Research on Innovative Development Path for Educational Management Informatization in Colleges and Universities in Big Data Era

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Abstract: The era of big data promotes the sharing of educational resources, improves the efficiency and comprehensiveness of education management, and makes education management more comprehensive and convenient. It addresses the problems of information management in colleges and universities in the era of big data: the awareness of education management information is weak, and there is a lack of education management. The effective management of informationization work, the construction of information resources cannot keep up with the needs of the era of big data, the construction of education management information system is not perfect; the innovative development path of college education management informationization in the era of big data is put forward: the top-level design of information management of college education management is strengthened, improve the construction of educational management information system in colleges and universities, promote the innovative development of educational information management mode in colleges and universities, and create a big data network platform for educational management information sharing and sharing.

1. Introduction

Education management combines education and management. According to the teaching management objectives, according to the characteristics of education and objective laws, choose the management method of educational practice. The goal of education management is to rationally allocate educational resources, improve the quality of education, and promote the development of education. From the perspective of sociology, education management is an activity process that achieves educational goals, implements national policies and regulations, and adopts effective means and measures to improve the quality and efficiency of education. Education informatization is an education management method based on network information technology. With the use of network information technology, management efficiency is relatively improved, the convenience and effectiveness of information transmission are also significantly improved, and the optimal allocation of educational resources is realized. As the foundation and an important part of the education informationization "three links and two platforms", education management informationization plays an important role in comprehensively deepening the comprehensive reform of education, promoting the transformation of government functions, accelerating the education governance system and modernizing governance capabilities. .

Big data refers to a collection of data that cannot be captured, managed, and processed by conventional software tools within a certain time frame. Big data is considered to be another peak of the entire information revolution following informationization and the Internet. Big data is about to bring about a subversive revolution and will promote overall progress in social production. Big data is not only a "big" data volume, but also a "data is king" way of thinking; it not only represents a technical phenomenon, but also carries specific thinking and methods, and is transformed into a technical and cultural phenomenon. Big data has penetrated into every corner of social life, and it has been widely used in more and more industries and fields. Human society has entered the era of big data. The era of big data makes all kinds of basic data a usable resource, and the use of big data

can realize management innovation. Compared with the changes that have been realized in the business field, big data will also change and promote the management of college education. Big data has changed people's way of thinking and education management mode. The informationization of college education management must also meet the requirements of the era of big data. The education management of colleges and universities can rely on rich and comprehensive big data. Through this research, we actively promote the informationization of education management, relying on the innovative management methods in the era of big data, and comprehensively improve the overall level of informationization of college education.

2. Existing problems on Educational Management Informatization in Colleges and Universities in Big Data Era

Through the systematic investigation and research, the following problems exist in the information management of college education in the era of big data:

(1) Education management informationization awareness is weak. Although some colleges and universities have introduced the concept of management informationization, the effect of practical application is not ideal. One of the important reasons is that school leaders do not have the think of big data and lack of information management consciousness. Informatization construction is a long-term and complex process. It requires financial and technical support. Many university leaders ignore the importance of informatization construction, relatively little funding and policy support, and information construction and management are relatively backward.

(2) Lack of effective management of education management informationization work. Many colleges and universities lack the management system of education management informationization work, which has caused the positions and duties related to education management informationization in the era of big data to be unclear. The work of management personnel is blind, which leads to loopholes in the education management informationization work without the big data. Only by building a complete management system can the relevant work be organized, reduce mistakes in work, and improve education management capabilities.

(3) The construction of information resources cannot keep up with the demand in the era of big data. Education management informationization needs the support of information resources, but there are still many problems in the current information resource construction: First, lack of guidance and coordination of the education administration; second, lack of communication and collaboration between universities; third, internal schools are a lack of division of labor between departments. As a result, the data was collected repeatedly, which increased the workload, unable to achieve sufficient data sharing, and the overall work of education management was not effectively improved.

(4) The construction of education management information system is not perfect. At present, although some institutions have been formulated in the educational informatization construction of colleges and universities, they are still lack of systemic and there are many problems. The construction of education management information includes hardware and software. The current system tends to hardware and network engineering, ignoring network processes, network resources and software management, and cannot fully cover the work of education management informationization. Many management systems are in the form of forms, lack of punitive measures, and a lack of binding force for relevant personnel, affecting the authority of educational management informationization work, and is not conducive to the in-depth development of the entire informationization work.

3. Important Significance of Promoting Educational Informatization

Promoting the informatization of education is of great significance, mainly reflected in the following aspects:

(1) Deepen the urgent need for comprehensive reform in the field of education. Deepening the comprehensive reform of education is a systematic project, which requires comprehensive data

support: the reform of the examination enrollment system requires all kinds of information of students; all kinds of information during the period of study of students need full management and dynamic monitoring; all kinds of information needs of teachers Integrated management; "three links and two platforms" require basic data support and operation and maintenance support. These are the urgent tasks that education informationization must undertake.

(2) Realize the urgent need for the separation of education "management, evaluation and running schools". Government agencies, decentralization, transformation of functions and scientific decision-making, need an accurate grasp of the current state of education; school reform education and management model, the establishment of a modern education system, education management informationization is an important component and implementation; education evaluation must be large which is based on sample surveys of samples and accurate analysis of big data, it also needs strong support for education management informationization.

(3) The urgent need for innovation in teaching reform and management model. In the process of teaching management, continuously and dynamically record the teaching process and analyze the teaching effect in a personalized way, based on the information management of the student learning process, the teacher teaching process and the teaching effect evaluation, based on big data analysis. The school is also the most basic link in the construction and application of education informatization. It is the basic data source for national and local education management decision-making and external public service provision.

(4) Improve the level of educational services and the urgent need for international competition. Only by accelerating the informatization of education management, building a public service platform for education management, and increasing the openness of education and government affairs, and establishing a record of lifelong learning and growth for each student, can we achieve a satisfactory education for the people and meet the growing service needs of the public. Accelerating the informatization of education management will further promote the comprehensive quality of education in China and enhance the international competitiveness of China's education.

(5) The urgent need to cultivate innovative talents and promote the development of educational information industry. Education informatization provides environment, conditions and guarantees for quality education and innovative education. Students use the information environment of education to realize the exploration and discovery of knowledge by retrieving information, collecting information, processing information and creating information. The process of educational informatization is the process of information technology and information machinery, which is widely used in education, and will certainly promote the development of educational information industry.

4. Big Data Brings new Opportunities for Educational Management

Education management needs to give full play to the role of relevant information resources such as human, material and financial resources, and achieve educational goals through scientific management. Big data brings new development opportunities for education management, including the following aspects:

(1) Improve the efficiency and comprehensiveness of education management. Education management can use the education management system, online learning system, curriculum management system and other related platforms to comprehensively collect and analyze the information of managers and managers, and improve the pertinence and efficiency of management. Big data involves the entire process of education management, covering students, parents, teachers, administrators and education systems, and achieving comprehensive management. The integration and utilization of data also reflects the various elements of management and the relationship between them, improving the efficiency and quality of management.

(2) Make education management more comprehensive and convenient. The state supports the construction of digital campuses and smart campuses. Digital campus and smart campus are the benefits brought by the era of big data. The generated information service system can comprehensively collect teachers and students' data and campus management data. In this system, it

is convenient to analyze the attendance, work situation, class situation, teaching assistants and various assessment data of teachers and students. You can also check the comprehensive the information of teachers, hardware conditions, teaching equipment and school management.

(3) The era of big data has promoted the sharing of educational resources. The digital library, digital communication platform for teachers and students, data network teaching system, education consulting platform and information sharing center established by the school are all manifestations of making full use of the advantages of big data. These data break through time and geographical restrictions and can be effectively shared. Specific or non-specific groups such as students, teachers, parents and managers promote resource sharing, save manpower and material costs of education management, and increase the efficiency of information use.

5. Innovative Development Path for Educational Management Informatization in Colleges and Universities in Big Data Era

In view of the problems existing in the information management of college education in the era of big data, using the thinking of big data and the actual working experience of the author, the innovative development path proposed is as follows:

(1) Strengthen the top-level design of education management informationization in colleges and universities. The top-level design is a top-down rational design and planning. It has the characteristics of long-term, strategic and scientific. It considers the structure, function and element of a certain work from a holistic perspective, and achieves the goal quickly and effectively. First, develop a strategic plan for the development of education management information. We need formulate strategic planning for informatization development to ensure the orderly construction of information technology. We also need adhere to the principle of cooperative open thinking and sustainable development, and stimulate the enthusiasm and initiative of all participants. Second, strengthen the leadership of education management information organization. Colleges and universities need to set up special information management institutions to carry out information planning and development. Functional departments, business departments and technical departments need to clarify the tasks in the construction of education information and establish accountability mechanisms for informationization and network security. The third is to clarify the development framework of education management informationization. In the big data era, the development of education management information must have a clear structure to ensure that all aspects of data collection, management, use and maintenance can run smoothly, and maximize the construction benefits.

(2) Improve the construction of education management information system in colleges and universities. The "Education Management Informatization Standard" issued by the Ministry of Education announces that the education informatization construction officially implements this relatively complete technical standard and industry norm, which is of great significance to the construction of educational informationization, and will guide the education management informationization work to be networked. The direction of standardization and standardization is developing healthily and accelerating the process of education informatization. It is also a concrete implementation plan for the informationization of education management in colleges and universities. The construction of educational management information system in colleges and universities should be based on this standard. At the same time, pay attention to the following questions: First, we need establish a complete education management information standard, get rid of the drawbacks of the past without rules, and make education information management more standardized and systematic. The value of information is effectively utilized in specific teaching management work. Second, we need strengthen the systematic management and guidance of educational informationization, and establish a management system that is closely led by the education sector and closely integrated with the relevant departments. The specific implementation of the education informationization work will be integrated into a unified supervision channel, and the education management information system will be more perfect.

(3) Promote the innovative development of the educational information management mode of

colleges and universities. In the era of big data, college education management is no longer a traditional unified management, but a comprehensive and scientific three-dimensional management. In order to realize the scientific transparency of education management decision-making, in order to improve the overall efficiency of education management decision-making, we should learn from the new education management model and comprehensively improve the level of education management. On the one hand, in the era of big data, college education management should focus on humanization, rely on the shared network platform, comprehensively collect and organize all kinds of information in the development of teachers and students, and combine the actual needs to match more perfect and humanized education management services, and realize the fine management of education. On the other hand, we need actively promote education management innovation, learn from business intelligence technology, improve information utilization efficiency, and fully guarantee the scientific nature of education management decision-making. At the same time, intelligent technology can fully optimize the efficiency of information processing, and make critical educational decisions in a timely manner for updated information data.

(4) Create an interconnected and shared education management information big data network platform. Colleges and universities should combine their own network information status, increase capital investment, strengthen technological changes, build a big data network platform, and promote the comprehensive development of education management information resources. Education managers change information thinking, change education management mode, fully utilize the big data network platform, comprehensively collect and organize information data in the education process, and play the role of big data in education management. On the other hand, education managers should also innovate educational methods, optimize educational concepts, update educational content, and fully rely on the information data integrated and integrated by big data network platforms to improve the scientific nature of management decisions. Managers should also rely on a fast and convenient big data network platform to strengthen the transparency of educational decision-making, guide teachers and students to participate actively, and fully implement data transparency and participation in democratization. Through the multi-dimensional integration of the school's various information system data, multi-party collection of information resources, social networks and other information, data association analysis and mining, the education management information big data is fully applied to the school teaching management.

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