



Analysis of English Education Multimedia System Based on Artificial Intelligence

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Abstract. In order to solve the problem of English teaching among different schools in the same school, a cognitive model based on English teaching management is proposed. On the basis of completing the design of English teaching storing module and system server, the hardware design of the system has been completed; Complete hardware design; complete. It's done. On the basis of the system running environment design and database design, the software design of the system is realized. The results show that when the number of multimedia courseware in English teaching is more than 300, the time for traditional leaders to acquire multimedia information in teaching materials gradually decreases. The time for traditional management to acquire multimedia information in teaching courseware has been shortened. The techniques based on multimedia information management have reduced the time required to acquire the English multimedia teaching, with a time limit of at least 17.5 s. English users spend more time looking for English multimedia information using techniques based on teaching English multimedia information management has been reduced by 36.3 s, make it suitable for sharing English multimedia information. The English teaching management proposed in this article has advantages in English teaching.

Keywords: artificial intelligence · English education · multimedia system · resource sharing

1 Introduction

Due to the limited environment, the traditional teaching model presents the following disadvantages: it is difficult to share high-quality teacher resources [1]; Students' autonomous learning conditions are limited; The workload of teachers is huge; Online education has the characteristics of unlimited geographical distribution, low cost, wide benefit, and abundant resources, and has gradually become a new model for higher education and training in companies and institutions, with wide application. Online education mode is a new classroom teaching mode, mainly comes from low investment in education funds and high quality in education resources. Discuss at any time during the learning process and communicate in time to solve doubts. Students can independently specify their own learning progress [2, 3]. The following are the basic functions of MOOC:

(1) Course selection: The MOOC platform provides a wide range of course choices, covering various disciplines, including humanities, social sciences, natural sciences, engineering technology, and more. Learners can choose suitable courses based on their interests and needs. (2) Learning Resources: The MOOC platform provides rich learning resources, including teaching videos, handouts, courseware, quizzes, and practice questions. These resources can help learners understand and master the course content. (3) Flexible learning: The MOOC platform has a flexible learning mode, allowing learners to arrange their learning according to their own time and progress. The course content is usually presented in a modular form, and learners can gradually learn according to their own pace. Overall, the MOOC platform provides learners with a convenient, efficient, and rich online learning experience by providing course selection, learning resources, flexible learning modes, social interaction, homework evaluation, feedback support, and continuous updating and advancement mechanisms.

2 Hardware Design of Information Integrated Management System

2.1 Design of Multimedia Storage Module for System English Teaching Resources

In order to achieve the real-time sharing of multimedia information in English teaching, a multimedia database for English teaching has been established using the widely used storage system. The storage architecture is shown in Fig. 1.

A multimedia database for English teaching has been established using the widely used storage system. The storage architecture is shown in Fig. 2.

The multimedia storage module for teaching material in the course design should build a folder according to the type of information system, and then store the multimedia information of the English teaching material and the descriptive information material in the course folder. The structure of multimedia storing system for English teaching is shown in Table 1 [4].

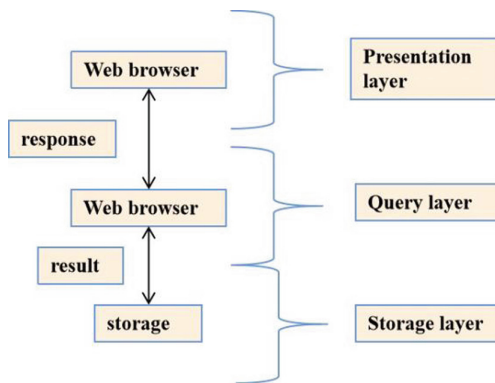


Fig. 1. Storage architecture model

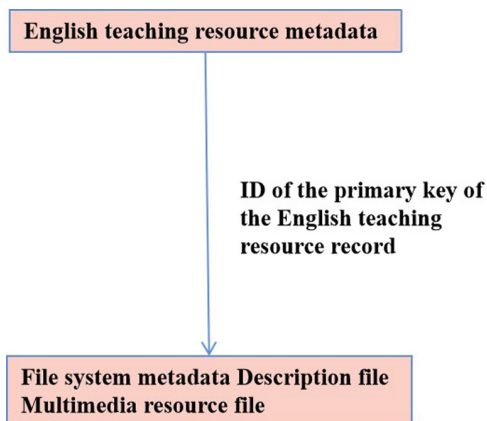


Fig. 2. Schematic diagram of information storage of English teaching resources

Table 1. Storage module structure of English teaching resource information

Teaching resource information storage module		
File material folder (for storing documents) This material)	Audio and video material folder (for storing text material)	Image material folder (storage text This material)

2.2 System Server Design

User-based authorization decision processes are deployed to web servers, database servers, and data management content servers. The storage model was used to provide multimedia data for English teaching, and the storage design of the system was completed.

3 Software Design of Information Integrated Management System

3.1 System Operating Environment Design

With each stage having a different working environment. Before performing system development, it is necessary to install the appropriate software development platform and design development environment for the system reference platform [5].

3.2 Database Design

Because the accuracy of multimedia information of English teaching is the most important part in the whole system, the database of the system mainly manages the information resources. By describing the relationship among various parts in the database, the

supporting logic is provided for the front-end and back-end management of multimedia information management system for teaching material resources. The corresponding countermeasures are put forward for the management of multimedia information resources.

4 Simulation Test Analysis

In order to ensure that the system performance indicators can meet the design requirements, the system response time simulation results are made.

4.1 Test Steps

During the simulation process, the different rates of multimedia information for English teaching are set up, and the control methods are used as contrast objects for simulation experiments to carry out the simulation. The multimedia simulation curves for different English teaching are shown in Fig. 3 [6].

Before starting the simulation program, prepare two computers with the same structure and high configuration, install the same simulation software, and transport 10 layers of simulation data in Fig. 3 into the simulation software. Before the launching of the simulation system, two parameters without load were performed [7, 8]. Then, based on the data interaction of the computer simulation software, the traditional English teaching multimedia information resources management system and the hardware system based on network management are separated to prepare for the simulation of the real-time response system. The paper studies the application of the system in the field of network teaching. Finally, the received data were analyzed and analyzed to determine the time when different groups of users received multimedia information on English teaching.

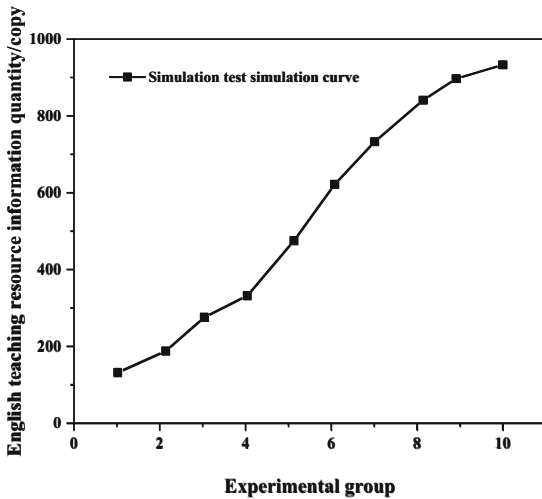


Fig. 3. Simulation test simulation curve

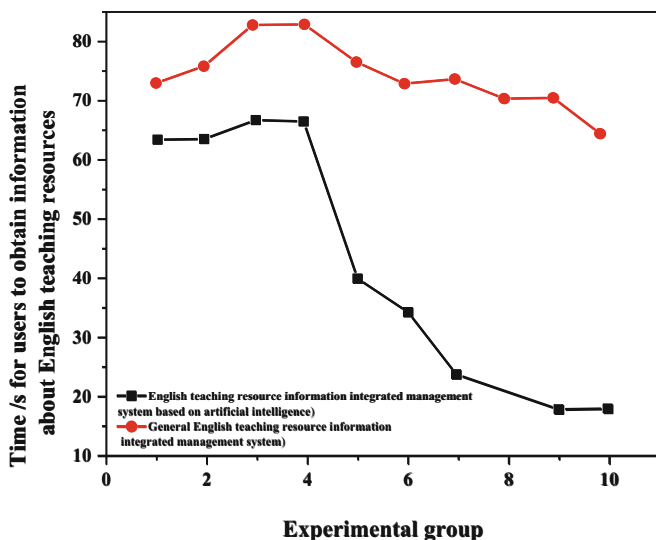


Fig. 4. Time curve of users' acquisition of English teaching resources information

4.2 Analysis of Test Results

Draw the time curve as the user receives the multimedia information of the English teaching results obtained in the experiment, as shown in Fig. 4 [9].

From the experiment in Fig. 4, it can be seen that when the number of multimedia information in English teaching is less than 300, the time for two machines to obtain multimedia information in teaching is almost the same as the time for obtaining multimedia information in teaching. The traditional English teaching mode of multimedia information management gradually reduces the time to acquire multimedia information in English teaching, during the process of obtaining multimedia information in teaching English multimedia information resources management system based on artificial intelligence is urgent. The minimum time to get the data is 17.5 s [10].

5 Conclusion

The hardware and software design of multimedia information resources management system based on English teaching is proposed, and the experiment and analysis are made. The experimental results show that the teaching of English multimedia information resources management system based on artificial intelligence can accelerate the sharing of multimedia information in English teaching. It can be seen that when the number of multimedia information in English teaching is less than 300, the time of two machines acquire multimedia information in teaching is almost the same as the multimedia information in teaching. The traditional English teaching mode of multimedia information management gradually reduces the time of obtaining multimedia information in English teaching, which is urgent in the process of obtaining multimedia information in the English multimedia information resource management system based

on artificial intelligence. The minimum time to obtain the data is 17.5 s. I hope this study can provide theoretical support for the design of multimedia information management system for English teaching based on artificial intelligence.

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References

1. Yang, L. (2021). Research on algorithms of university course multimedia assistant system based on scientific human-computer interaction. *Journal of Physics: Conference Series*, 1982(1), 012079.
2. Tian, G., & Darcy, O. (2021). Study on the design of interactive distance multimedia teaching system based on vr technology. *International Journal of Continuing Engineering Education and Life-Long Learning*, 31(1), 1.
3. Fan, W. (2021). Development path of basic education based on 5g technology and multimedia embedded system. *Microprocessors and Microsystems*, 82(Aug. (8)), 103850.
4. Wu, X. (2022). Research on the reform of ideological and political teaching evaluation method of college english course based on “online and offline” teaching. *Journal of Higher Education Research*, 3(1), 87-90.
5. Deng, Y. (2021). A brief analysis of the reform of british and American literature education mode based on artificial intelligence. *Journal of Physics: Conference Series*, 1992(3), 032089 (4pp).
6. An, K. (2021). A brief analysis of the application of English language in British and American literature based on artificial intelligence. *Journal of Physics Conference Series*, 1915(2), 022060.
7. Yuan, X. (2021). Design of college english teaching information platform based on artificial intelligence technology. *Journal of Physics Conference Series*, 1852(2), 022031.
8. Cao, Q., & Hao, H. (2021). Optimization of intelligent english pronunciation training system based on android platform. *Complexity*, 2021(4), 1-11.
9. Chen, H., & Huang, J. (2021). Research and application of the interactive english online teaching system based on the internet of things. *Scientific Programming*, 2021(S1), 1-10.
10. Yang, Y., & Sha, Z. (2021). Research on innovation of design education based on artificial intelligence technology. *Journal of Physics: Conference Series*, 2136(1), 012055-.

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