity

and combine education work with information software, which can not only contribute to the development of school education management, but also promote the cooperation between teachers and students, so that students can more actively participate in education management[6].

4.3 Ensure the data security management and improve the education management database

Under the context of big data, network information security has become an important topic that cannot be ignored in today's society. Especially in the face of rampant attacks by hackers and network viruses, we need to earnestly implement security management measures to ensure the coordination of network security and social development. Especially in the network and digital management of college students, due to the risk of data loss, leakage or theft in the process of data collection, storage, use and management, which will pose a severe challenge to data security. Therefore, we need to strengthen the construction of educational management database to ensure the security of data and effectively guard against these risks. In order to ensure the security of the network, we need to build a multi-level protection mechanism. If in the data information system, the damage of the core facilities may lead to the collapse of the whole system, which will have a negative impact on the education management of college students. In order to ensure their normal operation, they should be comprehensively inspected and evaluated in accordance with the relevant safety and protection standards to ensure adequate reliability and availability. To ensure the security of big data, we need to establish an effective defense mechanism, including but not limited to preventing attacks and theft. In addition, we also need to encrypt the system, and improve the network security technical support measures[7]. Finally, we need to establish a complete network security and confidentiality system. With advanced technology and perfect student education management system, we can effectively improve the level of data security protection. In this process, we can take a variety of measures, including network security, communication security and information terminal protection technology. In addition, we should also establish a sound asset, institutional, technology and risk management system to ensure the safety and effectiveness of the data. By improving students 'data identification, analysis and perception skills, we can better manage college students' education. At the same time, we should also establish a sound personal privacy protection mechanism to avoid the abuse of information. If any violation of these regulations is found, we will deal with them according to the law[8].

4.4 Improve the big data level of college student education management

With the advent of the era of big data, in order to keep up with the development of The Times, the education management departments of colleges and universities should pay more attention to big data, and apply it to student management, cultivate students' awareness of data management, improve their data processing ability, so as to better carry out education work. By making full use of current information systems, we can collect all kinds of data and integrate them into a network platform and terminal. We can also strengthen the collection of big data, and apply it to the network management platform. However, at present, the mining of big data is very difficult, so universities need to strengthen the investment in this technology and talent. Although this investment is relatively large, the application of big data technology is unprecedented, but its popularity will still promote the future development, therefore, the investment and application of big data will become particularly important. The introduction of big data can help enterprises to collect, process and analyze large amounts of data, and build a visual big data model system, so as to better grasp the sensitive data, so as to provide a reliable basis for the refined and personalized management of enterprises[9]. In order to improve the quality of education in colleges and universities, we must cultivate students' awareness of big data management, strengthen the publicity and training of big data technology, so that they can fully

master this emerging technology, and apply it to the actual learning and teaching, so as to effectively improve the learning environment and improve the learning results. For example, by using the university student course selection system, universities can track students' course selection needs and understand their desire for knowledge, so as to better improve the curriculum setting and curriculum revision, make university education more in line with the needs of students, and provide innovative and competitive advantages for university education management.

4.4.1 Establish and improve the education service system by relying on educational big data technology

With the rapid spread of data and information in today's society, colleges and universities must strengthen education management to meet the needs of The Times. In order to achieve this goal, each university should take measures to formulate more effective teaching plans, actively participate in diversified scientific research projects, strengthen the construction of the teaching staff, and cultivate excellent college students as the goal of deepening the teaching reform, to meet the needs of The Times. Although the education management work can be achieved through the traditional theory teaching, but with the change of society, more and more schools are using big data technology, to meet the personalized needs of students, and establish a perfect service system between teachers and students, in order to better help students master knowledge, enhance practical skills, and effectively promote their all-round development. In order to better meet the needs of students and teachers, the university should carry out in-depth research, establish a perfect service system between teachers and students, covering students 'daily life, learning, and other fields, and use the statistical analysis of education data system, more accurately grasp the students' learning and living conditions, so as to effectively improve students' self cognitive ability and comprehensive quality. Through continuous improvement and upgrade of education service system, not only can simplify the student education management process, also can fully consider the development characteristics of students, and use the data statistics software to draw the complete data map, to provide more comprehensive information, so as to better guide the students' education management, provide students with more high quality teaching services. Teachers should use cloud computing technology to improve students 'education and management level. By mastering network technology, colleges and universities should constantly improve and build themselves, so as to better manage students' daily activities. Although there are many challenges in this process, we should try to improve the management of college student affairs, strengthen the supervision and management of students, and take effective measures to improve the management process. We should start from the long-term development of students, establish a set of perfect student management mechanism, so that the rights and interests of students are fully protected, for their growth and development to lay a good foundation.

4.4.2 Give full play to the advantages of big data to build a good network campus environment

Colleges and universities should pay more attention to the management of students, and make full use of large educational resources, so as to effectively understand their academic and living conditions, so as to provide reasonable help and opinions. At the same time, schools must give full play to the advantages of network resources to create better conditions for their Internet application, and at the same time, they should seriously help them to carry out more efficient teaching, and strengthen the relationship between theory and practice, so as to cultivate students' comprehensive ability, so as to help them establish a more reasonable classroom teaching. In addition, the educational leadership should also actively establish a new outlook on educational development, understanding that teaching should not only be confined to classroom teaching, but also must be extended to their work, so that they can master theoretical knowledge in practice and apply it to specific projects. In this way, they

can obtain the knowledge of different disciplines, adjust and allocate it, provide students with a variety of knowledge content, and provide students with good learning conditions. They are able to freely learn and use their professional knowledge to achieve greater success.

5. Conclusions

To sum up, the management of college students' education plays a very important role in the future development of college students and the maintenance of school order. With the advent of the era of big data analysis, the traditional college students 'higher education management method can not meet the development trend of modern higher education, so must be aimed at the current Chinese undergraduate students higher education management of new phenomena and problems, and according to the above situation to take the corresponding management methods, further improve the management network platform architecture, innovative higher education mode, enhance students' higher education management digital quality consciousness, to improve the students' higher education management work smoothly, so as to realize the superiority of big data analysis technology.

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