

Production of English vocabulary teaching courseware based on multimedia technology

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Abstract

As multimedia technology continues to popularize in various fields, English teaching is gradually combined with multimedia technology. Vocabulary learning is often a difficult point in English. English vocabulary teaching courseware based on multimedia technology can help students improve their English vocabulary learning effect and enhance their initiative. This paper mainly studies the production of English vocabulary teaching courseware under multimedia technology.

Keywords: multimedia technology, English vocabulary, teaching courseware

1 Introduction

With the economic and technology development, the applications of multimedia technology have become increasingly widespread in English teaching. Through using multimedia technology, English vocabulary teaching courseware produced is characterized by vivid expression and easier to be accepted by students [1-3]. At the same time, English as a globalized language, it is also of increasing importance in the face of the development of global economic integration. Now the English teaching modes should be changed urgently. Only by reinforcing the use of modern educational technology can the network advantages bring out the potentials to optimize English teaching [5-8], which really meets the needs of the times.

Due to prominent advantages such as easy to interact, increase the class information capacity and improve students' learning interest, multimedia technology has been widely used in many education areas in the United States and European countries. Introduction starts late in our country. English vocabulary teaching courseware under multimedia technology has been emerging in endlessly and widely applied.

2 An overview of multimedia technology

2.1 THE CONCEPT OF MULTIMEDIA TECHNOLOGY

Multimedia technology can be broadly understood as using a variety of information carriers to disseminate patterns of manifestation and transmittal mode of information. A medium can be divided into five categories, which are perception medium, representation medium, presentation medium, storage medium and transmission medium. Each medium has its unique features and transfers information in different ways, so different media have different advantages. The transmission of information should not be confined to a particular mode of transmission. Instead, it should collect the strong points of the masses, get rid of limitations of single form of pictures [9-11], sounds and

images, and efficiently, accurately and easily transmit information.

2.2 FEATURES OF MULTIMEDIA TECHNOLOGY

1) Diversification. Multimedia technology provides a greater variety of ways and a broader space to the process of achieving transfer and interaction of information.

2) Interactivity. This is an important feature of multimedia technology, and the biggest feature differing from traditional media. The course in which multimedia disseminate information can effectively enhance the audiences' attention and understandings of information.

3) Integration. On the one hand, the integration of multimedia refers to the organic combination of various media information through multimedia technology to form a complete message; on the other hand, it refers to integrating different media equipment to form a multimedia system.

4) Real-time performance. Real-time performance of multimedia means media elements such as audio, video and pictures, which are all capable of real-time play. Under permission from the audiences' sensory system, it is consistent with their sensory perception and there is no lag in time.

5) High quality. Information disseminating through multimedia technology is usually accurate and high-quality. The support from the digital processing system allows it to avoid poor quality and large errors occurring in early audio and video.

3 Role of multimedia technology in English vocabulary teaching

3.1 OPTIMIZATION OF THE TEACHING MODE

The use of multimedia technology has changed the traditional teaching mode and opened up a new idea for English vocabulary teaching. Under the traditional mode of teaching, teachers say and students' record, which is a very

boring process, and this poor method of learning by rote is not conducive to better grasping the vocabulary and cultivating interest in learning. Exquisite courseware produced by multimedia technology is more vivid and intuitive in vocabulary teaching and can increase the interaction and participation of students, enhance their interest in learning, and make them think and memorize words initiatively.

3.2 CHANGE OF THE TRADITIONAL TEACHING MODE

Compared to the previous way with which teachers write on the blackboard and students take notes, courseware produced by multimedia technology is more efficient and saves time. In addition, multimedia can explain words through voice, text and pictures. This multi-sensory stimulation can enhance the memorization speed and improve the memorizing effect. The traditional way of reciting words is to take notes, which neglects the auditory stimulation.

3.3 IMPROVEMENT OF THE EFFICIENCY OF WORD MEMORY

Multimedia technology can make teaching activities more vivid and rich better stimulate students' interest in learning and play the main role of students in English teaching. Students learn more actively rather than passively, so their learning efficiency and memory effect will naturally improve.

3.4 OPTIMIZATION OF TEACHING ACHIEVEMENTS

In teaching, we should rely on the Ebbinghaus forgetting curve for scientific guidance of vocabulary teaching, and utilize multimedia technology to change vocabulary teaching into a systematic memory and consolidate and deepen the impression by repetitive reviews. Short-term memory is converted to long-term memory in order to better improve the teaching efficiency and optimize the teaching achievements.

4 Multimedia-aided English courseware vocabulary design

4.1 COURSEWARE DESIGN PRINCIPLES

Multimedia courseware should also be in line with the teaching requirements. Appropriate software is selected according to the set teaching objectives. Combined with systematic and scientific method, the following five principles should be paid attention to while designing the multimedia courseware: the first is the scientific principle. The teaching courseware must ensure the accuracy of the information. As for the teaching principle, multimedia courseware should make more use of computer technology to present information which is difficult to show by conventional teaching, and help teachers carry out teaching courses and organize teaching activities. In regard to the artistic principle, courseware production must be beautiful and novel, and better attract students' attention. The

interactivity principle can help to better interaction and communications between teachers and students, and to increase two-way interaction of information. The simplicity principle means invalid information should not be seen. It is the best policy to be fresh and simple, and meet students' visual aesthetics.

4.2 COURSEWARE MODULE DESIGN

4.2.1 Legible module

The legible module is mainly to solve word pronunciation problems. It lists every word and phrase of each unit with pronunciations. Clicking the button to listen to repeated pronunciation of words, which not only allows students to better learn independently, but also stimulates students' auditory and visual senses through repeated listening and repeating, thus helping them better remember the words.

4.2.2 Tractable module

The tractable module mainly gives meanings to the words. It lists words and phrases with word sense tagging, and also shows example sentences below where words can be used. Besides, focusing on the context of example sentences, explanatory notes are given from both Chinese and English aspects, as well as example sentences and related vocabulary extensions under different contexts, so that vocabulary learning can be more systematic.

4.2.3 Catchy module

The catchy module mainly solves the problem that students find it hard to remember words. In terms of psychology, the higher the frequency of a thing that appears, the more profound the impression people leave. This module repeatedly plans on the screen the Chinese, English, and pronunciations by disrupting the word order and randomly repeating them. By using the scientific forgetting curve, it deepens students' long-term memory for words.

4.2.4 Easy-to-use module

The main role of the easy-to-use module is to help students master the vocabulary spelling, pronunciation and meaning before using them. It is the basis to grasp the meaning and spelling of words. On this basis, a lot of practice is also required to truly and skillfully use them. The easy-to-use module includes various types of exercises such as choice questions, gap filling, and Chinese-English translation. On the one hand, it helps students grasp the meaning of the word and conversion of word forms under different contexts; on the other hand, it helps students have a deeper understanding of the meanings and use the words proficiently.

Figure 1 is the structure figure of vocabulary courseware. After four plates of learning, corresponding practical link and game link are also arranged.

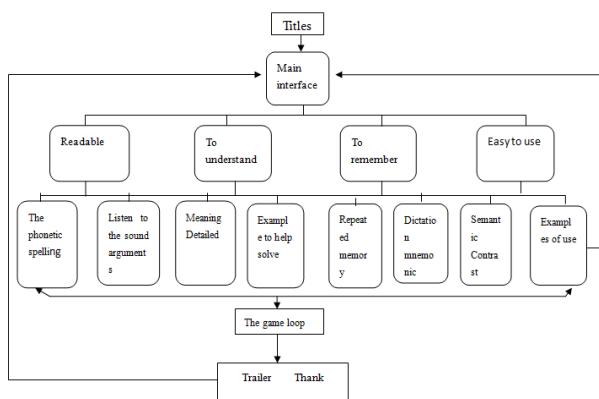


FIGURE 1 Courseware structure diagram

4.3 COURSEWARE STYLE DESIGN

English vocabulary teaching courseware should highlight the theme in interface design. The overall style is simple and elegant. Meanwhile, the back and forth switching of courseware and the function jumping should be coherent, smooth and easy to operate. Such courseware can not only better attract the attention of students, but also transfer teaching information more fluently.

The collection and processing process of courseware material consists of collecting and processing materials, writing scripts, and also writing and producing manuscripts. Pictures, music, video, animation that are in line with the teaching content theme should be prepared in advance, as well as text content that should be added in courseware. In regard to the text content, it is mainly used to explain the vocabulary, key and difficult points and a variety of teaching materials, etc. Pictures are selected to serve for vocabulary teaching, while background patterns, navigation pictures and other decorative images do not need to be too strict. When it is necessary, software like Photoshop can be used for independent production. As video and animation are dynamic, they therefore have a strong appeal and expressive force, which is easier to attract students. Hence, they are essential and features elements in multimedia. Materials are processed after collection and collocation. If they can achieve the desired effect, they can be used as a constituent element in the courseware.

TABLE 1 Design of database fields

Field Name	Description	Type
Id	Number of words	Automatic number
word	Word body	Text format
unit	Lexical unit	Integer
property	Word property	Text format
explain	Chinese meaning of words	Text format
Example	Example sentences	Text format
Remarks	Remarks	Text format

5 Production and realization of courseware

5.1 TECHNOLOGY AND SOFTWARE RELATED TO PRODUCTION

We can gain video and audio by video capture card and network download. In video editing and processing, the commonly used software includes AdobePremiere, Ulead

4.4 DATABASE DESIGN OF COURSEWARE VOCABULARY

4.4.1 Database selection

There are currently three kinds of common databases, which are SQLSERVER, MYSQL and Access. However, these three kinds exhibit differences. SQLSERVER is a medium- and large-scale database based on the server-side, which is suitable for large-capacity data. The advantage lies in high efficiency in processing the massive data, flexible backstage development and powerful scalability. The size of the database is no limited. One disadvantage of this database is its relatively large volume, which will occupy a lot of system resources. Also, it is of high cost and can only run on the Windows platform.

MYSQL is a medium-sized database. As the migration product of Linux, it is a true multi-tasking database system, which can not only support command and graphical management, but also can be used for LINUX, UNIX and other systems. Its advantages are good safety performance, less resource requirement and fast running speed, while its disadvantage is poor graphical interface experience because most operations are carried out in DOS mode.

Access is a desktop database. It is only suitable for a small amount of data, and cannot simultaneously access more than four clients. However, Access performs well when processing a small amount of data or having access to the database using one machine. It is of high efficiency and is free, but its defect is limited database capacity. If the data exceed 100M, the server is prone to have state of suspended animation or cause a crash because of too large memory consumption.

This project does not need to connect to the Internet, and it generally accesses to no more than two clients, and the amount of data is no more than one hundred thousand, so by comparing the three databases, Access is found to be more appropriate, since it can not only meet the requirements but also save resources and improve efficiency.

MediaStudio Pro, AdobeAfter Effects, etc. The audio synthesis process is to simply use software that comes with the sound card for sound mixing and reverberation operations. The more complex operations are to use Cool Edit Pro, and audio Jieba, etc.

In regard to image editing, Adobe Photoshop can be used to process static images. Multimedia courseware cannot be produced and implemented without the help

from such software.

Director, Flash and Authorware are called the Three Multimedia Musketeers, and are necessary software to multimedia production. There are differences among the three. Flash is production software for vector graphics and interactive animation. It has powerful graphics and animation capabilities. Multimedia works are characterized by strong interactivity, flexible sound processing and quickly network transmission. Nevertheless, it requires production staff to have excellent artistic capacity, and needs plug-in support when playing. Director is flat animation production and multimedia integration software. It is able to integrate a variety of different types of software into pictures, text and video, thereby forming a multimedia medium for multi-platform screening. In addition, it supports multiple media types and runs on a wide range of work environments. However, because the work capacity is large, it is inconvenient to transmit via the network. Authorware is multimedia development software based on the process icon. It is mostly used for integration and organization of multimedia materials and has powerful program control ability and editing system. Although it has

strong animation production capability, it may miss files in the program packaging, leading to failure to play.

Each kind of software has its own merits. This study selects the Flash software due to requirement for beautiful and dynamic appearance and interaction. If a piece of software cannot meet the requirements in production, multiple software can also be used interchangeably.

6 Conclusion

With increasingly improving internationalization of our country, English has played an increasingly important role in everyday life, while also bringing greater pressure to English teaching. Multimedia technology as a product of technological development makes a significant education reform and innovation by combining with English vocabulary teaching. English vocabulary courseware underpinned by multimedia technology can greatly enhance students' interest in learning, increase their enthusiasm to participate and learning initiative, and help them improve learning achievements, so it is worth promoting.

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