

Construction of Higher Education Informatization System in Internet Era

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Abstract: With the rapid development and wide application of computer network technology, human beings have entered the information society, and at the same time, educational informatization has attracted worldwide attention. The ultimate goal of educational informatization is to improve the efficiency of education and teaching, effectively use modern information technology to change the traditional management mode of education and teaching, make maximum use of technologies such as network, multimedia, database and cloud computing, improve the sharing and regeneration of information resources, and form a virtual teaching classroom. Based on the basic idea of HE (higher education) information system construction, this paper analyzes the problems existing in the current HE information system construction, and expounds the construction methods of HE information system in the Internet era. The core purpose of this paper is to improve the original education system and provide stable support for educational reform and innovation.

1. Introduction

With the deepening of the process of HE (higher education) informatization in China, the informatization construction of universities has also entered a brand-new deep stage and become one of the key tasks of HE reform. Educational informatization is an important part of national informatization and an important symbol of educational modernization[1]. With the rapid development and wide application of computer network technology, human beings have entered the information society, and at the same time, educational informatization has attracted worldwide attention. Under the guidance of the Internet era, if we want to implement the information construction of education management, we need to combine it with big data technology and apply it to HE management to realize the comprehensive innovation of education.

2. Basic Idea of HE Information System Construction

Education informatization is usually defined as the training of high-level compound professionals who meet the needs of the industry in the information age by fully applying information technology and using information resources under the guidance of advanced educational ideas and educational concepts. With the country's increasing investment in scientific research, scientific research activities in universities are also increasing day by day, and the security, consistency and authenticity of data cannot be well controlled and guaranteed only by manual repeated search and update operations[2-3].

The information resources are integrated and integrated to realize the integration, specialization and refinement of information services for HE students, and realize the high sharing of information, thus reducing the management cost of HE. Its information services include student loans, financial aid information, electronic transcripts, admission certification information, degree certification information and so on.

The contents of informatization construction include: how to improve people's understanding of informatization and apply information technology to production and life; Improve the production efficiency and business model of enterprises; Enterprise management provides information guarantee. Provide objective basis for the management and decision-making of the government and various auxiliary departments[4]. The ultimate goal of educational informatization is to improve the

efficiency of education and teaching, effectively use modern information technology to change the traditional management mode of education and teaching.

3. Problems in the Construction of HE Information System

3.1 Lack of Understanding

Many universities can't combine information management with school basic work, which leads to information management becoming a mere formality and unable to show the real management effect. There are also some universities with insufficient awareness of information management and strong one-sided awareness. The concept of internal control is backward, and the understanding of internal control is insufficient. It is considered that internal control is the work of the finance department of the lead unit, and the cooperation of other functional departments is low. The construction of internal control stays in a paper manual, and the implementation process is a mere formality. Even the purpose of internal control in some universities is only to cope with the inspection by higher authorities, which leads to the lack of systematicness in the integration of data resources[5-6].

3.2 Low Level of Informatization

Information island has become a common problem in internal control of universities, and relevant information has not been effectively transmitted, collected, summarized and analyzed by technical means, which restricts the efficiency of management. There is no sustainable data construction and service mechanism, and there is no information platform to serve the national HE quality evaluation and guarantee. HE information has poor data sharing, poor service and lack of public service awareness, and it is still at the research level.

3.3 Insufficient Mining of Educational Management Data

With the continuous application of intelligent devices and related sensors in life and work, the types and structures of data are constantly changing[7]. In the process of analyzing practical problems, educators can use the decisiveness of data to determine the best solution to the problems, so that the teaching quality and teaching results are more optimized. However, from the actual work process, we can see that there are many irrationalities in data acquisition algorithm and model design because each university does not have professional management talents, which leads to the inability to further develop data mining and has a great impact on the implementation of education management in universities.

4. Construction Method of the Information System in Internet Era

4.1 Improve the Construction of Information Platform

Under the background of the construction of HE information system at this stage, people should focus on the management objectives of HE, and integrate the foundation of its high-cost data platform with HE system, so that HE can show more obvious information characteristics. Informatization construction promotes educational reform in a planned and purposeful way. This kind of reform is not a total denial of traditional education and teaching mode, but on the basis of inheriting traditional teaching, it uses intelligent technology, Internet of Things technology, cloud computing and network communication technology to integrate with teaching, optimize teaching process, innovate thinking, deepen reform of educational structure, and adjust teaching and learning methods[8].

According to the services provided by the platform, the system includes two modules: foreground user interface and background administrator operation, and foreground users can be divided into different types of users, whose user types can be expanded according to the expansion of platform functions. The structure of HE management information platform is shown in Figure 1:

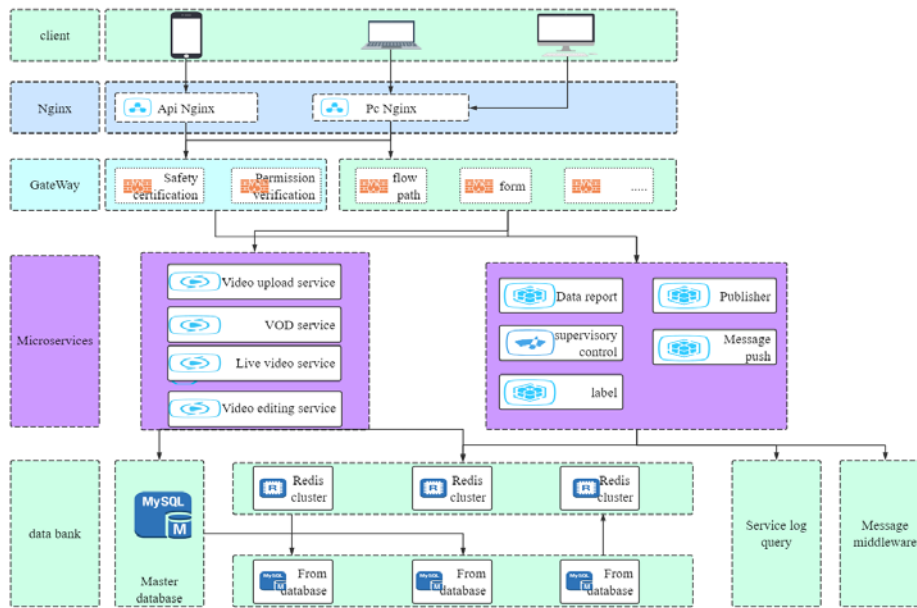


Fig.1 Structure of HE Management Information Platform

Through the construction of HE quality evaluation information database, we can establish an information comprehensive service platform for HE quality evaluation, and realize the normalization, diversification, service, scientification and modernization of quality evaluation. It can realize the functions of collecting, sorting, summarizing and comprehensively analyzing the state data related to teaching quality in universities all over the country based on the Internet, and provide information means for quality evaluation in teaching and other aspects[9]. The establishment of university teaching support service system not only improves the level of teachers and teaching, but more importantly, it has increasingly become the core force to promote the improvement of university teaching quality and promote HE Excellence and innovation.

4.2 Information Database Construction

HE quality evaluation information database is the basis of HE quality evaluation, and perfect HE information and data construction is the prerequisite for scientific HE quality evaluation[10]. Adopt metadata management to realize flexible management of index data to meet the requirements of expansibility and completeness of evaluation data index system; The sources of data collection are various, and the collection methods include: HE basic statistical reports, statistics on the basic state of undergraduate teaching in universities, and direct data submission.

Application system informatization includes four parts: basic application, teaching application, scientific research application and management system, among which the information management system includes office automation, personnel management, student management, educational administration and financial management. The functional structure diagram of the information database is shown in Figure 2.

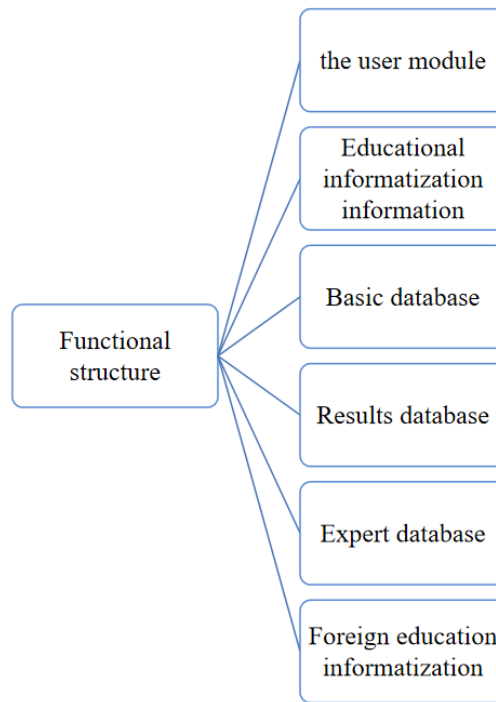


Fig.2 Functional Structure of Information Database

The user module provides the functions of user registration, login, password retrieval and information modification. Educational informatization information provides users with news, notices and other information related to educational informatization. The basic database introduces the overall situation of educational informatization in China. The results database provides research reports and related multimedia resources related to the development and research of educational informatization. The expert database provides information on the main research fields and achievements of each expert, and users can quickly find an expert through search. Foreign education informatization introduces the development of foreign education informatization.

According to the classification standards, the evaluation methods and processes of different types of universities can be flexibly customized to promote the diversification of evaluation methods and processes. Improve the participation of multiple subjects in the evaluation process, give full play to the characteristics of strong sharing of online databases, and improve the openness and transparency of evaluation information through information release and feedback. We can realize the monitoring and evaluation of HE quality by the education administrative department based on the network database, the self-diagnosis and evaluation of talents training quality and scientific research quality by universities, the expert evaluation, the third-party evaluation and the online evaluation of the public.

4.3 Perfecting the Management Standard of Educational Informatization

Standardization of educational management is the basis of national information management and an effective goal to realize the sharing and information exchange of educational resources nationwide. To promote the popularization and application of multimedia and modern educational technology, to organize an open network information platform according to the social demand for education, and to balance the distance teaching of educational resources, which are widely used in various fields, such as image recognition, sensors, intelligent robots, natural language processing, etc., when absorbing external information, complex ethical, legal and security issues will arise.

Through this platform, you can visually check the server's access, the incoming and outgoing traffic of the server and the difference information of a session's traffic data, and show whether the server's access session is normal and whether there are abnormal attacks. HE data and cultural content produce a lot, and its research work is also very complicated. Therefore, in the application of big data technology, teachers should also show good patience, guide students to understand the

advantages and usage of big data technology step by step, and finally link the learning content with big data, making it an indispensable and important technology for the future development of HE.

5. Conclusions

Education informatization is usually defined as the training of high-level compound professionals who meet the needs of the industry in the information age by fully applying information technology and using information resources under the guidance of advanced educational ideas and educational concepts. Under the background of the construction of HE information system at this stage, people should focus on the management objectives of HE, and integrate the foundation of its high-cost data platform with HE system, so that HE can show more obvious information characteristics. Give full play to the supporting and leading role of educational informatization in educational reform and development. The significance of researching and applying big data technology lies in that it can make the education management of big data navigation school informationized, and predict the teaching effect and the future development trend of students.

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