Research on the innovation and development path of college education management informatization in the era of big data

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Abstract: With the rapid development of various economic undertakings and the continuous change of the social environment, China's big data technology has also ushered in a great opportunity for rapid development, and now the popularity of big data technology continues to increase, and has been fully utilized in all occupations, to a certain extent changed the social management model. The comprehensive application of big data information technology to the management of college can effectively improve the efficiency of analysis and induction of various data and reduce the work pressure of managers to a certain extent. However, at present, some colleges have problems such as loopholes in the information security system and unreasonable integration of information technology and teaching in the process of informatization construction, and college must seek solutions from multiple angles to further increase the intensity of educational management informatization innovation and development.

1. Introduction

In recent years, our country has actively promoted curriculum reform in the field of education, requiring schools at all levels to actively respond to the call for education, increase the application of various advanced technologies, and promote the reform of the education system. Although many colleges management personnel have fully realized this, and have also invested a certain amount of manpower and material resources to carry out information construction, but the results achieved are not very significant, and continuous innovation and experimentation are needed. College needs to conduct research and analysis on the traditional teaching environment system, and on this basis, reasonably integrate big data technology, so that the level of management informatization has been improved, so as to establish a relatively independent and efficient information system, to carry out various educational management work, strengthen the induction and collation of various data and information, and ensure the efficiency of educational management.

2. The Necessity of Informatization Construction of College Education Management in the Era of Big Data

The so-called management informatization is to use advanced information technology and information systems to collect, sort out and process all kinds of data and information generated in the process of various business processes, and condense them into new information resources, so as to provide corresponding reference information for the staff of relevant departments and help them make more correct decisions in their work. At present, the information application system established by major college is mainly used in the field of teaching management, the application of the system can greatly reduce the work burden of managers, greatly free their hands, through network management to improve management efficiency, to avoid manual operation of in-depth problems. However, from another point of view, under the information management mode, it is difficult for managers to deeply excavate, study and analyze all kinds of extracted information in the operation of the system. Digital technology is to summarize and analyze all kinds of data information collected by the information system, and establish a targeted mathematical model by dividing modules, sorting out logic, etc., so as to have a certain guiding effect on the daily work of school teaching [1]. Digital management is mainly to grasp the data information based on in-depth processing, so that the data in the form of digital. For example, many colleges have established electronic access control or face recognition systems in the library system, which is the high use of information technology, which can investigate the entry and exit of students in and out of the library or the borrowing of various books at the technical level, so as to clarify the future management focus of the library and the types of books purchased on the basis of analyzing various data and information. In addition, to transform information teaching management to digital management mode, college can use the electronic platform to compare and analyze big data information, so as to clarify the teaching situation of different courses and teachers, understand the existing learning situation and teaching situation, so as to adjust the teaching and training program and set up professional courses in a more targeted manner.

3. The Challenges Faced by the Informatization Innovation of College Education Management in the Era of Big Data

3.1. Insufficient Awareness of Big Data Technology Innovation

Combined with practical experience, we can know that some colleges managers do not have a deep understanding of the concept of information management, there are certain deviations, and when actually carrying out education management work, they are not willing to invest a lot of money and manpower to develop big data technology and related information management systems. Today, there are still many colleges that adopt traditional management methods in teaching management, and the utilization of information technology is relatively low, and they have not invested enough development funds for information construction.

3.2. Lack of Uniform Standards for Education Management Data

In the era of big data, college want to implement the information management model, then first of all, we must establish a relatively clear scientific construction goal, and to establish this goal, we must conduct research and analysis on a large amount of data information, and need to combine the needs of college education management to establish a relatively safe and stable college database to achieve information sharing and classification, so as to provide a strong guarantee for subsequent information management. In the information age environment, college in the education management of the data information continues to increase, if the traditional data management method is adopted, then the

management personnel will inevitably undertake an extremely heavy number of tasks, cannot efficiently process the data, to meet the information needs of the college. In addition, the education management itself involves many aspects and has a certain complexity, so it is very necessary to introduce and apply technical means to assist the management of college. For example, in the management of college education, it is necessary to reasonably arrange students' courses and teaching classrooms, and the student information collection system can be used to obtain student-related course selection information and classroom arrangement. However, due to the lack of uniformity and standardization of the data information of college, and the contradiction in the content of the information, it is difficult to be effectively integrated. This will hinder the sharing of education management data to a certain extent and limit the development of informatization construction [2]. From this point of view, the college level must establish a standardized system of education management data as soon as possible, and solve the influencing factors one by one from the institutional level, so as to effectively promote the innovation of management informatization.

3.3. The Education Management Data of Each Department of College are Relatively Independent

The management informatization construction of college covers the whole college, and there is a very close connection between various departments, and different departments must maintain a high degree of cooperation when facing this challenge, be able to cooperate with each other, strengthen exchanges with each other, and solve various contradictions affecting the development of informatization construction as much as possible. However, for now, the departments of college are relatively independent in the field of education management, and the management models adopted by each other in actual operation are different, and there may be certain differences in the way of managing information. In addition, some departments attach relatively high importance to information technology and have a very high level of information construction, but some departments also need to adopt the information processing mode is relatively backward, and cannot flexibly use information technology to complete the management work, which means that the coverage of information management in college is relatively small, and the loopholes in information management cannot be discovered in time. Some colleges have not even established a unified data processing platform, and the platforms used by departments to process data information are different, and the data information of various departments cannot be effectively integrated at the school level.

4. Innovative Methods of College Information Management under the Three Major Data

4.1. Improve the Application Level of Big Data Technology

First of all, the management personnel of college must change their personal management concepts in a timely manner, fully realize the positive role played by big data technology in education management, and continuously increase support for the innovation of college education management informatization, hire a professional management team, and form a targeted research team.

Secondly, education staff should strengthen their understanding of the relevant content of education information management, and clarify that the improvement of education information level can provide them with more rich teaching resources. Increasing the construction of information management system at the school level can effectively improve the efficiency of collection and integration of various types of data and information, and ensure the sensitivity and utilization of information. Actively taking measures at the college level to unify data information and establish an information management platform can greatly improve the communication between various departments, ensure the level of information management, and enhance its management

competitiveness in college across the country, which is of certain help to the long-term development of college themselves. At the current stage, information technology has been widely used in all occupations, college managers also need to improve their data application capabilities, understand the cutting-edge technology in the field of information, so that they can combine their own management to carry out innovative work, and establish a higher level, high-quality information management system. Secondly, while actively introducing information management technology, it is also necessary to constantly update the thinking of education management, make reforms and innovations from the ideological level, no longer follow the backward education management mechanism, and break the shackles of traditional management models [3]. College needs to improve the utilization rate of information technology when carrying out student education management, collect relevant data and information with the help of information technology, and process and analyze it, and establish a new type of comprehensive thinking for education management in the subtle. Finally, in the information management of college, it is necessary to pay attention to data analysis and reflection, timely discover the shortcomings in the information management process, and improve the operation quality of the information management system through optimization and improvement.

4.2. Solve the Problem of Independent Data between Departments

The traditional management structure cannot meet the needs of the current stage of college education management, and the college level needs to be aware of the shortcomings of the management structure, and learn from the experience of other college to learn the management concepts of related aspects, so as to optimize the management structure and promote the sharing of information and data between various departments. While increasing the intensity of information innovation, the use of traditional management mechanisms will inevitably lead to great contradictions, and the college level needs to recognize this, and provide more support for education management reform staff to help them establish unified information and data standards, integrate various departments, and carry out unified analysis and processing of various data information.

4.3. Give Full Play to the Role of Network Platforms and Carry Out Information Reform

In the context of education in the new era, we emphasize that college educators need to always adhere to the basic principle of life-oriented, so that this concept can also be used in the process of educational management innovation to respect students' opinions and ideas. At the school level, it is necessary to establish a unified data management platform to provide students with corresponding feedback channels, and pay close attention to students' feedback for timely collection and summary. This can not only better listen to students' ideas and understand their own shortcomings in education management, but also highlight the democratic and scientific nature of college management. From this point of view, college can use various online platforms such as Weibo and Tiktok to open official accounts, and encourage students to leave messages and make suggestions under the account, which can provide more inspiration and research directions for the innovation of education management informatization.

4.4. Information Management Innovation in College

In the current era environment, the ultimate goal of information management innovation in college is to improve the level of student management of schools and solve the problems existing in education management at this stage. In carrying out this work, management needs to listen more to the management needs of teachers and students, and avoid making wrong management decisions based

on personal subjective factors. In addition, big data technology can also be used to locate the needs of students, formulate a refined management system, effectively eliminate the shortcomings in the traditional management model, and gradually promote the education management of college to develop in the direction of informatization.

5. Conclusions

In general, college need to keep up with the development trend of the times, clarify their own shortcomings in the field of education management, actively improve the management structure, and increase investment in information construction. The construction of education informatization in college has a long way to go, and it is necessary for management personnel to do a good job in dynamic tracking, and conduct regular evaluation and optimization and improvement in combination with its operation effect, so as to better meet the specific needs of teachers and students and ensure the efficient development of education management.

References

[1] Pei Ying. (2019). Construction of Innovation and Development path of College Education Management Informatization in the Era of Big Data [J]. Modern Economic Information, 23, 467.
[2] Chen Haijun. (2019). Research on the Innovation and Development of College Education Management Informatization in the Era of Big Data [J]. Innovation and Entrepreneurship Theory Research and Practice, 9, 180-181.
[3] Li Na, Liu Jinshi. (2018). Preliminary Study on the Development Path of College Education Management Informatization Innovation in the Era of Big Data [J]. Education Modernization, 5, 301-302+311.