Research on the Application of Digital Audio Media Based on Computer in English Teaching

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Abstract. Based on the wide application and good effect of computer multimedia technology in various teaching activities, this paper studies the application of digital audio media in English teaching. Firstly, the concept of digital audio media is explained. Then the application dilemma and the necessity of further application are pointed out. Finally, the application advantages, application approaches and application results are discussed.

Keywords: Computer, Digitization, Audio Media, English Teaching

1. Introduction

With the rapid development of information technology and computer technology, multimedia teaching emerges as the times require, and sound as one of the important elements of multimedia teaching has been widely concerned and unprecedented attention. At present, in order to better develop multimedia teaching and improve teaching quality, educators in all disciplines begin to pay attention to the application of audio resources in education and teaching, especially in language and music teaching [1]. At the same time, how to design audio resources in multimedia teaching and how to make boring sound information more vivid and interesting in order to attract the attention of learners has also become a problem that multimedia teaching designers pay attention to. At present, digital audio resources are less used in teaching and do not give full play to their important role. One is that adding digital audio information will increase the volume of the whole file. The other is that there is no suitable digital audio resource base for multimedia courseware makers to search. The essential attribute of modern English teaching based on English as the international common language environment requires English teachers to use digital audio media to promote the combination of computer English teaching and the times. Broaden the teaching space of subject teachers and students, and then realize the teaching goal of English teaching innovation.
2. Digital audio media introduction

2.1. The combination of digital technology and audio technology
Before the emergence of digital technology, audio technology is based on analog signal, it is intuitive and vivid, but the recognition range is limited, and it is easy to be interfered by external signals [2]. The emergence of digital audio technology fundamentally solves the interference problem. Audio data information is represented by a series of data sets, which are discrete in time domain. Digitization is the first step to realize the connection between audio and computer, that is, the process of sampling and quantization. Sampling technology is the process of recording digital audio. Sampling realizes the discretization of analog signal in time domain. The analog signal is cut into multiple audio points and encodes audio points. These codes are digital audio files. The hardware circuit that completes analog signal sampling is A/D converter. When audio resource playback is needed, the digital audio signal is converted into analog signal by D/A hardware circuit. Sampling frequency, quantization channel and bandwidth number determine the quality of digital audio [3].

2.2. Processing of digital audio technology
Audio production must first carry out digital audio acquisition, sound card is the key equipment to realize audio and computer connection, sound card is one of the essential key equipment for computer. The working principle of sound card can be divided into several typical parts: analog / digital conversion and digital signal transmission to computer processor. At the same time, the sound card can also realize the connection between the peripheral audio device and the computer. The software resources on the computer are very rich, the control function of the note resources is very powerful, and the real-time play and access of the music are realized [4,5]. Digital audio acquisition and recording are common in two forms: one is based on audio workstation, through the microphone directly through the sound card to complete the sound recording, or the CD player, tape recorder and other electronic equipment to provide audio sources and audio card audio interface, with the sound recording software to complete the digital audio recording work. Another method is to use the digital interface of musical instruments to complete the production of audio material, MIDI is the product of the combination of music and computer, is an international standard of digital music. MIDI does not sample and encode the waveform of the music, but records the whole process of playing the digital electronic instrument. When the music needs to be played, according to the recorded music instruction, the music sound wave is generated by the music synthesizer. It is amplified and broadcast by loudspeakers. Figure 1 shows the structure of digital audio production system.

![Figure 1. Structure of computer digital audio production system](image-url)
3. The necessity and problems of using computer digital audio media in English teaching

3.1. Necessity
On the one hand, from the point of view of the position and goal of secondary vocational schools, the aim is to transport a large number of high-quality professional and skilled personnel for the development of economy and society, which makes secondary vocational schools and other ordinary high school teaching methods very different [6]. On the other hand, from the advantage of multimedia teaching aids, it not only integrates many elements, such as picture, color, action, number, text, sound and so on, but also combines and exerts the advantages of these elements, fully excavates, utilizes and extends the content of subject teaching materials, stimulates students' enthusiasm for subject learning, and then enhances the student's subject study efficiency. Therefore, based on the above two factors, it is necessary for computer English teachers in secondary vocational schools to pay attention to the use of multimedia information technology teaching tools to promote teaching activities in order to extend the latitude of computer English classroom teaching activities.

3.2. Current problems
On the one hand, digital audio is not used as much as possible. Adding audio at inappropriate times may interfere with teaching and even distract students. Some teachers use digital audio to render the teaching content very rich. However, too much rendering is easy to interfere with the grasp of the key and difficult points of teaching, which is not conducive to learners' understanding of knowledge. From the point of view of the effect of teaching and learner feedback, the effect of deliberate rendering is not good. In the multimedia teaching classroom, some learners only listen to the sound and forget to see the phenomenon, some learners even immerse themselves in the beautiful music sound, forget the content that should be learned, and the learners' thinking will follow the picture. The whole class has gained little. Visible, the application of audio resources is not the more the better, but to use the right. It should not only stimulate learners' interest in learning, but also focus their attention on learning activities. Therefore, the application of digital audio in multimedia teaching is not only a simple form, only timely and effective application of digital audio resources, can achieve twice the result with half the effort. On the other hand, there are many misunderstandings in the design and conception of digital audio resources in multimedia teaching. Some people overemphasize the role of audio resources, and think that digital audio resources should be used in all multimedia teaching, and digital audio resources should be regarded as an essential part of multimedia teaching. These perceptions largely limit the systematic planning, careful organization and careful design of digital audio resources [7]. In fact, no matter how advanced the teaching means, how novel the form and how outstanding the advantages are, it is difficult to replace the direct face-to-face communication between teachers and students. In the traditional teaching mode, teachers always occupy the dominant position in the classroom, can constantly adjust according to the specific problems reflected by the students, and repeat and emphasize the relevant contents in time. This is very important in learners' cognitive process and helps to improve learners' attention and memory. We should realize that multimedia is an auxiliary means of teaching, so the teaching form is different, the teaching object is different, and the application of digital audio resources is different. However, if the effect of listening is added blindly in real teaching, the rationality of media collocation is not paid attention to, and the reasonable conception and design of digital audio resources are lacking, it will play the opposite role in teaching.
4. The advantages of applying computer digital audio to English teaching

4.1. Network audio resource sharing
In the big data environment, many information resources can be disseminated digitally, which means that many resources can be shared. This to some extent reduces the teacher's preparation time, lightens the teacher's burden. On the one hand, it helps to share teachers' experience; on the other hand, it liberates teachers from repetitive and complicated work and invests more time to study students, teaching methods and learning methods.

4.2. Learning under the condition of information integration is more convenient
The most important thing in English teaching is the study of reading and speaking. With the help of multimedia technology, different types of teaching resources of picture, text, video and audio can be integrated together, and knowledge can be displayed in front of students in a vivid and intuitive way. Students receive information through different senses of vision, hearing and even touch, and pass it into the brain. Through the processing and processing of the brain, they can effectively mobilize students to participate in teaching activities and enhance the interest and vitality of English classroom.

4.3. Diversification of information into a form
The use of digital audio media can transform multimedia into audio form, stimulate students' different senses from different aspects, and mobilize students' different senses to participate in learning. This is helpful to promote students to devote themselves to teaching activities, deepen their understanding of knowledge, and enhance their ability to master and use knowledge.

5. The approach of digital audio teaching mode in English teaching

5.1. Autonomous inquiry learning
With the support of digital audio media teaching, English teachers can get rid of the limitation of teaching materials and teaching space, systematize and display the contents of computer English teaching materials with the help of multimedia teaching tools. Students' understanding and mastery of English knowledge will help to improve the efficiency of English teaching.

5.2. Outreach learning
In addition to the classroom application of multimedia teaching aids, extracurricular multimedia teaching aids can be used to further expand students' learning. For example, when each unit is finished, English teachers can review units in the form of micro-lessons with the help of multimedia teaching aids. Therefore, this teaching method will help to cultivate the enthusiasm of students to participate in English learning, urge students to use extracurricular learning time under the guidance of English teachers' micro-class, and combine their own learning needs to take the initiative to learn computer English.

6. Application of digital audio media in English teaching
In English teaching, digital audio and other teaching resources are combined to create learning situations for learners. In the process of application, we should not only pay attention to the application technology, but also pay attention to the design idea, make the digital audio and other teaching resources effectively combine, make the learner's learning initiative play to the greatest extent, and achieve the best learning effect. Figure 2 shows the application system framework of
digital audio media in English teaching.

![Diagram](image-url)

Figure 2. Framework diagram of application system in English teaching

6.1. English reading and speaking practice
As a language explanation is a common way of digital audio in multimedia teaching. When using digital audio as the assistant of teachers' teaching, we should pay attention to the close cooperation between the explanation and the screen of the broadcast. And the language should be accurate, concise, easy to understand and vivid. The explanation can not only supplement the part that cannot be clearly explained in the image data, but also abstractly generalize the image picture. Specifically, the commentary in multimedia teaching should choose different sounds according to different contents, choose different tones according to content, and give people inspiration and guidance. Therefore, the rhythm of the explanation should be just right, through the alternating changes of strength, height and speed, the overall rhythm of teaching is rich and changeable, the rhythm at the key content is slowed down, and the non-key content is properly accelerated, so that the teaching process as a whole has a strong artistic appeal.

6.2. English sound environment
The most basic function of sound in multimedia teaching is to create the scene effect of the environment shown in the picture, which is used to enhance the real atmosphere and life breath of the picture. In addition, we can use the sound effect outside the picture to imply another space outside the picture to expand the audience's vision. It can also use the different sound size and reverberation characteristics to express the sound source distance and depth motion sense, which can shape a variety of spatial sense. In order to give full play to the role of sound, some real articles of association are often used to form a new sound effect by adjusting the tone, tone and rhythm, so as to achieve the purpose of highlighting the teaching content. Therefore, in the use of sound, to combine the content of performance, careful choice, can be moderately exaggerated.

6.3. English cultural music
Music can be used to deepen the teaching theme, render the theme, change time and space. Therefore, different teaching content, choose different music, to express different artistic conception, with different rhythm. In general, to match the foreground interpretation of music should choose some fresh, soothing, melodious music. Usually when there is an explanation, the volume of the score should be lowered. At the end of the explanation, the score should be gradually strengthened, and attention should be paid to the harmony between the emotion expressed by the music and the content
of the explanation.

7. Conclusion
With the development of network technology and multimedia technology, the application of digital audio in multimedia has been an irresistible trend. With digital audio playing a more and more important role, new requirements are put forward for the use of digital audio, the use strategy and the. Therefore, the use of digital audio directly affects the quality of teaching, and then affects the overall development of learners.

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