Retraction

Retraction: Application of Cloud Computing in Education Management Informatization Construction (J. Phys.: Conf. Ser. 1744 032062)

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This article has been retracted by IOP Publishing following an allegation that raises concerns this article may have been created, manipulated, and/or sold by a commercial entity. In addition, IOP Publishing has seen no evidence that reliable peer review was conducted on this article, despite the clear standards expected of and communicated to conference organisers.

The authors of the article have been given opportunity to present evidence that they were the original and genuine creators of the work, however at the time of publication of this notice, IOP Publishing has not received any response. IOP Publishing has analysed the article and agrees there are enough indicators to cause serious doubts over the legitimacy of the work and agree this article should be retracted. The authors are encouraged to contact IOP Publishing Limited if they have any comments on this retraction.

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Application of Cloud Computing in Education Management Informatization Construction

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Abstract. In recent years, with the rapid development and continuous optimization of computer network information technology, cloud computing technology has already developed from the experimental initial stage to the stage of large-scale computer enterprise application and campus LAN universal application. And driven by scientific and technological innovation, cloud computing provides users with better and safer data management, calculation, storage and other services because of its unique resource sharing and convenient management and maintenance, which has attracted wide attention and favor from all walks of life. The emergence of cloud computing technology has ignited new thinking for our education and teaching. If computer multimedia and Internet, as the previous round of technologies, have brought about changes in teaching presentation, teaching resource acquisition and education transmission, the new technologies based on cloud computing will not only continue to deepen the previous educational changes, but also bring more profound fission to education. Under the guidance of new technology, the ever-changing and innovative "future education" will be more fascinating, and provide us with a broader development space for the construction of educational informationization. With the help of the service advantages of cloud computing, combined with the modern teaching concept, it can be applied to information teaching, which is just conducive to improving the teaching level of higher vocational education and realizing efficient teaching work. At present, most universities in China use cloud computing for teaching management, breaking the traditional mode of university resource management, fully combining with contemporary advanced concepts and technologies, and keeping pace with the times.

Keywords: Cloud Computing, Education Management, Information Application

1. The concept and characteristics of cloud computing

1.1. Concept
Cloud computing is a revolutionary milestone in modern IT technology. The so-called cloud computing is like the mode from the early drilling of wells and draught to centralized water supply in
waterworks. Broadly speaking, it is a supercomputing mode based on Internet, which consists of numerous computers and servers connected together to form a huge remote data center, which is connected into a computer cloud to provide data storage and application services. In fact, it mainly means that the collected resource data is decomposed into numerous small programs by means of data calculation based on the network cloud, and then the data results are fed back to the users through the analysis and integration of the server. This is the scientific and technological product of the vigorous development of modern social science and technology, which can bring convenience to users and meet their actual needs through the Internet platform. Cloud computing, with its super computing power and huge amount of information, enables various industries to enjoy abundant resources, and becomes the most effective tool for informatization development of various industries.

1.2. Features
The application of cloud computing provides convenience for social development, and its own characteristics are sought after by industries from all walks of life. The characteristics of cloud computing include low operating cost, good stability and reliability, analytical computing power and data storage capability of big data, and better scalability. Many characteristics make the user experience feel obviously enhanced, access to resource services is more convenient, can maximize the use of resources.

2. Advantages of cloud computing in education management

2.1. Teaching activities can be carried out anytime and anywhere
As long as you can use the terminal equipment that can access the Internet, teachers can take the teaching tasks home; Users can use these desired resources anytime and anywhere. Because all the data are stored in the cloud, students want to learn the knowledge that teachers have said, and they can view teachers’ video teaching or electronic teaching plans online through laptops, PDAs or mobile phones, regardless of any place or time.

2.2. It can greatly reduce the cost of software and hardware in the construction of school educational resources
As long as you have a terminal device that can access the Internet and a browser, cloud computing has very low requirements on the equipment at the user end, and you can do anything you want by connecting the terminal device to the Internet.

2.3. It is more conducive to the sharing and co-construction of educational information resources
The higher education information resources are stored in the cloud, and the cloud computing is applied to the higher education field, which is more conducive to the sharing of educational information resources. At present, educational administrative institutions, educational enterprises and schools at all levels have built or are building a large number of educational information resources. The existing educational information resources of different schools can be added into a "cloud". Because of the strong scalability of cloud computing, resources can be shared in the true sense, thus reducing the time and capital investment of a single institution. The powerful cooperative working ability provided by cloud computing can be utilized to enable information resource builders or various educational institutions to realize the co-construction of educational information resources[1].

2.4. Ensure the data security of teachers and students
Cloud computing service providers provide safe, efficient and professional data storage, and cloud computing services store data in the cloud. Therefore, the use of cloud computing in schools can greatly ensure the safety and reliability of teachers and students' data, and teachers and students no longer need to worry about viruses, hackers and data loss caused by hardware damage.
3. Application of cloud computing in education management information construction

3.1. Cloud computing provides high-quality and low-cost application software customization services for schools

Cloud computing not only provides abundant information and powerful computing power, but also provides users with inexpensive application software services, such as Google Apps and Zoho Office. Usually, schools need to spend a lot of money on the purchase of commercial software, and the updating and maintenance of operating system and application software also need a lot of expenses. However, when the school participates in the cloud computing service project, the project will provide very cheap commercial applications, such as office series, and even some are completely free. Cloud computing is always updated to ensure that the software is the latest version. Users only need to use the free Firefox browser and Linux operating system running interface to enter the cloud service and enjoy the fun brought by the cloud service. For example, Google's cloud computing service grid processing and page design. Open source applications are relatively difficult and troublesome to use. On Google apps, users can use many applications free of charge, such as PPT production and tables, but it lags behind cloud computing services such as Google apps.

![Figure 1. Google's cloud computing section has explored feature displays.](image)

3.2. Cloud computing can provide a safe and reliable storage environment for schools

At present, data integrity and security are paid more and more attention. Various antivirus software, such as 360 and Jinshan, are popular in the market. However, viruses are constantly being updated, and it will take some time for antivirus software to be updated. This gives the virus an opportunity to lose and destroy data. After the school uses cloud computing services, the data is directly stored in the cloud, which ensures the integrity and security of the data.

3.3. Cloud computing enables teachers and students to share information resources more comprehensively and quickly

In SIMtone's "Universal Cloud Computing Service" project, both teachers and students can use computers or mobile phones to obtain the same virtual desktop, use the same operating system, enjoy the same services and share common resources. You can go home without carrying anything, and continue to finish the unfinished work at school. Only different devices have different access ports. For example, computers that can run WinXp can enter the "General Cloud Computing Service" platform through the virtual machine software "SoftSNAP"; Older computers need to access cloud services by accessing "WebSNAP". Cloud computing service can provide a platform for multiple people to complete a task together at the same time, and share it with different people at different places and at different times, such as Google apps, the cloud computing service of Google.

3.4. Establish a campus open source cloud computing project to provide cloud computing services

The mainstream cloud computing projects are all open source, but different open source projects can
build different cloud services. For example, you can create a cloud service like Amazon by choosing EU-Eu-calyptus open source project; Cloud services like Google apps can be established by using AppDrop or 10gen open source projects; Cloud services provided by Amazon, Facebook and Yahoo can be generated by using Hadoop open source project. With the rapid development of IT industry, the speed of computer update is getting faster and faster. At present, hundreds of old computers are piled up in most colleges and universities. Although the hardware of these computers can still work, they are obsolete because they can't adapt to the new software and operating system. Schools not only invest more money in purchasing new equipment, but also cause serious waste of resources. Establishing campus open source cloud computing project is one way to solve these problems. The so-called campus open source cloud computing project is to connect a large number of old computers and idle computers in the school to form the school's own cloud computing service. When teachers and students need a lot of computing work, they can enjoy the campus cloud computing service. For example, the cloud computing platform established by North Carolina State University and IBM provides free cloud computing services to open source areas.\(^4\)

**Figure 2.** Join the major companies in cloud computing.

4. The development prospect of cloud computing in the field of education management
informationization

Cloud computing, with its powerful computing power, abundant information resources and convenient services, is increasingly recognized and valued by people. In the final analysis, cloud computing is the ability to process data and use software, and to concentrate the scattered capabilities and provide them to users. In the near future, you only need one network data terminal at any place and at any time to get everything you want.\(^5\)

**Figure 3.** A demonstration of a clinical trial using cloud computing at the Chinese Academy of Sciences.

At present, cloud computing has been initially applied to scientific research in Tsinghua University, Chinese Academy of Sciences and other units, and can meet the corresponding requirements, and the work efficiency has been greatly improved. In the future, cloud computing will be gradually
popularized in various scientific research institutions in China, providing an efficient and convenient cloud computing platform for all scientific research institutions. Each scientific research unit will also integrate the original server and storage resources according to their own needs, and establish a cloud computing platform suitable for various fields. It can be predicted that with the development of cloud computing technology and the development, establishment and continuous expansion of various platforms, cloud computing will greatly improve the efficiency of scientific research with its powerful computing power and abundant resources, and occupy an indispensable position in future work.[6].

5. Conclusion
Cloud computing is a more flexible, efficient, energy-saving and low-cost information operation mode, the result of long-term development and accumulation of information technology, and the most profound change in IT industry since the Internet revolution. Cloud computing can realize the high sharing of information resources, meet the individualized e-learning needs of teachers and students, prevent viruses from invading, and reduce the work difficulty of managers. In the process of informatization construction in colleges and universities, cloud computing technology plays a key role in reducing capital consumption and ensuring the reliability of the campus network environment. The application of cloud computing provides powerful computing power and abundant information resources for learning and scientific research, which makes the work more convenient and efficient. At the same time, it also provides a new development path for educational management informationization.

References
[1] Zhou Heping; Zhao Chuanxing. Construction and Application of Desktop Cloud System in Higher Vocational Colleges of Finance and Economics [J]. Information and Computer (Theoretical Edition), 2020, v.32; No.456,238-240.
[2] Xu Yang; Dong Guozhen; Wen Yang. Application Effect of Cloud Computing in Higher Vocational Education Informatization [J]. Electronic Technology and Software Engineering, 2020, No.182, 153-154.
[3] Gong Fanghai; Li Wenbiao. Analysis and Application of Cloud Education Platform Technology Model [J]. Network Security Technology and Application, 2020, No.232, 119-121.
[4] Guan hong. research on optimal allocation of digital education resources in universities based on cloud computing [J]. computer products and circulation, 2020, 149-150.
[5] Zhao Luoyu. Analysis of Educational Application of Big Data and Its Key Technologies [J]. Information Recording Materials, 2020, v.21, 162-164.
[6] Wang Zhi; Liu Yuan. research and application of regional education informatization construction system based on cloud computing [J]. post and telecommunications design technology, 2019, No.526, 66-71.