

# Discussion on the Influencing Factors and Preventive Measures of Computer Network Security Technology in Higher Vocational Colleges in the New Era

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**Keywords:** Higher vocational college, Computer network security, Preventive measures

**Abstract:** The progress of modern information technology pushes the informatization and modernization of social development. Under the background of constant progress of scientific level, network technology has been widely applied to the production of all walks of life, promoting the upgrading and transformation of enterprises. In particular, it greatly impacts on the current education field, enriching teaching forms and improving work efficiency. In the teaching management, the computer network security management is an important work content, and also the basis and premise of promoting the information-based teaching construction. Based on this, this paper analyzes the influence factors and preventive measures of computer network security technology in the new era, hoping to promote higher vocational schools to take effective measures to prevent computer network security problems.

## 1. Introduction

In the development process of higher vocational colleges, computer network has played an essential role in pushing. Computer network can not only enrich teaching forms, but also promote the efficiency and quality of management work, which is greatly significant for promoting the modernization of higher vocational colleges<sup>[1]</sup>. However, although many higher vocational colleges have strengthened the construction of computer network and applied it to all aspects of education, they have not managed and prevented the computer network security technology, which has caused great network security risks to the current education and teaching work. Many higher vocational colleges have built teaching platforms, online libraries, educational management information platforms by using computer networks. These network platforms involve the personal privacy of a large number of students, and also include important teaching materials and educational development plans of the school. Once the computer network security problem occurs, it will cause immeasurable losses to the higher vocational schools.

## 2. Influencing Factors of Computer Network Security Technology in Higher Vocational Colleges in the New Era

### 2.1 Lack of Perfect Computer Network Security Management System

From the analysis of the actual situation of the current computer network security management, many higher vocational colleges closely follow the progress of the times, actively respond to the progress trend of the education field, and carry out computer network construction in the campus<sup>[2]</sup>. However, it is only limited to the application of computer network in teaching work, and has not analyzed and discussed the security of computer network. Under this background, the computer network security system is not perfect and comprehensive. The computer network security system can standardize the computer management, and take corresponding measures to solve the problems in time. Owing to the lack of perfect system, network security management loopholes will appear, increasing the possibility of network security problems. Meanwhile, once a computer network security problem occurs, it will not only not be found in time, but also be beaten passively because of the inability to adopt effective measures, causing the leakage of teachers and students'

information and teaching resources.

## **2.2 Computer Network Security Technology Needs to Be Upgraded**

The upgrading and innovation of computer network security technology is an essential factor affecting the progress of network security. The backwardness of network security technology will not only reduce the efficiency and quality of education, but also create network security loopholes, which will make network viruses available. Owing to the constant progress of information technology, hackers and network viruses have also emerged<sup>[3]</sup>. They can destroy the normal operation system, steal information, and then affect the progress of education. Meanwhile, they can also lead to serious information leakage. The backwardness will affect the effectiveness of the network firewall. If we encounter a more serious virus or hacker, it will easily destroy the network firewall and cause the leakage of education and teaching information. In addition, teachers need to connect the multimedia inside the classroom through external equipment in the course of class, which increases the possibility of network virus, and then generates virus infection of campus computer equipment, affecting the computer network security of higher vocational colleges.

## **2.3 Higher Vocational Students' Awareness of Network Security is Effectively Improved**

College students are the most frequent users of computer network. Network technology is popular among the younger generation of students, with a large utilization rate and application range. However, in the current student group of higher vocational schools, few students have a good sense of network security, which leads to some non-standard network behaviors affecting the normal operation of computer networks in higher vocational schools. Network viruses and security risks generally appear in the form of web page links and page pop-up windows. Because students lack a certain sense of network security, they click the link or enter the web page driven by curiosity<sup>[4]</sup>. These practices give the network virus transmission channels to spread the virus, and then invade the campus network of higher vocational schools. It may affect the progress of normal teaching work, or it may cause the leakage of personal information and confidential teaching documents of teachers and students, and even cause the property loss due to network fraud. In addition, the equipment of the working computer classroom in some vocational colleges has not been set with permission, which leads to the students leaving a lot of personal information and traces of use. This increases the possibility of computer network security risks to a certain extent.

## **3. Preventive Measures of Computer Network Security in Higher Vocational Colleges in the New Era**

### **3.1 Establish and Improve Computer Network Security Management System**

Establishing and improving the management system can remarkably strengthen the computer network security of higher vocational colleges, and then give better play to the maximum value of computer network technology in the actual education and teaching work<sup>[5]</sup>. First of all, the administrators of higher vocational colleges should formulate the computer network security management system according to the actual development situation and needs. In this way, it can promote relevant departments to carry out targeted security management according to the management system. Secondly, college administrators should also predict and effectively prevent the possible network security problems, and establish a perfect prevention system. Meanwhile, it is also essential to strictly supervise the implementation of the system and promote the network security awareness of relevant staff. Only in this way can we change from passive to active in the face of sudden network security problems, and actively take effective measures to deal with problems, so as to decrease the impact of network security problems on the teaching. Finally, higher vocational colleges should also regularly organize and carry out computer network security monitoring work, analyze the feasibility of the management system in combination with the current computer network security work, improve and adjust the unreasonable places in the system, and further improve the computer network security management system.

### **3.2 Strengthen the Upgrading of Computer Network Security Technology**

In the work of management, relevant technical personnel should strengthen the upgrading of computer network technology. Meanwhile, network security management workers should also pay close attention to computer network security, so as to ensure the normal operation of computer network security technology<sup>[6]</sup>. This is greatly essential to promote the progress of computer network security technology and the improvement of education and teaching. First of all, college managers should train the relevant technical personnel and management staff in computer technology and network security knowledge to improve their sensitivity to computer network security issues. In this way, we can detect the intrusion of network viruses and hackers in time by observing the operation state of computer network security technology. Secondly, relevant technical personnel should follow the progress of the times and upgrade and innovate the computer network security technology. Technical personnel should break the wrong idea of putting things right once and for all, constantly strengthen network security technology, strengthen the construction of firewall, and then effectively resist the invasion of viruses and hackers, and ensure the normal use and operation of computer network in higher vocational colleges.

### **3.3 Improve Students' Awareness of Network Security**

Improving students' consciousness of network security can effectively prevent the occurrence of computer risks, thus ensuring the smooth progress of teaching, and promoting the informatization construction in higher vocational colleges. First of all, college administrators are supposed to strengthen the propaganda work of computer network security within the campus, strengthen the students' attention to computer network security by organizing knowledge questions and answers, network security propaganda meetings, and so on, to effectively promote the security of computer network. Secondly, college administrators are supposed to also carry out network security knowledge training, so that students can recognize the importance of network security through professional and systematic knowledge learning and improve their network security awareness. Higher vocational colleges can offer courses on network security, computer application technology and network virus information prevention technology to enable students to choose courses of interest to learn network knowledge through course selection. This can not only stimulate students' enthusiasm in studying, improve their computer skills, effectively foster students' network security awareness and standardize students' network behavior<sup>[7]</sup>. Finally, college administrators should set the use rights of public computers, install and log in regularly, clean up the information, reduce the risk of students' personal information leakage and ensures the normal operation of the campus network by regulating students' computer use behavior.

## **4. Conclusion**

To sum up, it is very essential to strengthen the computer network security technology and do well in network security prevention in the new era. This is greatly significant for ensuring the smooth progress of teaching and promoting the information technology. Therefore, college administrators should fully realize the significance of strengthening the network security technology, and do a good job in the security prevention by strengthening the upgrading of computer network technology and improving the students' network security consciousness, to avoid the development of network security accidents to the maximum extent and promote the informatization progress.

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