Research on the Application of Cloud Computing in the Construction of University Education Informationization

Hongqiang Zhao

Liaocheng Vocational and Technical College, Liaocheng, Shandong, 252000, China

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Abstract: At Present, Educational Informationization Has Gradually Become the Mainstream Trend of Improving the Teaching Quality in Colleges and Universities. by Virtue of the Advantages of Cloud Computing Technology, It Can Fully Reflect the Characteristics of the Era of Information Construction in Colleges and Universities, and Improve the Quality of Teaching. Cloud Computing Technology, as a New Service Mode, Has the Advantages of Easy Operation, Security and Convenient Application, and Provides a New Opportunity for the Construction of Information Technology in Colleges and Universities. This Paper Will Start with the Related Concepts of Cloud Computing Technology, in-Depth Analysis of the Application of Cloud Computing Technology in the Construction of University Education Informatization, Hoping to Improve the Application Level of Cloud Computing Technology in Colleges and Universities, and Improve the Quality of Teaching.

1. Introduction

1.1 Literature Review

As a new business model, cloud computing technology plays an important role in the construction of modern education. By analyzing the application of cloud computing technology in related fields of colleges and universities, we can find some problems existing in the practical application of cloud computing, which is conducive to putting forward corresponding solutions (Shang and Nie,2011). Cloud computing technology has the advantages of scalability, security and reliability. By analyzing the application mode of cloud computing technology and combining with the existing problems in university informatization construction, the application process of cloud computing technology in university informatization construction can be accelerated (An,2010). The rapid development of cloud computing technology, to a certain extent, provides greater convenience for the construction of information technology in Colleges and universities, and gradually expands its application in Colleges and universities. In view of the application effect of cloud computing technology in information construction, it can help colleges and universities to formulate relevant application measurements and improve the level of information technology in learning schools (Xie,2018). Under the background of the rapid development of the Internet, by analyzing the basic status of information construction in Colleges and universities, combining the application advantages of cloud computing technology in the field of university teaching and the future development direction, we can build an efficient information service platform, solve many problems existing in the application process of university teaching resources, and improve teaching. Quality can maximize the process of information construction in Colleges and Universities (Chen,2015).

1.2 Purpose of Research

As a new business computing model, cloud computing centralizes the management of various network resources and server computing resources, defines services with the help of cloud computing technology, provides users with convenient service applications, and provides great convenience for related fields (Zhu,2013). In the actual application process, cloud computing technology can break through the time and space constraints to the greatest extent, and can promote the transmission of modern information technology in related fields. Colleges and universities need

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to keep pace with the development of the times and use cloud computing technology in different teaching fields to meet the requirements of the times. In the process of educational informationization construction in Colleges and universities, a large amount of data will be generated, which will lead to the overload of some networks. The extensive use of cloud computing technology can better avoid this phenomenon, improve the efficiency of the use of different teaching resources, and promote the process of university information construction. Therefore, in the process of university informationization construction, the combination of cloud computing technology and informationization construction has gradually become the mainstream direction of the improvement of university teaching quality and the development of today's era.

2. Summary of Cloud Computing Theory

In the related fields, cloud computing technology is a new term, and there is no unified definition in academic circles (Li,2012). Some experts through the analysis of cloud computing technology applications, think that cloud computing technology is a new and research and development ability of computing methods, in the process of Computing mainly includes data calculation, storage and video forms. Data processed by cloud computing technology are provided to users in different forms of network, providing greater convenience for users. Cloud computing technology as a new computer technology, is the product of the development of Internet technology, but also a mainstream of modern network development. Cloud computing technology is also a new form of service, with the characteristics of super-large-scale applications, the scale of use can cover thousands, or even tens of thousands of servers. In the application process, cloud computing technology can provide users with massive data resources in unlimited space and technology, which to a certain extent can meet the needs of users in many aspects.

Cloud computing technology in the application process, has strong practicability and reliability, can greatly improve the user's convenience. In the Internet environment, cloud computing technology has many replica fault-tolerant, interchangeable in different computing nodes, which is conducive to ensuring the effectiveness of different services. Different services used in cloud computing technology can be handled by each small node, which will not have a greater impact on cloud computing services. Because cloud computing technology has virtual characteristics, in this environment, users do not need to build their own data center, relying on the relevant virtual data platform, can achieve the management and application of infrastructure. Therefore, in the actual application process, cloud computing technology has a certain degree of universality. Different fields can form different application modes with the help of this technology, which greatly improves the scalability application of cloud computing technology in related fields. In the process of using cloud computing technology, users can use cloud platform to support the simultaneous operation of different applications. At the same time, with the help of cloud computing technology, some information can be integrated into the relevant resource base, which is conducive to eliminating the fault nodes in different resource bases and facilitating the secondary development and use of the data resource base. The wide use of cloud computing technology has a great relationship with the low cost of the technology. In the actual application process, cloud computing technology has the characteristics of scale economy and low cost. In the application of related fields, it has strong economy. The automated centralized management of this technology can save the operation cost of enterprises to a certain extent. In the process of applying cloud computing technology, enterprises can greatly improve the general performance of cloud computing technology and improve the utilization efficiency of different applications by combining the current Internet and big data technology. In this context, with the help of cloud computing technology, enterprises can complete many tasks in a certain time and space on time, which is conducive to improving the efficiency of related work, laying a good foundation for the work of relevant personnel, and facilitating the large-scale operation and management of enterprises.

3. The Role of Cloud Computing in College Education Informatization Construction

3.1 Enhancing Data Security

With the advent of the era of computer network, computers have gradually become the basic equipment widely used by the public. People pay more attention to storing some important data information in computer equipment. While computer technology provides great convenience for people, there are also many security problems. Under the impact of Internet security problems, some network security factors have increased significantly, such as some computer viruses and network hackers, which constantly threaten the use of computers, but also bring many challenges to the storage of educational data in Colleges and universities. In the daily management process of colleges and universities, half of the relevant personnel use mobile storage devices and computers interactively, which enlarges the scope of cloud computing technology. Therefore, the computer security loopholes, to a certain extent, also affect the normal teaching activities of teachers and students. Cloud computing technology in the normal information construction activities, can provide relatively safe servers for related instruments and equipment, can achieve mass data collation, greatly enhance the convenience of relevant personnel, and is conducive to maintaining network security.

3.2 Promoting Real-Time Sharing of Teaching Resources

Under the guidance of the informationization construction scheme, due to the lack of a unified teaching system and standards, the relevant teaching institutions in order to pursue short-term benefits, but ignore the long-term interests of education, resulting in the confusion of various teaching resources, and even the problem of repeated construction. In the process of carrying out educational activities, the confusion of educational resources directly leads to the failure of effective sharing of teaching resources in Colleges and universities, which leads to the failure of relevant teaching resources to provide a powerful teaching impetus and to reflect the advantages of educational informatization. Applying cloud computing technology to relevant teaching institutions can unify the software, infrastructure and platform of relevant educational institutions, fully integrate memory, big data and Internet resources, provide more convenient services for teachers and students, and greatly improve the quality of teaching. Moreover, in the relevant teaching field, through the real-time sharing of teaching resources, we can avoid the problem of decentralized management of various teaching resources, solve the problem of integration and sharing of teaching resources to the greatest extent, realize the full sharing of relevant teaching resources in time, and meet the actual needs of the vast number of users.

3.3 Reducing the Cost of Information Constructio

In the process of information construction in Colleges and universities, sufficient funds are needed to support the operation of related projects. However, the support of some funds has certain limitations, which requires relevant teaching institutions in universities to promote the recycling of funds and maximize the effectiveness of education funds. At present, with the rapid development of society, colleges and universities are required to constantly update the relevant infrastructure to match the requirements of social development, thus realizing the transformation of different teaching resources. In the process of infrastructure replacement, there will be a large number of replacement costs, which will have a certain impact on the financial operation of schools. Cloud computing technology in the relevant fields to be applied, can avoid the impact of high-end computer capabilities on traditional terminals, some of the lower configuration of computer equipment, fully capable of achieving access to the corresponding applications. In addition, the efficient application of cloud computing technology can reduce the dependence of colleges and universities on some high-performance hardware devices. Through the help of some low-end devices, schools can achieve effective access to related applications, save a lot of network construction funds, greatly save the operation costs of related educational activities, and benefit. To

realize the economic and intensive development of educational activities in Colleges and universities.

4. Suggestions on the Application of Cloud Computing in the Construction of College Education Informatization

4.1 Integrating Information Business in Colleges and Universities

Under the background of Internet plus, with the gradual increase of various information systems in universities, there will be many repetitive data in different fields. If this happens in large quantities, it will lead to the increase of the cost of manpower, financial resources and material resources, and a large waste of related resources. Under this influence, in the specific operation process, universities should fully integrate all information-based businesses and accelerate the construction of mature business development model. In this process, the relevant teaching institutions need to establish a certain technical basis, with the help of information system hardware and related databases, give full play to the effectiveness of relevant teaching resources, and then implement the development of information system according to the relevant data architecture. After the completion of relevant work, colleges and universities should focus on improving the system, and strive to ensure that the relevant applications do not fail.

4.2 Enhancing the Use of Hybrid Clouds

In the specific use process, cloud computing can generally be divided into three parts: dedicated, public and hybrid cloud. Hybrid cloud has all the functions of private and public cloud, which can solve all the problems of related data and provide great convenience for the use of computers. In the process of information construction in Colleges and universities, the key institutions should strengthen the use of hybrid cloud, adopt a hybrid cloud system composed of different institutions, and carry out corresponding teaching activities. In the use process, universities should establish a unified hybrid cloud operation standard, which can make up for the shortage of relevant teaching resources to a certain extent. When the related application fails, the teaching institutions can seek the corresponding help in the hybrid cloud system, give full play to the utilization of teaching resources in universities, and strengthen the joint degree of relevant teaching institutions in universities, which is conducive to achieving unified teaching and improving the comprehensive teaching quality.

4.3 Improving the Broadband of Campus Network

Network broadband is the basis of cloud computing technology, which is of great significance for the use of cloud computing technology. Some computer software applications in Colleges and universities are realized by means of network broadband. Therefore, relevant institutions in universities should improve the broadband of campus network to improve the efficiency of cloud computing in relevant institutions. In colleges and universities, teachers' scoring activities and students' elective activities need to set the corresponding time limit based on the actual situation. Centralized access to campus network by teachers and students will increase the corresponding traffic, which will lead to delayed access and even network interruption, seriously affecting the application of cloud computing technology in related teaching fields. Colleges and universities should make use of Internet broadband, improve the public network and education network in Colleges and universities, enhance the compatibility of different networks in the campus, so that teachers and students can obtain corresponding educational resources in different time periods, with the help of campus network, and realize the expansion and application of different teaching resources, which is conducive to improving teaching convenience. In addition, by improving the campus network broadband, colleges and universities can accelerate the application rate of cloud computing technology in the field of education, and lay a good foundation for teaching activities in Colleges and universities.

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