Retraction

Retraction: Research on Algorithms of University Course Multimedia Assistant System Based on Scientific Human-Computer Interaction (J. Phys.: Conf. Ser. 1982 012079)

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This article has been retracted by IOP Publishing following an allegation that raises concerns this article may have been created, manipulated, and/or sold by a commercial entity. In addition, IOP Publishing has seen no evidence that reliable peer review was conducted on this article, despite the clear standards expected of and communicated to conference organisers.

The authors of the article have been given opportunity to present evidence that they were the original and genuine creators of the work, however at the time of publication of this notice, IOP Publishing has not received any response. IOP Publishing has analysed the article and agrees there are enough indicators to cause serious doubts over the legitimacy of the work and agree this article should be retracted. The authors are encouraged to contact IOP Publishing Limited if they have any comments on this retraction.

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Research on Algorithms of University Course Multimedia Assistant System Based on Scientific Human-Computer Interaction

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Abstract. With the rapid advancement of artificial intelligence theory, this paper adopts the human-computer interaction method and derives the mathematical XXX. In combination with the optimization of the university course content, the performance is improved through the use of multimedia auxiliary systems and the use of B/S network model experience Formula, it consists of a client layer, a Web service layer and a database service layer. The physical architecture of the system is deployed. Finally, the statistical comparative analysis of mathematical science proves that the multimedia auxiliary algorithm has significant effects, and the artificial intelligence technology plays an active role in the multimedia auxiliary system.

Keywords: Human-computer interaction, multimedia auxiliary system, mathematical calculation, database.

1. Introduction
Since the 1970s, computer-assisted teaching has appeared in the field of education, and the role of computer-assisted language learning in foreign language teaching has attracted more and more attention. Different from the original teaching method, web-based English teaching emphasizes human-computer interaction as well as teacher-student interaction and student-student interaction. Based on this background, the thesis initially established a "multi-interactive" English teaching model under the network environment [1]. The theoretical basis for the establishment of this model is constructivist learning theory, cognitive theory, humanistic theory and "scaffolding" theory. The research methods are classroom observation, questionnaire survey and interview.

2. Overview of human-computer interaction teaching mode
Multimodal interaction analysis is based on Scolion’s research on intermediary discourse and practical nodes, drawing lessons from the multimodal research results of social semiotics and interactive sociolinguistics, taking intermediary activities as the basic unit of analysis, and thinking that multiple modalities are in reality They work together in the communication process, and language is just one mode. Multimodal interaction analysis is a holistic analysis. Its basic research framework includes eight elements: activity, attention or awareness, means, intervention points, modalities, modal density, modal structure configuration and media. The multi-modal interaction analysis method adopts the analysis
framework of "modal density foreground-background continuum", and believes that the interaction is through speech, distance, sitting posture, body posture, head movement, eye contact, music, printed matter, scene layout, etc. A variety of collaborative use to carry out [2].

In terms of human-computer interaction, network course exercises cannot only give feedback on the results of the students' exercises after the students have done each exercise at that time, but also the exercises they have done can be recorded in the online database. We can also find some other situations in the teaching management area. For example, the teacher can find the situation of a certain student doing exercises, and can also find the situation of students doing exercises on a certain road exercise [3]. The teacher can summarize the situation of the students doing exercises, and explain them in detail during the face-to-face instruction of the large class. Human-computer interaction takes "New Vision University English" as an example, which is mainly realized through www, E-mail, BBS and other systems. This kind of exercise can span space and time. From the geographical location, our students can communicate with teachers or students who have never seen each other far away. It can also be non-simultaneous communication in terms of time. Because the E-mail or BBS sent today may not be answered in a few hours. The interactive teaching concept embodied in "New Vision College English" is something that traditional teaching can't do. In this respect, it truly brings students into the world and the world into the classroom. The teaching mode based on human-computer interaction is shown in Figure 1 below [4].

![Diagram](image-url)

**Figure 1.** English teaching mode of human-computer interaction

In the traditional classroom in the past, the teacher mainly taught on the blackboard in the classroom. Now the teacher not only teaches, but also the designer of the course. He designs the course to study a certain stage of learning or to carry out the learning of a certain student. The formulation of course content and syllabus, the design of learning tasks, the provision of teaching materials, demonstrations in the teaching process or the role of consultants, which is more difficult for those who are more difficult to learn. Students and teachers can continue to encourage, and evaluate the teaching results, and continue to study the teaching effect. Therefore, the function of a teacher has changed from a teacher in the past to a course designer, a controller of course progress, an evaluator of teaching results and a researcher of teaching effects. Students become active explorers of knowledge, active practitioners of skills, participants in the teaching process, and learners who raise problems in the learning process or overcome difficulties in the learning process.
3. Human-computer interactive English teaching auxiliary system design

3.1. Overall structure design

3.1.1. Audio-assisted teaching resources. As a college student, the ability to develop a good listening habit plays a decisive role in the level of listening level. If we can listen to English radio or English songs every day for half an hour as an indispensable part of life, such as BBC, CNN, NPR, VOA and other radio stations will provide us with popular songs, news and information. Similarly, we can search for some English original songs on Kuwo Music or Baidu Music. Even if we don’t know the content very well at the beginning, long-term exposure to the English environment will help us to grasp the pronunciation and intonation correctly.

3.1.2. Video-assisted teaching resources. A psychology study shows that students can acquire 15% of the knowledge based on auditory learning knowledge, and students can acquire 25% of the knowledge based on visual learning knowledge, but if they rely on both hearing and vision to learn knowledge, they can acquire 65% of the knowledge. From this point of view, it is very necessary to introduce materials such as movies, TV, and online videos into listening teaching.

3.1.3. Animation-assisted teaching resources. The well-known educator Ushinsky once said: "To be forced to study without any interest will stifle students’ willingness to acquire knowledge." The same is true for English learning. Teachers should fully mobilize students’ interest in learning English and use auxiliary teaching resources, such as English animation short films "The Lion King", "Ice Age" and other excellent film and television works. These are all English animations that we are familiar with. Not only has a wonderful plot, but also expresses this pure English accent, and listens to practice through wonderful animations. Figure 2 shows the overall architecture of the English teaching aid system.

![Figure 2. The overall architecture of the English teaching aid system](image-url)

3.2. System function

In this paper, the college English multimedia teaching system installs the technical system into the hardware equipment through the physical architecture model. The system adopts the B/S-based network mode and consists of a Web browser and a server. It is convenient for centralized management of components and software programs, databases and databases for task processing. The information release is done by the server, which reduces the workload of the client [5]. The multimedia teaching system based on the B/S network structure and the back-end database as the core will serve users as the
goal and make reasonable arrangements for course resources, such as uploading course videos, processing and maintenance of examination questions, and providing English teaching Assistance and support. The system functions of this article include user registration, teacher teaching, student learning and teaching management, as shown in Figure 3.

![System function diagram](image)

**Figure 3. System function diagram**

4. System application function test

The subjects of this study are 106 students in two B classes composed of liberal arts majors in the 2019 grade. Among them, 50 students in class 1 are experimental classes and 56 students in class 2 are control classes. Carry out multi-modal and interactive college English teaching activities in Class 1; In Class 2, use the traditional teaching mode, that is, in the intensive reading class, explain the vocabulary, sentence patterns and texts, and in the listening class, play the listening materials and then explain. Before the experimental teaching, the final exam data of the first semester of the two classes showed that there was no significant difference between the two classes in English listening proficiency, reading proficiency, translation proficiency and writing proficiency. The two classes are about the same age, and the ratio of male to female is similar [6]. The selection of the number of people conforms to the sample size \( n \geq 30 \) to ensure the validity of the teaching experiment data. In the last class at the end of the semester, the author conducted a questionnaire survey of experimental class students, aiming to investigate the influence of multi-modal interactive teaching mode on learning attitude, autonomous learning ability, teaching effect and learning effect. Most students agree with the importance of English learning (\( \text{M}=4.28 \)), and recognize that the overall goal of English teaching is to improve students' basic foreign language skills, such as listening, speaking, reading, writing, and translation, and improve comprehensive cultural literacy (\( \text{M}=3.87 \)), Understand the teaching objectives of each course (\( \text{M}=3.16 \)). This teaching mode has a positive impact on students' learning interest and learning attitude. Students believe that this teaching mode improves their interest in learning English (\( \text{M}=4.32 \)), interactive activities in the classroom enhance their self-confidence (\( \text{M}=3.35 \)), and the classroom gives them more Many exhibition opportunities (\( \text{M}=3.27 \)). During the exhibition, teachers often get positive feedback (\( \text{M}=3.13 \)). In this way, most students show that they like to take English classes (\( \text{M}=4.13 \)). As shown in Table 1.
Table 1. The influence of multi-modal interactive teaching mode on students' learning attitude

| Problem                                                                 | M (mean) | SD (standard deviation) |
|-------------------------------------------------------------------------|----------|-------------------------|
| English learning is very important.                                     | 4.28     | 1.14                    |
| The overall goal of English teaching is to improve students' basic foreign language skills and related cultural literacy. | 3.87     | 0.96                    |
| I understand the teaching goals of each course.                         | 3.16     | 0.87                    |
| The multi-modal interactive teaching mode improves my interest in learning English. | 4.32     | 1.01                    |
| Multi-modal interactive teaching activities enhance my self-confidence.  | 3.35     | 1.00                    |
| Multi-modal interactive teaching mode gives me more opportunities to show | 3.27     | 1.15                    |
| In the multi-modal interactive teaching activities, I often get positive feedback from teachers. | 3.13     | 1.02                    |
| I like the multi-modal interactive teaching mode.                       | 4.13     | 1.00                    |

The questionnaire survey data shows that many students can make learning plans according to their own situation (M=3.56), complete the content of self-learning (M=3.32), and independently choose their own learning strategies (M=3.06), but many students think to improve the ability of autonomous learning requires the guidance and supervision of teachers (M=4.43). In general, more than half of the students believe that the multi-modal English between students, teachers, students, humans and computers interaction helps to improve one's learning ability (M=3.39). This shows that the self-learning method based on the multi-modal network allows students to control their own learning [7]. Students can choose learning content according to their own interests and abilities, and regulate their learning progress. This flexibility enhances their motivation for learning. Therefore, learning becomes a student's autonomous behaviour. As shown in table 2.

Table 2. The influence of multi-modal interactive teaching mode on students' autonomous learning ability

| Problem                                                                 | M (mean) | SD (standard deviation) |
|-------------------------------------------------------------------------|----------|-------------------------|
| I can make a study plan according to my own situation.                  | 3.56     | 1.07                    |
| I can complete the self-learning content.                               | 3.32     | 1.12                    |
| I can choose my own learning strategy.                                  | 3.06     | 1.32                    |
| I need the guidance and supervision of teachers to improve my self-learning ability. | 4.43     | 0.91                    |
| Multi-modal English interactive teaching helps to improve my learning ability. | 3.39     | 0.94                    |

5. Conclusion

Constructing an "interactive English teaching model based on multimedia and network", aiming to seek the best entry point for the combination of network and curriculum, and to achieve multiple interactions between teachers and students, students and students on the basis of human-computer interaction. And through the realization of this teaching mode, the initiative of students' autonomous learning can be fully brought into play, and students' sense of subject participation and cooperation can be improved, so that students can develop freely in the rich network learning resources, and continuously improve their innovation ability and self-learning English ability.

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