

Research on the Application of Network Technology in Computer Aided Education

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Abstract. As a new technical means, computer network technology should be reasonably applied in modern teaching. Educators should constantly sum up their experience in teaching practice, explore various new forms of computer network-assisted education so that it can be perfectly combined with computer teaching and achieve a flexible and innovative education mode, so as to cultivate more computer professionals for society.

Keywords: Computer network technology, modern teaching, auxiliary means.

1. Introduction

Before exploring the application of network technology in computer-aided education, it is necessary to make a basic definition of the connotation of network technology from the theoretical level. From the conceptual point of view, network technology is mainly used to achieve effective resource sharing and collaboration network technology by integrating the scattered resources in the Internet, which can help people better access to relevant resources, including storage resources, information resources, expert resources, large database resources and so on. In the application and development of network technology, it is mainly divided into local area network, metropolitan area network, wide area network and so on. In the specific application stage, network technology mainly covers network nodes, broadband network systems, resource management, application layer visualization, etc. Among them, network nodes mainly provide network computing resources, which include cluster systems, MPP systems and databases, etc. It is mainly used in the following areas, such as distributed supercomputing, information integration, and networked virtual reality. From the functional point of view, network technology mainly provides resource sharing, information transmission and processing, integrated information services, and load balancing distribution, etc.

2. The auxiliary significance of network technology

2.1. Provide extremely rich resources for computer education

Thus, the network information platform utilized by computers is so powerful that it can provide students with the latest and most complete knowledge and information, and students can use this platform to seek help and search for answers to problems that are difficult to solve in the classroom. For example, students can use MSN and e-mail for the purpose of communication and exchange with the outside world, and they can also listen to expert professors on the campus website of famous universities.

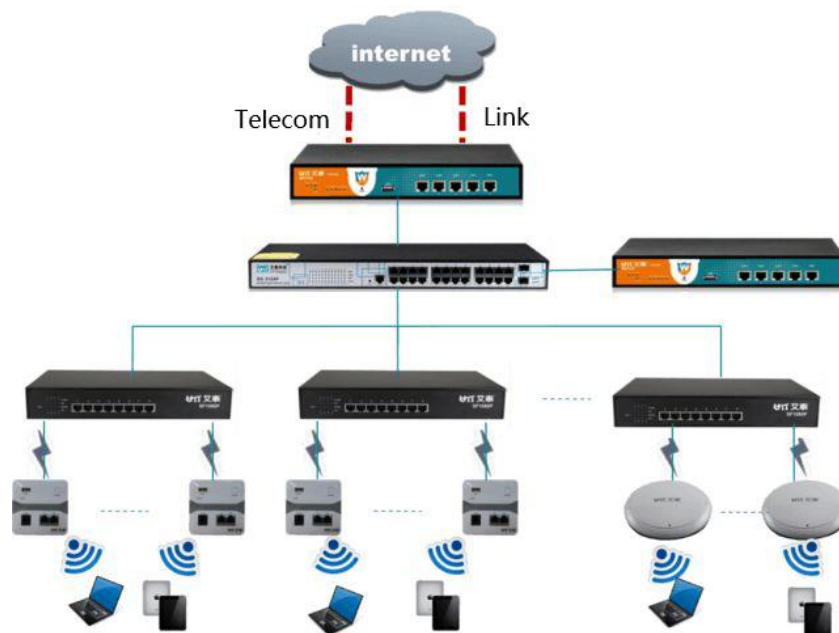


Figure 1. Example of user link

2.2. Provide flexible learning mode for computer teaching

In the process of computer teaching students can use the network and combine their own practice to choose a learning mode that meets their own development, which is also an important reason for many schools to open a network classroom for the convenience of students to listen and watch just put the classroom online, plus the network has a large amount of learning information, especially these information has the characteristics of fast update, so the information content of the network classroom is always dynamic changes, with This is a huge difference from the traditional classroom teaching, which is very simple, especially the amount of information and effective teaching mode into a learning mode for students to learn actively, stimulate their interest, and get good learning results, and on this basis, it also helps students to take independent exams, and students can choose tests with different levels of difficulty, fully taking care of the individual differences among students, and creating a comprehensive, flexible, and effective learning environment for students. Students can choose tests of different levels of difficulty to take care of their individual differences and create a modern learning model that is comprehensive, flexible and creative for students' learning.

2.3. Create a visual and intuitive interactive learning environment

Network technology-assisted computer teaching can create a visual and intuitive interactive learning environment for computer teaching. This interactive learning environment can realize good communication and exchange between teachers and students, so as to achieve better auxiliary effect and lay a solid foundation for creating efficient computer teaching effect.

2.4. Better promote the realization of computer teaching strategies

The characteristics of the network mean that the application of network technology can better promote the realization of computer teaching strategies. For example, before computer teaching, students are provided with such basic knowledge. Thinking ability, mental ability and other aspects of the test. Then the various student data reflected using computer technology for comprehensive analysis, in order to more objective and realistic comprehensive analysis and evaluation of students, thus helping teachers in combination with these data targeted selection of teaching content and teaching methods, so as to ensure that teaching to meet the needs of different levels of student learning, to achieve the purpose of improving the performance of each student at the same time according to their aptitude.

2.5. Great convenience in tutoring students

In just 40 minutes of a class, students often have difficulty mastering all the knowledge in the classroom, and teachers rarely have time to tutor students outside of class, and even if they do, it is difficult to fully tutor every student, and some students are timid, so the effect of these tutoring is obviously very low. If you use the Internet not only to correct students' homework, but also to homework problems in a timely and effective feedback to students, teachers can use video to students for direct counseling, but also through forums, e-mail, QQ groups, etc. to strengthen communication between teachers and students, so as to avoid the embarrassment of direct face-to-face between students and eliminate the timid mentality, to give students the opportunity to boldly question, so that in counseling students comprehensive It is also the best channel of communication between teachers and students, especially because there are no geographical, time and space restrictions, and teachers and students can communicate freely even if they are far away from each other with the help of the network, which shows that the use of network technology in computer-assisted education can provide great convenience in counseling students

3. Advantages and disadvantages of network technology in computer-assisted education

3.1. The advantages of network technology in computer-assisted education

In comparison, network technology has the following advantages in computer-assisted education.

3.1.1. Optimization of teaching resources

In the whole process of implementing computer-aided education , the application of scientific network technology can effectively realize the optimization of teaching resources and provide the necessary resources to support students' independent learning in class. Students' daily learning needs while helping to improve the overall efficiency.

3.1.2. Help enrich teaching methods

In the process of computer-assisted education, the use of network technology can realize the electronic display of teaching and learning, which helps to improve students' ability to do things by themselves, realize the two-way interaction between teachers and students, and guide students to learn actively. By means of network technology, teachers can implement online teaching with the help of the distance education system, which not only effectively improves teaching efficiency but also enhances the overall teaching environment.

3.1.3. Helping to optimize the tutoring environment

In the process of carrying out network technology should, network technology can effectively optimize the current teaching environment and provide a good interactive learning platform for the majority of learners, for example, with the help of network technology can promote the sharing of network information and exchange of learning activities among classmates, which not only helps to improve the actual effect, but also helps to enhance students' interest in learning. With the continuous promotion of the application scope of network technology, automatic examination system will also be better realized in this. With the help of automatic examination system, the level of automation, the traditional mode of invigilation, and the mode of awarding papers will also be greatly changed. It not only improves the overall teaching efficiency, but also promotes the reform and development of the teaching evaluation method.

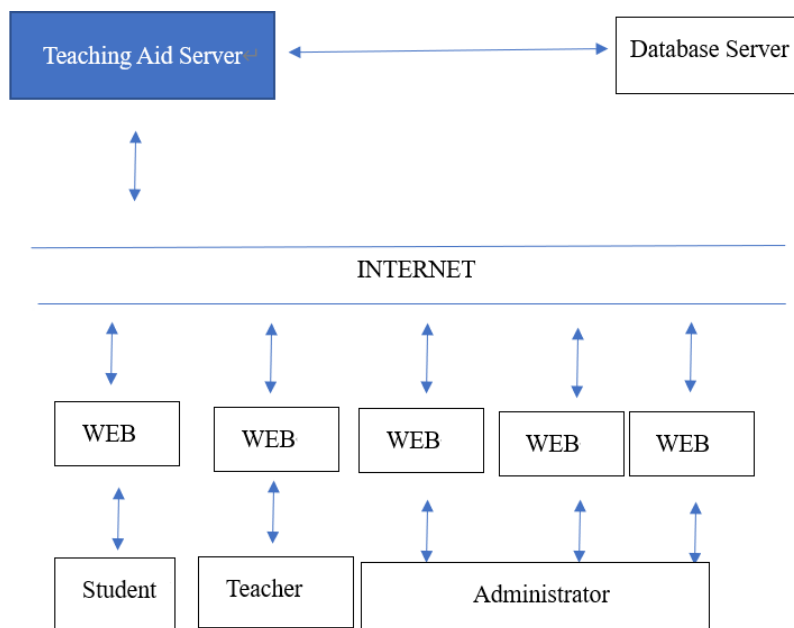


Figure 2. Simple description diagram of the web-assisted system

Through the smart campus information system, you can configure the background of information files of school students, subject settings, teacher management and teaching management modules.

In short, along with the continuous expansion of the application of network technology in computer-aided education, its value and role will also be highlighted at a greater level, how to better promote the application of network technology in computer-aided education to improve the effectiveness and level of network technology has become the main concern of the current research field of network technology applications

3.2. The current situation of computer network technology in computer-aided education

Since the 1980s, computer network technology has been developed rapidly. At the beginning of this century, computer network technology has been popularized and widely applied to the field of education as an important tool to assist education, and its application prospect is very broad. At present, China has fully launched the teaching practice of applying it to computer teaching. From the practice, we can easily find that if computer network technology is applied reasonably, it will indeed play a great role in promoting students' computer education, but if it is applied inappropriately, computer education will have some problems.

The popularity of computer network technology has brought great convenience to people's life, and computer education has become more and more important for school teaching. With the development of the times and technology, the use of computers has become very extensive, and the new generation of students must master a good solid computer foundation in order not to be eliminated in the competition of society. Computer network technology provides rich learning resources for computer-assisted education, allowing students to learn more in an interactive environment, and when they encounter problems in the learning process, they can seek the answers they want through the powerful network. Although computer network technology brings many benefits to students' computer education, it also has some unfavorable influences, so the main task is to make full use of its advantages, avoid or eliminate those unfavorable influences as much as possible, and give full play to the role of network technology in computer-assisted education.

3.2.1. Teachers are required to have more professional computer network technology

The realization of network-assisted teaching must be based on teachers' own proficiency in computer network technology, which requires teachers to be proficient in using relevant computer software to prepare and manage students' grades, teaching design and teaching design programs, as well as to create electronic lectures and multimedia courseware, and to operate network platforms

skillfully, which all put forward higher requirements for teachers' own quality. These are all requirements for teachers. Therefore, teachers are required to have more professional computer network technology, otherwise it will greatly affect the effectiveness of supplementary education applications

3.2.2. The amount of information is too large, and there are problems in the screening of information due to the difference between good and bad

Although computer network technology can provide students with rich information for their learning, not all information is healthy and beneficial, and some of it may even be harmful to students, so necessary screening and filtering must be done for those harmful information. However, with the current level of computer information technology, it is still difficult to achieve accurate filtering of all information, so it sometimes does not achieve the purpose of truly assisting education, and may even have harmful effects.³³ Security of computer networks

The implementation of computer networking enables access to learning resources, but also makes network computers easy to become the target of hacker attacks and virus invasion, according to relevant statistics, as many as 10,000 network attacks against the campus occur each year, hacker attacks and virus the invasion of hackers and viruses can lead to network paralysis, and even lead to the loss of important data inside the computer, causing significant losses

4. Strategies to improve the application of network technology in computer-assisted teaching

In the above article, the connotation of network technology and its value in computer-aided education are mainly discussed. Based on the relevant research results, this article tries to discuss the strategies to improve the application effect of network technology in computer-aided education in the future from the following aspects.

4.1. Using new network technologies to help teaching subjects

In the future application of network technology, how to effectively boost the development of subject teaching is the main direction of the application in this field. Schools can use campus networks and related new computer network technologies to realize the integration of teaching resources of school-related courses and provide better resources sharing and learning tools for the majority of learners. For example, teachers can share beautifully produced courseware on the campus network to help students with pre-study and review, and teaching and examination departments can also use network technology software to manage and count students' learning results. By using network technology to realize students' online examinations, teachers can also help students better understand the key points and difficulties they need to master in this lesson by using corresponding flash and other animation software in the course of daily classroom teaching.

4.2. Use network security technology to improve the security of students' online education learning environment

In the process of sharing network resources, the security and stability of the network is a major difficulty in the application of network technology for many reasons. Therefore, in the process of applying network technology in computer-assisted education in the future, we should increase the application of security technology, especially network security technology, and continuously improve the level of campus network security performance. For example, teachers in the use of network technology, to increase the screening and determination of relevant bad information, through effective filtering, installation of professional antivirus software to effectively prevent bad information and network hacking attacks, for the majority of learners to safely use the network escort. On this basis, the school network technology management department should increase the campus network security construction, through the effective combination of firewall and NAT technology, to continuously

improve the security of network applications, to maximize the avoidance of the campus network by external viruses and hackers brought about by the illegal invasion of the danger, and constantly help network technology in computer-aided education to play a greater value.

4.3. Vigorously develop network teaching with the help of new network technologies

Network technology is changing rapidly, in the future network technology in the process of computer-assisted education, teachers can continue to improve the network teaching course system through modern virtual network technology, and make full use of students' time off campus to carry out network course teaching and learning, which not only effectively improves students' learning power, but also enriches the form of campus teaching. In short, in the future, the application of network technology in the process of computer-aided education, should be in the subject teaching, network application security and network teaching aspects to increase the use of efforts, and constantly play the value and role of network technology in promoting computer-aided education.

5. Conclusion

It has been proved that computer network technology has become a teaching and learning tool in the field of education, and its application has changed the traditional teaching methods, realized students' independent learning, optimized the process of knowledge formation, cultivated students' cooperation spirit, realized the combination of in-class and out-of-class, improved the ability to obtain information, and let students understand the way of information not limited to textbooks, and the application of network technology in teaching. It helps to improve students' creativity, innovation consciousness, innovation spirit, innovation ability, improve their comprehensive ability, and lay a good foundation for entering the society in the future.

In conclusion, the application of network technology in computer-assisted education has a very important significance to provide extremely rich resources for computer education, provide flexible learning mode for computer teaching, create an image and intuitive interactive learning environment, better promote the realization of computer teaching strategies, and can provide great convenience when counseling students, and therefore must focus on improving their professional level of computer teaching, increase the screening of information, and pay attention to computer network security issues in order to achieve the best auxiliary effect, and make unremitting efforts to cultivate more computer talents.

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