CHAPTER 10
Analysis of Computer Information Security Management

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ABSTRACT

Computer has become an indispensable part of modern production and life, many people will store a variety of information in the computer, if a computer infected with the virus, and other computers will be infected in a very short period of time the virus, so the computer Information security technology has been widely concerned. Despite the large hidden dangers of network security, but with the computer information security technology to enhance the use of computer information protection measures are gradually increased, to ensure that people use the computer to store information secure. Social development has gradually been inseparable from the computer's technological innovation, the application of the computer has gradually spread to all aspects of society: politics, economy, culture, military, education, science and technology and a series of areas. It is rich in people's lives while also constantly speed up their own pace. But the development process will be a variety of problems, we first consider is that under the network of computer technology should be realized by the ability of networking, information flow is also more and more widely.

Keywords— *Information security technology, protection measures, cloud services, image processing.*

INTRODUCTION

The maintenance of the security inside the modern computer network is the computer network security, mainly on the computer network system software and hard disk data protection in order to achieve the normal operation of the computer network. These data do not include man-made damage, and man-made changes. Therefore, the computer information security refers to the information in the normal operation of the computer network conditions to ensure information security, mainly to exclude the computer vulnerabilities within the threat of information. Computer network communication and personal computer account information; system administrator account permissions; computer system periodic replacement password; important file encryption; user access in the page and so on. Computer network security can be simply summarized as the security of information storage and information transmission security [1]. Figure 1 shows security inside the modern computer network.

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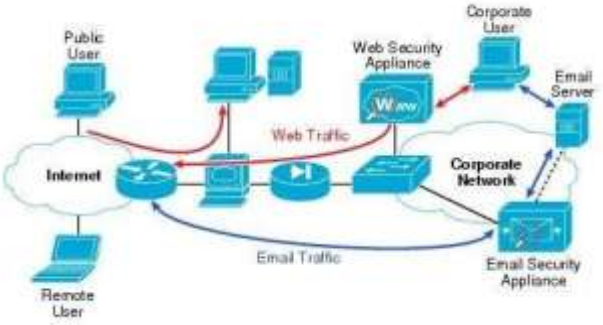

Figure 1 Security inside the modern computer network

Computer information security management to improve the protection and protection of the contents of the increase is the most important part of computer information security protection, but also most of the computer protection methods used. Computer information security management shows in figure 2.

Figure 2 Computer information security management

From the perspective of the development of computer security information protection industry in contemporary society, how to keep the security technology is the first step to improve the management of computer security information. The so-called technology is the loophole of detecting, trimming and analyzing security information [2].The need to create a conclusion based on the ability to quickly and effectively produce the effect of the protection method; the security system to form a complete system. Another point, the rational use of computer security data resources, safe and stable operation of the computer security information protection is the first need to take into account the problem; whether the data is complete storage, whether easy to control, whether confidential and whether it is critical problem [3].

The so-called computer security mainly refers to the use of a computer during the period, the user's personal information, chat records, business information and business secrets and a series of privacy in the transmission process is not listening, stealing, disclosure, plagiarism, tampering or forgery of the security level. But its security is not only reflected in the hardware, but also with the confidentiality and security of the software, or the greater the unities of the two, the computer more secure [4]. However, in reality, the challenges of human security, the destruction of viruses, and the impact of the network environment, the challenges facing computer security increasingly serious, such as the use of network nodes to break the network node or snoop data, or implanted virus to interfere with the normal operation of the computer, or Add a specific attack link, misleading users to click on the site, start the virus, attack

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the computer, or the use of software vulnerabilities illegal access to user information, etc., is clearly not conducive to computer security, more vulnerable to computer users and even national security and social stability poses a threat. Therefore, the use of advanced and effective security technical measures to improve the level of computer security is imperative.

LITERATURE REVIEW

Firewall, also known as the wall, is a network and external network between the network security systems. Because the firewall can be any computer security, to ensure that the computer is the data security, to prevent unidentified people illegally infringed the privacy of patients in the computer to ensure the safe operation of the user exchange information system, it was identified as to ensure that the normal operation of the computer [5]. The First is packet filtering. Mainly in the process of network information transmission, the software system will be a scientific choice of the corresponding data, and then allow the data through; second, the application of the gateway. With the advent of computer security problems, the corresponding security protection system and technology has also been rapid development, including firewall technology as an isolation technology, the internal network and external network can be divided into separate defence and good effect, has been in the computer Network technology has been widely used [6]. Firewall technology is mainly through the comprehensive utilization of hardware and software equipment, in the public network and private network interface to establish a protective barrier between the use of external viruses and illegal users to prevent intrusion and internal information leakage, and thus improve the security of user information degree.

Figure 3 Firewall system

Can be divided into the following functions: can be scanned through the firewall information to intercept and prevent aggressive and unidentified intruders and timely alarm to protect the network from attack; through the record and statistical access to detect suspicious communications or information and Appropriate alarm, at the same time based on the analysis of information to understand a comprehensive understanding and improve network needs and threats that can be network access and access to monitor; reasonable division of the internal network can effectively protect the internal network of sensitive nodes and important nodes, and thus prevent information Leaked [7]; because of the password, password, authentication, auditing and many other security software can achieve centralized management of shared files, that is, economic and effective.

FIREWALL TECHNOLOGY IN COMPUTER SECURITY OF AUTONOMOUS SYSTEM

Filtering technology, that is, the firewall through the analysis of specific locations to choose to filter, such as for TCP location, the firewall if the packet received in the process of checking the security of the attack found that the attack or threat factors can be immediately blocked its transmission. It is effective in controlling the risk transmission into the internal network, to ensure the safe operation of the TCP area, so the filtering technology in addition to the computer security control to play a role, but also can be applied to the router in. Protocol technology, mainly for the Dos attack, that is, through the protection of the computer network to provide different gateway services to promote the server's operating environment more secure to prevent external network attacks, such as access to the network within the network when the firewall can use the SYN Set the corresponding access limit, used to reduce the attack pressure to complete the detection packet. Detection technology, that is based on the state mechanism, outside the

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network packet as a whole, its state content to be accurately analyzed and summarized, and then divided into state and rules for data comparison and identification [8]. Now through the application of the technology between the layers of the network to obtain network status information, both to broaden the scope of computer security, but also improve the efficiency of information operation.

The former is to reduce the computer data is destroyed and the possibility of loss, to ensure the safety of user information. The latter is to ensure that the computer can guarantee the normal operation of the system. Therefore, in the network data information backup should pay attention to the timely update of local and remote backup [9]. Intelligent security protection, as far as possible effective combination of computer security measures and non-technical testing, in order to better deal with computer security issues, improve the firewall security capabilities [10].

Identity authentication usually refers to the user after the identity confirmation to know whether they are given access to data qualifications. If there is a Schengen certification in the system, then when the authentication is passed, the user can freely query the data. To some extent, the use of computer systems to identify to ensure is the integrity of computer data information and security. Figure 4 shows firewall Technology in Computer Security Management.

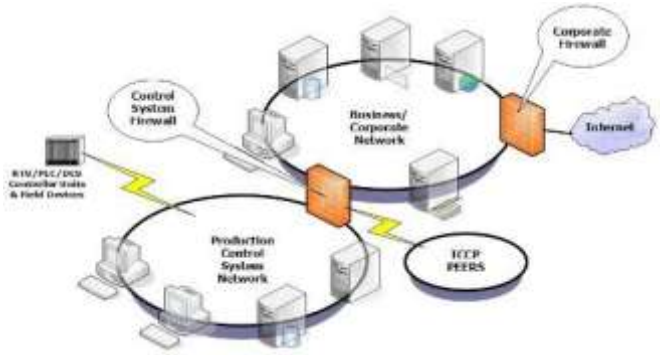

Figure 4 Firewall Technologies in Computer Security Management

INSTALL THE VIRUS, TROJANS AND OTHER PROTECTIVE SOFTWARE

To establish awareness of computer information security in the enterprise, should set up computer security technology professionals, for the computer to install viruses, Trojans and other protective software, can be maintained from time to time to protect the computer security. This will ensure that users in a safe and legitimate environment for the use of computers, and to ensure the safety of computer data information. There are two kinds of data that need to be backed up in the computer information, namely, user data and system data. Therefore, the backup of the information is divided into two kinds, namely, backup user data and backup important system information [11].

After all, the huge amount of information under the firewall technology, one by one inspection is clearly not feasible, so the need to divide the category, reduce the difficulty of collection, it is necessary to avoid neglecting critical information, but also to ensure the value of key information, while paying attention to real-time recording alarm in the firewall Information, in order to continuously optimize the log monitoring and efficiency, and then effectively strengthen the firewall technology security capabilities. Specifically, the firewall technology first divided the computer running information for different units, and its internal and external protection planning, used to ensure the safe flow of access, and then use the access strategy on the port address, destination address and other network address and its characteristics [12].

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Detection of the computer in the process, to the computer anti-virus software targeted prevention. Second is computer identification. Through the study of the computer virus in accordance with its detection method to obtain the first identification of the logo, in order to completely eliminate it, the proper use of computer anti-virus software. Third is the security scan. In order to get the system code, access to the appropriate technical security scan, so that the hard disk to the system to obtain multi- angle security level of protection. Fourth is the effective operation [13]. In order to effectively run the computer program, in accordance with the analysis, compile, run, and timely repair the corresponding loopholes. In addition, increase supervision, through the supervision mechanism to improve the computer anti-virus to achieve a manifestation of timeliness. Computer information security is shown in figure 5.

Figure 5 Computer Information Security

PREVENTS VIRUSES FROM INVADING THE COMPUTER

The Viruses on the network spread between computers at hard to estimate. Internet is a contemporary computer network to prevent the invasion of the virus based on the computer's operating system to take measures to achieve the purpose of preventing viruses, so that the secret information in the computer to be effective confidentiality [14]. In modern times, from the anti-computer to prevent the virus point of view, different computer operating systems, have their own special anti-virus software anti-virus methods and different, but its purpose and role is one, is to prevent the virus invasion and can There are many ways to protect computer information security, including: security scanning method, access prevention method, information selection and acceptance, to prevent malicious attacks, etc., can effectively improve the security index.

COMPUTER INFORMATION SECURITY TECHNOLOGY OF AUTONOMOUS SYSTEM

Computer security technology covers a wide range, mainly in real-time scanning technology, detection and protection technology, information security management technology, hacking technology, firewall and so on. Enterprise data volume, loopholes will be more corresponding, which need to improve the safety management staff technical level, the important data encryption and backup to prevent hacking, the site for periodic testing and found loopholes in a timely manner, Improve security awareness; the database encryption and backup, to prevent data loss; to ensure data integrity [15]. We through the security of information management to achieve the purpose of protecting information, security management technology, including public key cryptography, data flow cryptography, single-key cryptography and other technologies. Cut off the transmission path is also an effective security method, the virus invasion of the computer to thoroughly clean the unknown software is not used, do not casually open suspicious mail. At the same time strengthen the computer to resist the ability of the virus invasion, configure the high-intensity anti-virus device, timely testing of computers, junk files and virus files to clean up. In

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addition, the computer developers to do a safe information management system strengthen the management of information; improve the legal management system, and the implementation of these systems.

OPTIMAL POLICY FOR AUTONOMOUS SYSTEM

Take measures to prevent the virus from the technical aspects of the protection of computer information security is only part of the computer to take scientific management measures must also be achieved, in order to improve the computer security, we must develop computer security laws and regulations, and practical application. Training and management of computer personnel technical level; to create a complete computer management methods, so that the computer's security management skills have been improved, so that computer security legislation and law enforcement more stringent, to enhance the moral quality of computer managers, so that managers of security information protection More sensitive; teach computer managers know what they should do. In addition to the above problems, the relevant departments need to increase the amount of funds spent on computer security information protection equipment, so that the social service level of our social sector in the computer has been improved [16].

PROBLEMS IN INFORMATION SECURITY PROTECTION

Computer information technology to follow the development of the times, with faster and faster progress, how to protect information security has become a top priority. Now there are many problems in the development of computer information protection in social development cannot be solved. Incomplete computer network system security system, install some equipment to ensure information security is necessary to protect information security issues, due to lack of skilled technical skills or not meet the professional requirements, resulting in security cannot fully protect the safety of information to the people Privacy issues have an impact. System emergency response is incomplete [17]. The internal system of the computer system has an emergency structure, when the structure is not complete enough, the use of an imperfect system, cannot effectively protect the virus and protect the information security. The quality of the manager is not enough. Management is the direct implementations of information security, the quality of management directly determine the degree of security of information. Some of the management of enterprises in the selection does not meet the norms, resulting in low levels of management personnel. Plus the company did not timely follow the stage of the management of information security training, resulting in management expertise and moral level are not guaranteed.

With the rapid development of computer technology, people's application of computer is becoming more and more diversified, especially in the direction of computer multimedia applications [18]; people will often use the computer to process pictures, audio, video and other data. Especially in image processing, is widely used in the field of graphic design, repair photos, advertising photography[19], video creative, artistic text, web design, architectural renderings, painting, drawing or post modification processing of three-dimensional map, wedding photos design, visual creativity, icon production, interface design etc.

For image processing software, it can basically achieve the basic processing of image rendering, clipping, scaling, and colour processing and so on. However, some professional areas require special processing of images, for example, in the field of criminal investigation image processing, scanning the photos of scanners for scratches repair and extraction of special information, etc., are of great social and practical value. Image processing technology is a new technology field which has been developed and developed in the 1960s with the development of computer technology and VLSI. It has made great achievements both in theory and in practice. The image processing and the rapid development are mainly affected by three factors. The first factor is the development of computer science and technology, the second factor is the development of mathematical theory and application technology, especially creating and perfecting the theory of discrete mathematics, third factors are widely used in aerospace, biomedical engineering, industrial arts and culture etc. in the field of demand growth. At present, image processing plays a very important role in many fields.

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DIGITAL IMAGE PROCESSING SYSTEM

Digital image processing system is a system of equipment of digital image processing and digital mapping by using computer and equipment, this system includes computer hardware and software system of two parts, its structure is shown in figure 6.

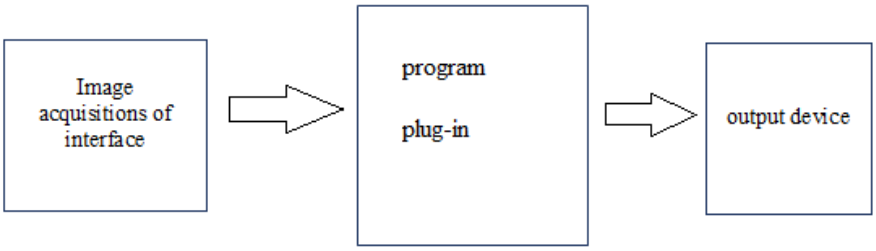

Figure 6 Graphic image processing system

The new technology is changing our way of life and learning, so that the real world and the network virtual world convergence. The main task of education information is to cultivate innovative talents for the society and realize the modernization of education through the effective organization of new technology as teaching process [20]. Colleges and universities shoulder the task of comprehensively improving the comprehensive quality and information literacy level of college students. Cloud service refers to the service process of providing applications and solutions through the cloud computing platform, such as the lack of communication interaction between learners, lack of effective network learning platform, and lack of guidance of the network learning barriers can be effectively solved. Cloud service platform has the advantages of information sharing and collaborative editing. by integrating various learning and teaching resources, it is convenient for learners to share the cloud platform to enrich learning resources, promote benign communication between teachers and students, and help learners to personalized learning, thereby improving the performance of learning. “Classroom interaction” is one of the important topics in educational technology research. Classroom interaction research means that from “classroom control theory” to “classroom interaction theory”, to achieve the mobilization of all positive factors, change the status of teachers, and create a brand new classroom with “ autonomy, cooperation, exploration” as the cultural characteristics. It is necessary to study the improvement of traditional classroom interaction model under the cloud platform service environment and the reconstruction of classroom interaction under the participation of intelligent terminal, so as to realize the intelligent interaction between teachers and students, teachers and teachers, students and students, and learning resources, improve the intelligence of classroom teaching, increase the intuitive learning, stimulate students' interest in learning and improve the work efficiency of teachers.

CLOUD SERVICES

The development of education information technology has an urgent appeal to the cloud computing technology. From the current education information development stage, it is urgent to sort out the successful experience and practices of education information, standardize, unify, standardize the application and service system, and grid computing, distributed computing, parallel computing, utility computing, network storage, virtualization, autonomic computing and other cloud computing related technologies. The “cloud” is understood to be a resource pool that contains a large number of available virtual resources, such as hardware, development platforms, and I / O services. These virtual resources can be reconfigured dynamically based on different workloads to achieve more optimized resource utilization. Resource pools are typically developed and managed by infrastructure providers based on

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service level agreements based on time - paid mode. Some it experts believe that cloud computing is not a calculation, nor a simple technology concept, but how to combine all hardware and software on the basis of the existing internet, fully use and mobilize all the existing information resources, through the framework of a new service model, or can provide services a new system structure, to provide a variety of different levels, different needs of low-cost and efficient intelligent service and information service mode changes. The information learning environment in the future is very complex, and the learning resources are more and more extensive. Cloud computing can help solve the plateau problems, such as the elimination of information islands, the realization of system interconnection, resource sharing and interoperability. Therefore, the information education needs to go to the cloud service platform. Based on the development thinking of the education cloud based on large equipment, forming the digital school cloud through the information classroom, and then expanding to the city education cloud, finally establish the cloud service centre of public education resources and data, realize the construction of the public education cloud. The education cloud can be understood as "the application of cloud computing in education".

Figure 7 Essential characteristics of cloud services

As a new service model, educational cloud services are being touted. According to the type of cloud service expected, the education cloud can be divided into several kinds: education resource cloud, education management cloud, distance education / learning cloud, basic data storage cloud. At present, all kinds of education in our country use information technology to open education, distance education has been the pioneer, the most weak is the basic education. The idea of "centralized construction, on - demand service, dynamic adjustment" makes limited resources can really flow to the neediest groups. People's attention to cloud computing has been no longer treated as a free productivity tool, but as a way to reduce the cost of heart operations in regional data, including data storage, backup and infrastructure maintenance [10]. In the past, many schools have set up computing clusters, websites, storage arrays, etc., the use of seasonal characteristics makes software and hardware investment inevitable waste, the use of inadequate or not enough, many drawbacks continue to perplex the education information. The essential characteristics of cloud services are shown in figure 7.

The education cloud platform benefits virtualization technology, gathers and integrates software and hardware resources, weakens the physical dependence between resources of different levels of it systems, such as hardware, software, number, network, storage and other it systems, achieves the intensive and transparent management, realizes dynamic deployment and on-demand use, improves the elastic and flexible reorganization of computing resources, and solves the effectiveness, spirit and manageability of resource sharing. From the quality resources integration to the education cloud construction, as a new it service mode, cloud computing is closely combined with education teaching. At the same time, the different forms of bearing are also changing the re - recognition of educational resources. Based on the

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cloud computing technology, the concept and category of educational resources are expanding, computing power, flat resources, knowledge and skills, data resources, experience and sharing, have become the extension of education resources more abundant. Today's educational resources are no longer just pure digital information resources, but include computing, efficiency, environment, even human resources, from the physical storage state to ubiquitous service delivery. The construction of education credit information will appear a new level, which is the education cloud on the reorganization and optimization of various information resources, and ultimately achieve a wide range of efficient resource sharing.

Research Method Based on Design

The design - based approach is the first evolved from the " design experiment" proposed by Ann brown and Allan Collins, which aims to promote a systematic and flexible methodology for learning to improve teaching by analyzing, designing, developing and implementing repeated cycle studies in real situations. The core of research method based on design is to design, implement, evaluate and improve teaching intervention. The purpose is to solve practical teaching problems, design the research implementation steps to find a meaningful problem, the second step of the researcher and the implementation of the integration and learning and education related theory, the third step analysis of the problem design a teaching intervention, the fourth step development, implementation and modification of the design intervention, the fifth step to the impact of teaching intervention evaluation, the final cycle of the first step. From the implementation steps of the design research, it can be seen that the main characteristics of the design based research have dual purpose; Multi - subject participation; Specific natural situation; cyclic process; Integrating various teaching methods and technical functions. Design-based research model is shown in figure 8.

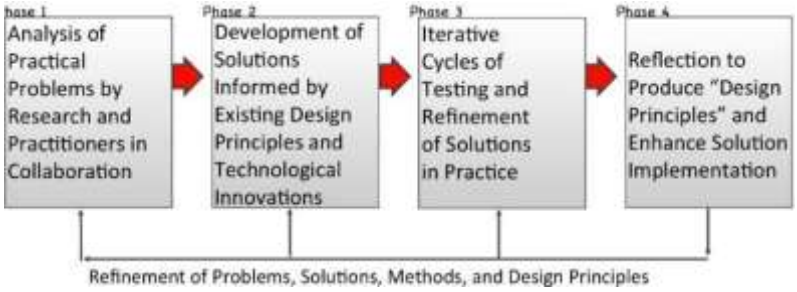

Figure 8 Design-based research model

THE STRUCTURE OF INTELLIGENT EDUCATION CLOUD

From the perspective of deployment, the future education cloud will present four models of deployment: private cloud, shared cloud, hybrid cloud and campus cloud, corresponding to education in private cloud, national education public cloud, educational organization hybrid cloud and regional education cloud. The public cloud of national education is mainly for the public welfare, basic, inclusive education information service. It is generally believed that the state education public cloud mainly provides education resources service, education management information service, basic data storage service, and general service, and is not suitable for providing personalized service such as learning process support. Intelligent education cloud shows in figure 4.

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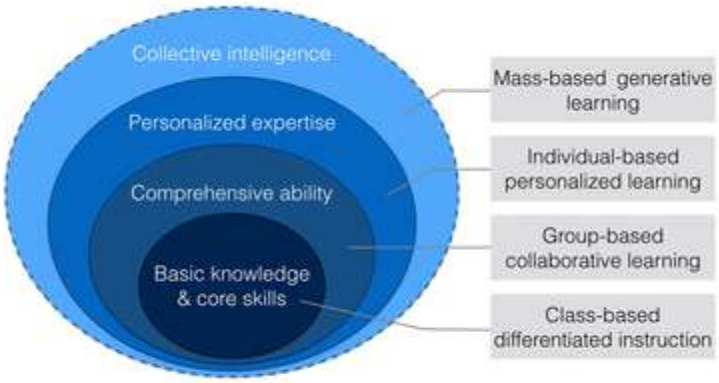

Figure 9 Intelligent education clouds

Similar to the national education public cloud, the regional education cloud belongs to the public cloud, and the difference is that the coverage and service area is reduced to provincial and municipal level, which is directly related to local financial and regional management. The main goal of the regional education cloud is to integrate all kinds of education resources, improve teaching efficiency and management efficiency, and provide the students with access to quality education resources for all students in the district. The service object is the schools, teachers, students, parents, educational management institutions at all levels and the developers or providers of education resources for each district and county. The hybrid cloud of educational institutions is those that have some non – cloud services, but there are many cloud services in the development, so the public cloud and private cloud services will be used to meet their needs. From the perspective of development, the hybrid cloud construction is more difficult, and the operation and maintenance costs will be high. The vast majority of users of the school private cloud are universities and some basic education information technology conditions are better, larger scale schools. The biggest feature of this deployment is data security, quality of service, and so on. If you can make full use of existing hardware and software resources, you can minimize the impact on existing management flow.

At present, the demand for computing is still growing; the pressure of maintenance and management is increasing, so the demand of desktop virtualization, application virtualization, storage virtualization, network virtualization, and so on will be the hot spots in the future. With the improvement of mobile technology, tablet computer is gradually entering the school, wireless technology is gradually entering the school, the traditional electronic mail, educational administration, personnel management, daily office, scientific research management, network learning management, library management, news release, such as the upgrading of the system, such as the maintenance of peacekeeping, security and other aspects of the need to continue investment, future development will go to cloud technology.

Through the literature review, the researchers and other participants to integrate the relevant teaching and learning theory, analyze the learning environment, according to the learners learning characteristics, determine the teaching starting point of teaching task, and clearly tell learners what knowledge and ability will be able to produce, what kind of study results, what kind of task to do, and so on. In the design process, in order to solve the significance problem identified in the previous link, reduce the gap between the demand analysis and the demand analysis, the main design is based on the theoretical teaching intervention. It is embodied in the design of the problem - cantered learning activities, the creation of the real teaching situation, the design of the quantitative teaching goal and the design of the easy - to - control teaching process. The design of learning environment, grouping, collaborative learning resources, collaborative tools and learning tasks is the most important. The autonomous learning activities mainly

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include the collection and identification of data and the reorganization of learning materials. Figure 10 shows framework design of the implementation of cloud service

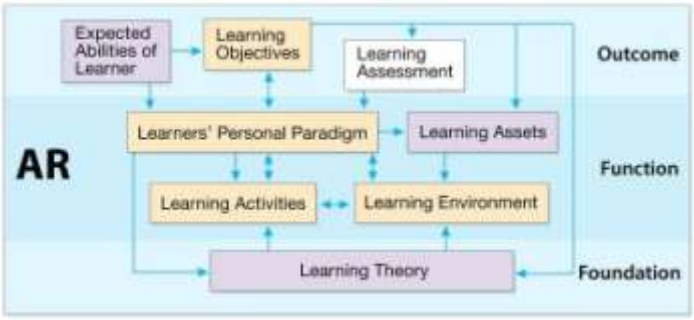

Figure 10 Framework design of the implementation of cloud service

DATA ANALYSIS AND DISCUSSION

In terms of learning content, 89 % of the surveyed users are satisfied with the open and self - made courses offered by the network teaching platform. The users of the survey think that the internal tolerance and teaching methods of the self-made curriculum are better than the open courses, especially the face-to-face communication with the teaching teachers. In the aspect of learning interest, the users of the survey showed interest in the courses, and the network teaching platform met the personality differences of different learners. On the aspect of learning, the vast majority of respondents think that self-study through online video materials is a good way to learn the basic knowledge, at the same time; they also think that through the network teaching platform, it is very good to get the teachers targeted and timely interactive feedback. 90% of the surveyed users have used the personal learning progress management of the network teaching platform, 83 % of the surveyed users believe that the personal learning progress management has great help to the individual learning efficiency, which has both guidance and binding effect. B students said: “I can according to my own needs to choose the learning progress, learning time and learning place, at any time according to the current latest learning progress, at any time to learn and tune the learning status, to learn the problems encountered in the process of timely making reasonable arrangements.” Thus, learners are more likely to achieve a comprehensive grasp of learning efficiency. In the study diary, I can easily see the completion of daily learning progress, so that I can effectively help me in the daily learning process, as far as possible in accordance with the prescribed planning arrangements to complete the specified learning objectives.

The statistics show that the number of students with positive attitude towards “diversity of teaching content and teaching methods” reached 61.5 % in the experimental class and 20.9 % higher than that in the control group. From the data can be seen, based on the cooperation learning platform, can provide teachers with convenient teaching tools, provide rich support for teaching resources, and make teachers teaching diversified forms effective implementation. Through the change of teachers' teaching methods and methods, the problems in the practical teaching work are improved, and the practical application of teaching content is not strong. The dynamic and open network learning environment provided by the cloud service platform extends the students' classroom learning to extracurricular, breaks through the limitation of time and distance, makes the learners and teachers better obtain the service and relevant data needed for the construction of learning, and promotes the diversified development of educational information. Learning attitude has great influence on students' learning, affecting the effect of learning, adjusting learners' learning behaviour, and affecting the tolerance of learners' learning. Of course, there are many factors affecting learning attitude, parents, teachers, teaching process, social atmosphere and so

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on. Research shows that, based on cloud service product support teaching can provide rich learning for learners, resources, support diversified learning methods, build a dynamic and open collaborative learning environment, so that learners to correct learning attitude, develop good learning habits, to achieve the overall development of individuals.

The proportion of peer relationships in the five dimensions of students' emotional orientation is significantly improved, which shows that in the implementation of cloud service support classroom teaching, group collaborative learning and students' common participation in discussions and answers can improve learning effect, enhance confidence, and deepen the friendship among members, enhance sense of cooperation and sense of responsibility, and exercise students' leadership quality. The satisfaction ratio of students to the overall description of the curriculum is 65 %, which shows that the classroom teaching supported by cloud services has been recognized by students. However, through individual interview, the researchers understand that family, society, personality and other factors may lead to students' emotional tendency to positive. For example, a student, on the classroom and collaboration platform performance is very active, participate in the discussion and answer more times than other students, but the learning effect evaluation is not high. The researchers studied the situation of individual and family to the student counsellor, found that the student from single-parent family, usually strong personality, like performance, so the researchers think that the emotional tendency to be positive.

CONCLUSION

To sum up, the rapid development of computer is already the inevitable product of this era and for some time to come, the application and development of computer will be the focus of society and country. Through the above analysis of computer information security information, we can know that the current computer information security risks exist: the information security management system is not sound, the system is imperfect, the quality of management personnel and skills level is not compliance and other issues, to solve the above Problem, we need security technology, the protection of the virus and vigorously cultivate the management of several aspects of strengthening. And constantly improve the security environment of computer network information. So we not only to the computer's information technology security issues play a certain degree of attention, but also a positive analysis of the situation to find an effective way to solve the problem, to avoid accidents.

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