

# Application of Multimedia Communication Technology in Network Teaching

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**Abstract:** With the development of multimedia, communication technology and information processing technology, multimedia communication technology has been widely used, and many universities have opened multimedia communication courses for information and communication majors. This article analyzes the application of multimedia communication technology in network teaching, and hopes to be helpful to related researchers.

**Keywords:** Multimedia Communication Technology; Network Teaching; Application

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## Introduction

In the network teaching mechanism, the expression of multimedia communication technology, the use of technical resources and the teaching environment can be used more equitably and economically in universities, middle schools, and primary schools anywhere in the country. Committed to integrating unified multimedia communication technology resources to promote the realization of fair education goals. In order to further optimize multimedia communication technology, it is necessary to break the traditional network teaching model. The main content includes: simulation demonstration type multimedia network teaching, scene creation type multimedia network teaching, competitive game type multimedia network teaching and exploratory research type multimedia network teaching. Improve the level of multimedia communication technology through rich multimedia network teaching modes. Therefore, this article is based on multimedia communication technology for specific applications in network teaching.

## 1. Create a multimedia network teaching environment

The multimedia network teaching environment based on multimedia communication technology maximizes students' thinking ability and cultivates students' creative ability while using multimedia network teaching. But it should be noted that the use and use of multimedia resources should be sufficient. This article uses multimedia communication technology to create four multimedia network teaching environments, namely, intuitive multimedia network teaching environment, multimedia network teaching environment with graphics, text, audio and video, dynamic multimedia network teaching environment and interactive multimedia network teaching environment. The intuitive multimedia network teaching environment refers to breaking through the limitations of students' eyesight and comprehensively analyzing the observation objects from multiple angles. Highlighting key information in many online teaching information centers helps students understand abstract concepts and master effective learning methods. The multimedia network teaching environment with pictures, text, audio and video refers to the use of multiple angles to fully mobilize

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students' emotion, attention and interest. By displaying boring text in images, it can attract students' attention and increase their enthusiasm for learning. The dynamic multimedia network teaching environment refers to breaking through the traditional single static network teaching mode, reflecting the interaction between teachers and students, and effectively breaking through the difficulties in teaching. The interactive multimedia network teaching environment is the most important project in creating a multimedia network teaching environment. It can encourage students to participate more in online courses and turn passive acceptance into active learning. By creating a self-reflection environment for students, it helps students form a new cognitive structure. Students can also provide timely feedback on knowledge points they do not understand. If the problem is relatively minor, the teacher can record it and give one-on-one tutoring after the online course is over. The teaching environment based on multimedia communication technology is a more vivid and intuitive interactive learning environment, which can bring students a comprehensive multi-sensory stimulation of pictures, text and sound. The creation of a multimedia network teaching environment can arouse students' strong desire for knowledge, prompt them to maintain a lasting enthusiasm for learning, and obtain the best teaching effect. Using the repeatability of the multimedia teaching network environment is conducive to overcoming difficulties in teaching and overcoming forgetting to give full play to the pertinence of the multimedia network teaching environment, students of different levels can be taught. The amount of information in the environment is large, and the large-capacity function greatly saves the time and space of the traditional teaching mode, thereby helping students better understand the teacher's teaching content stimulates students' imagination and improves students' learning efficiency.

## **2. Strengthen online teaching content**

First of all, expand the teaching content, establish an open teaching platform, establish a network teaching resource library, replace teaching materials with the resource library, form a new teaching concept on the basis of the network resource library, and update the latest case and subject development trends. In time, students can quickly find suitable learning resources and adjust learning strategies in time according to the actual situation to complete their learning goals. Due to the rapid development of multimedia communication technology, in addition to courseware and micro videos, the network teaching resource library also introduces multimedia communication system cases and cutting-edge knowledge of multimedia communication development. Students can closely integrate theory and practice. By learning knowledge points and using actual multimedia communication systems, they can better understand multimedia communication parameters, communication processes and usage protocols, and understand the latest developments. At the same time, guide students to apply professional search databases, and encourage them to actively collect, analyze and integrate learning resources according to their interests, understand the latest industry developments, and update and enrich their professional knowledge.

Secondly, curriculum learning will no longer be limited to the classroom, strengthen the teacher-student interaction before and after class, improve students' learning enthusiasm, realize timely feedback of students' learning, and help teachers better carry out personalized teaching. Since this course is a comprehensive course, it is often difficult for teachers to fully understand the mastery and forgetfulness of each student's prior knowledge. Therefore, existing Internet platforms can be used to implement online tests and submit answer sheets to test the effect of learning. Teachers can distribute teaching plans to students, so that students can clarify their learning tasks before class, and use the notification function to send information to students, while arranging students to complete review and testing of relevant knowledge points. Students can understand the course content and the degree of prior knowledge in advance, adjust learning strategies and learning process, and teachers can also adjust the classroom content in time according to students' feedback to improve teaching quality. At the same time, a platform for teacher-student communication can be established. In the mobile Internet environment, every student faces a free virtual learning space. They can discuss with each other on the Internet, which is conducive to students' mutual learning. At the same time, they can promptly report the problems they encounter to the teacher. Teachers can learn from learning methods and learning methods. Provide online tutoring for students in all aspects of the content, focusing on common problems, and expanding the scope of

time and space for college learning.

Finally, establish a new type of evaluation system, introduce literature review, system design and development, and analysis of experimental results into the evaluation results, so as to cultivate students' ability to discover problems, actively study and think, independent judgment and creative exploration. The course has the characteristics of practicality and comprehensiveness, so the students' practicality and comprehensive application ability are introduced in the assessment. Project-driven teaching methods can be introduced, different research topics can be set, and group cooperative learning methods can be used to jointly design learning activities, consult materials, analyze problems, design solutions, and complete system design and development.

### **3. Sharing network teaching resources**

After the teacher lectures, traditional online teaching resources need to be saved manually, and the scope of sharing is small. Obviously, today's online teaching resources are in a state of information explosion. Sharing network teaching resources through multimedia communication technology can combine the nature and characteristics of the subject and network teaching resources to classify and share network teaching resources. Liberal arts and science can be shared through multimedia communication technology, so that students can find the teaching content they need in network teaching in a targeted manner. When using multimedia communication technology to share network teaching resources, we must pay attention to the complexity of current network multimedia teaching resources. Learners must have the ability to identify and circumvent those multimedia network teaching resources that pretend to be "professional" in order to avoid errors. This information disrupted the online learning process and led to so-called "detours". This requires teachers to share online teaching resources. They should classify and share online teaching resources around the nature of the subjects or teaching goals they are learning. Without analysis, they will not be able to use multimedia sharing. This will inevitably lead to distraction. Therefore, the ultimate goal of sharing online teaching resources is to guide students to be positive while enriching learning resources. When sharing online teaching resources, the interference of "false resources" must be reduced. This not only puts forward requirements for teachers' analytical ability, but also has strong acquisition, analysis and processing ability. Students also need to learn from teachers' ability when choosing online teaching resources. Sharing online teaching resources, breaking the single and poor model of online teaching resources, learners can compare different teachers' teaching methods for the same problem, choose the most suitable online courses for learning, and focus on cultivating students' independent thinking ability. To sum up, the application of multimedia communication technology in online teaching is essential and can promote the development of online teaching.

### **4. Making multimedia courseware for online teaching**

The introduction of multimedia communication technology to make network teaching courseware can enrich the manifestation of multimedia communication technology in network teaching and reflect the advantages of multimedia network teaching. The main form of multimedia courseware expression is to combine various visual media and auditory media to produce profound audiovisual effects, thereby deepening the impression of students. Through multimedia courseware, students can use text, graphics, images and logical analysis methods, combined with video, audio and interactive applications to create and express knowledge, while accessing various network teaching multimedia information sources. Generally speaking, the way to make multimedia courseware is to use multimedia technology and computer interactive systems to comprehensively process multimedia information such as text, graphics, images and sounds, and to establish corresponding logic in various disconnected multimedia network teaching information. Multimedia network teaching information is integrated into an interactive collection. The expression forms of multimedia courseware in the classroom include: rich audio and video, teaching materials, courseware, electronic whiteboard, interactive LCD screen and multimedia technology central system control. At the same time, multimedia courseware can communicate in real time between teachers and students through voice or even dynamic images. Multimedia

courseware using multimedia communication technology can use real-time audio and video compression technology, while transmitting real-time language and dynamic images through the Internet. In the online teaching process, students can not only receive and see text or graphics, but also voice, music, moving images, animations and three-dimensional images. Through multimedia courseware, students can obtain vivid and interesting multimedia information in online teaching.

## 5. Conclusion

Network teaching based on multimedia communication technology has brought education and teaching reform into a new era. Therefore, the application research of multimedia communication technology in network teaching is an important research direction of education and teaching reform. Compared with traditional teaching methods, the most prominent advantage of multimedia communication technology is that it can be abstracted into concrete content. Starting from the nature of online teaching, we will give full play to the initiative of students to learn independently, and cultivate new-age talents with genuine innovation consciousness and practical ability. The application of multimedia communication technology in online teaching can accomplish tasks that traditional online teaching cannot. It can not only solve the problems in online teaching, but also deepen the memory of key content in online teaching content.

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