The Innovative Development Path of College Education Management Informatization in the Era of Big Data

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Abstract: The education management work in colleges and universities is gradually transforming in the direction of informatization. The informatization management mode is an important path for the new innovation and development of college education centers in recent years. In the era of big data, the school adopts an information-based management model to improve the management quality of the school and promote the information-based reform of campus management. At the same time, the management of colleges and universities should recognize the difficulties in the process of information management innovation, enhance the management personnel's innovative awareness of data application, promote the progress and development of the school education industry, and explore the effective path for the school's educational information management.

Keywords: Big Data Era; College Education; Management Informatization; Innovative Development

1. Introduction

In the process of innovation and development of informatization of education management in colleges and universities, there are still many problems in the process of informatization development. For example, the common information technology system is imperfect, the information security system has loopholes, and the integration between information technology and teaching is insufficient. In the process of innovation and development of educational management informatization, colleges and universities must learn from the excellent experience in educational informatization management at home and abroad, clarify the development path of informatization management from various aspects, and find an optimization strategy that conforms to the current development of colleges and universities. Establishing a sound information system, improving the ideas and understanding of personnel education information management, can promote the innovation and development of college education information management for a long time, and contribute to the school's education.

2. The significance of innovation of college education management informatization in the era of big data

The information-based education management method combines the big data network technology to collect some files of the students in their study and life, and completes the collection, processing and classification of the data through the information system, which can facilitate the management of the school to understand the students in time. According to the individual situation of the current teaching management, the optimized solutions are proposed in time for the problems existing in the current teaching management. The information management method liberates the traditional manual input and reduces the work pressure and difficulty of personnel. Through network management, the traditional manual operation is replaced. Of course, these digital developments optimize the mathematical modeling of various businesses within the school, thereby guiding the daily operation of the school's teaching work. Based on the existing data analysis, the school's various management situations are summarized to the school's decision-makers, which to a certain extent reflects the advantages of efficient information management development.

In addition, the information management mode is applied to the efficient library system, realizing functions such as electronic access control and electronic borrowing. The data management of the school library through technical means realizes an intelligent management mode to a certain extent, and also allows more students to study freely. These are the advantages and development necessity of digital

management. Especially with the continuous development of data technology, more and more colleges and universities are currently using information management methods to conduct real-time inspections of the school's teachers and students, teachers' strength, teachers' classes, and teaching conditions. The professional setting of talent training provides a scientific basis, so as to better serve the current teaching work in colleges and universities.[1]

3. Problems existing in the informatization of college education management in the era of big data

3.1. Insufficient awareness of big data technology innovation

In the context of big data, more and more college education management work has appeared informatized management content, and the informatized management method has been deeply recognized by college educators. Of course, in the process of college education transformation, there are still many problems in the development of education informatization management. First of all, in terms of big data technology innovation, college education administrators, due to their own lack of awareness, lack of comprehensive understanding of information management, and lack of flexibility to apply big data technology in daily teaching work, resulting in the application of educational information management innovation. Thinking still needs to be improved. Some managers still use traditional management methods in their teaching work. The information-based management methods lack innovation and remain on the surface, which is not in line with the current educational development direction. At the same time, the level of informatization application of big data technology is not high, the management method of informatization lacks scientificity, and the application lacks flexibility. Informatization construction is also limited in terms of funds, which results in that colleges and universities cannot build an informatization management mechanism that conforms to the current school development, and the awareness of innovation in informatization construction is insufficient.

3.2. Lack of unified standards for education management data

The goal of school management informatization construction needs to achieve unified development, so as to promote the informatization construction of school education management more quickly. However, from the current point of view, there is still a certain distance in the standardization of management data in the school's education management work. The school has not established a unified and efficient management database, and has not carried out information management work scientifically and reasonably. Relatively speaking, it is more difficult to achieve the goal of management informatization. Coupled with the education management information of secondary schools in the information age, more and more traditional management methods cannot handle more complex management data, and there are certain difficulties in information processing requirements. In order to improve management efficiency, combined with advanced large-scale Data technology, training excellent information management talents is an inevitable trend of college information management. Although more and more educational administration systems in colleges and universities have adopted information management methods, arranging students' courses, collecting students' information, and carrying out information management, these are the areas where the innovation of information management is relatively good. However, the standardized management of data is an important basis for the realization of these informatization management work. The school lacks unified standards, information data cannot be efficiently integrated, the quality and efficiency of informatization management will be greatly reduced, and the degree of informatization data sharing will gradually decrease[2] .

3.3. Information management is relatively independent

The informatization construction and management of colleges and universities does not refer to the informatization management of a certain department of the school alone, but refers to the overall informatization management of the school. From the current point of view, the school's education informatization management requires effective cooperation between various departments, but the problem is that the data management between the various departments of the school is relatively independent, there is no mutual cooperation, and there is no unified data management system and database. Schools have different management modes, and there are also certain differences in the way of information acquisition, which leads to certain difficulties in informatization collaboration between various departments. The coverage of information management between departments is gradually shrinking, and there are loopholes in information management. In addition, the school has not established

a complete data processing platform, so that various data information cannot be well integrated.

4. The innovation path of college information management under big data

4.1. Improve the application level of big data technology

In order to effectively implement the informatization construction of education management in colleges and universities, it is necessary to improve managers' use of big data, establish management awareness, and change traditional teaching management concepts. First of all, we must fully recognize the superiority of educational informatization, understand that educational informatization is an educational resource for schools, improve the application level of informatization, improve the sensitivity of information, and collect and integrate data and information in a timely manner. Integrate university information resources, make full use of the advantages of educational informatization, improve the school's operating ability, and promote the long-term development of the school. It has laid a solid foundation for the innovation of information management in colleges and universities, enabling managers to have a higher ability to use data, and combined with practice in practice to build a higher-level information management system. Secondly, it is necessary to change the teaching management ideas, reform and innovate the teaching management system, and effectively break through the constraints of traditional schools. Through the flexible use of information technology, the management efficiency is improved, and the innovation of traditional teaching methods is realized, thereby promoting the comprehensive thinking of university teaching management. The school's information management is not only simply collecting educational materials, but also needs to analyze the school's management data.

4.2. Strengthen the process control of information management

In the school's education management work, there are often exchanges and communication between different departments. Therefore, in the face of education management emergencies, managers must grasp the overall situation and find the best solution. , to ensure the effective implementation of educational management measures. In the era of big data, schools can use the data management center to realize information exchange between various departments, so that managers can clearly understand the education management work in each link, and based on data analysis, supervise the processing of the entire event and formulate corresponding improvement measures to improve work efficiency and control. In terms of human resources management, it is possible to establish a data center to monitor employees in real time and obtain multi-dimensional attendance data. Through real-time monitoring of employees' on-the-job and on-duty status, it is convenient for the human resources department to straighten out the management process and improve the quality of teaching staff management effect.

4.3. Strengthen the organization and collaboration of information management

In the era of big data, in the face of the development trend of informatization, colleges and universities must make corresponding adjustments in organization, promote the integration of data resources in various departments, and strengthen organizational coordination, so as to realize the unified scheduling of resources and improve the efficiency of informatization management. For example, in the party building work, it is necessary to analyze all aspects of politics, ideology, discipline, system, etc., to provide leaders with the work dynamics of party members, to ensure that the party organization has a comprehensive grasp of data changes, and to deeply mine the changes in operating data to make decisions for party building work. Provide scientific evidence. In education and teaching, teachers can use various application systems such as video conferencing, remote monitoring, and image transmission to discuss educational issues by coordinating different personnel and facilities, thereby improving the quality of educational research.

4.4. Establish the information system of university education management

Through the establishment of information system, schools can effectively improve the level of teaching management, and can collect and process large amounts of data quickly, reducing the difficulties of traditional teaching management work. In the construction of the information management system, it includes three basic units: basic function, curriculum management and school status management.

The first one is the basic function. The system includes department management, faculty management, authority management, account management and other basic functions. Universities can conduct similar

management through the above functions. In the department management module, the school interior can be divided into several parts, and the number of personnel, position situation and corresponding jobs of each part are included in this module. Through the teacher management system, different types of teachers can be timely understood, such as gender, age, length of service, post, etc., and can understand the personnel dynamics of teachers at any time. In the permission and account management module, colleges and universities can divide it according to different permissions. Teachers must enter the user's account number and password to log in. With the increase of the number of teachers and students in schools, adopting this method can effectively improve the teaching quality and prevent the confusion in the teaching work.

The second one is the course management. The course management module includes three parts, which can effectively manage the teaching process, teaching methods and teaching effect. First is the implementation of the curriculum. Through this system, the teaching content of different teachers can be evaluated, and the students' classroom order can be mastered. All the teachers' teaching courseware must be uploaded to the system, and the school will evaluate the courseware according to the quality for the effective management of the teachers. The second is the application of it in teaching. Colleges and universities can use this function to monitor students' completion of tasks and course selection. Through the analysis, we can understand the learning characteristics of students in each subject, analyze the rules, and provide some reference for improving the teaching level of relevant courses. Third, the effectiveness of education. Using this system, we can make a comprehensive analysis of the theoretical test and practical test results of each university, and classify the students of each major. According to this research results, teachers can also teach students at different levels in different ways, so as to improve the quality of teaching.

The third is the school roll management. Give full play to the function of school status management, the main contents of school status management include: school status management, school status management, credit hours, reward and punishment information management, students' academic performance management. First, enrollment and suspension. Through this function of the system, the major colleges and universities can keep the relevant information electronically after the freshmen enter the school, so as to facilitate the student registration, gender, source, major distribution, household registration location and other information. Students are also recorded by the system during their suspension. Second, the management after graduation. After graduation, the school must delete their personal data from the system and submit it to the human resources department where their unit or residence is located. The third is the management of students' rewards, punishment and performance. The school should enter the information such as school performance, competition and reward, serious punishment and punishment into the system to realize the management of school status.

College education informatization is a long-term systematic project, we must establish a modern concept, closely link the informatization with the development of the school, and pay attention to the development of software and hardware. College students should establish modern educational concepts, take the initiative to apply information technology to curriculum teaching, so that students' information quality can be constantly improved. At the same time, in compiling the education information planning, colleges and universities should seek truth from facts, avoid blindly following the trend, prevent the waste of resources, reasonable allocation and use, so as to promote the long-term development of education information.

5. Conclusion

In short, the construction of information management in colleges and universities is an inevitable trend, and it is a dynamic and long-term work. Schools need to dynamically evaluate and analyze the current teaching situation. Combined with the current development of the school, while ensuring the construction of informatization, it will improve the data application level of personnel, promote the collaborative development of various departments, and provide better services for school teachers and students.

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