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Retraction

Retracted: Classroom Simulation System of Oral English Teaching Based on a Network Computer

Mobile Information Systems

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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

(1) Discrepancies in scope
(2) Discrepancies in the description of the research reported
(3) Discrepancies between the availability of data and the research described
(4) Inappropriate citations
(5) Incoherent, meaningless and/or irrelevant content included in the article
(6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

References

[1] Y. Song and Y. Wei, "Classroom Simulation System of Oral English Teaching Based on a Network Computer," *Mobile Information Systems*, vol. 2022, Article ID 8575934, 9 pages, 2022.

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Research Article

Classroom Simulation System of Oral English Teaching Based on a Network Computer

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The aim is to study the classroom simulation system of oral English teaching based on a network computer. A classroom simulation system for oral English teaching is proposed. Firstly, the third-party software "Baidu voice" recognition system is introduced into the oral training module of the system, which introduces the field of Baidu artificial intelligence into the system. Baidu AI open platform provides permanent and free speech technology services, including speech recognition, semantic analysis, speech synthesis, and other functions. Then, from the perspective of modern educational technology students, this paper attempts to design an artificial intelligence system module for middle school English teaching and explore the specific implementation conditions and ideas of the system. Finally, the students in a middle school are divided, including 37 in the top class and 34 in the normal class. The simulation results show that the system not only studies the listening and speaking materials but also deeply analyzes the data tables. The functions of English listening, speaking, homework release, and query are realized.

1. Introduction

The importance of English has become more and more obvious in the trend of information and economic globalization. Using information technology to assist teaching has also become the trend of all kinds of schools. Stimulating the use of multimedia resources in English classroom teaching and various teaching platforms built under the network environment are conducive to maximizing the value of teaching resources and stimulating students' interest in learning. Then, the new round of teaching reform is also implementing the reform of keeping pace with the times relying on network resources and modern information means [1]. The development of computer network technology not only plays a positive auxiliary role in English teaching but also constantly promotes the modern reform of college English teaching. Oral English ability is an important aspect of college students' basic English ability, which cannot be ignored. Regardless of the number of people it uses, the depth of social penetration and even the breadth of its functions, the global spread of English is very eye-catching. With its application in science and technology and business, the ability to integrate other language vocabulary and the recognition of various English dialects, its spread will be more and more far-reaching. It is a full world Putonghua. Therefore, the training of oral English skills plays a more and more important role in the daily process of English teaching. The cultivation of oral ability should take language as the main body (as shown in Figure 1) and reflect the real language characteristics. On the one hand, it should emphasize the teaching of language knowledge such as pronunciation, intonation, and sentence structure, on the other hand, it should also emphasize how to learn to use this language knowledge to achieve communication purposes. The contents of oral communication ability include pronunciation, intonation, fluency, information exchange, listening comprehension, and topic switching using communication skills in specific situations or occasions [2]. The basic requirements for oral English teaching are to be able to ask questions and answers and retell the content of

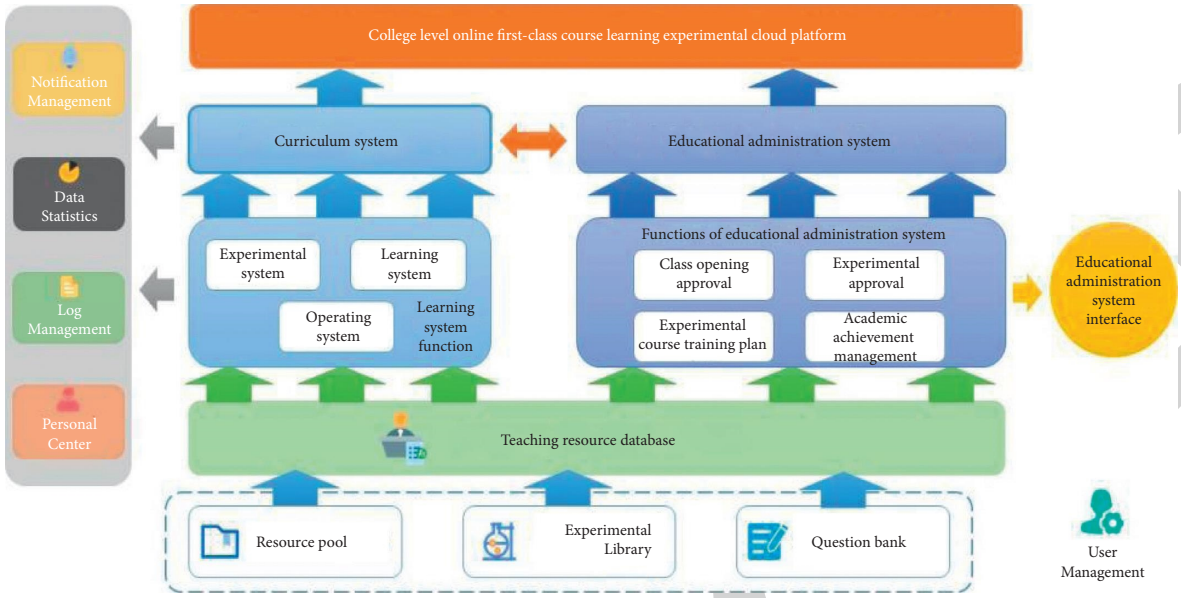

Figure 1: Oral practice process.

the textbook and appropriate listening materials, conduct general daily conversations in English and make short speeches on familiar subjects after preparation and express ideas clearly, and the pronunciation and intonation are basically correct. Experience and lessons tell us that one-sided understanding of college English teaching tasks is one of the fundamental reasons why oral English teaching has not been paid attention to for a long time. If we can fully understand the laws of linguistics and clarify the importance of oral English teaching, it will play a direct and effective guiding role in oral English teaching [3].

2. Literature Review

Yan and others business English teaching aims to connect professional foreign language learning with basic English learning, expand students' professional foreign language vocabulary and enable students to read and translate professional literature [4]. Vanlehn and others believe that we should pay attention to cultivating students' written and oral expression ability and lay a good foundation for business English interpretation and translation and pave the way for future English-related work [5]. Crouther and others believe that teachers cannot give consideration to all students in large class teaching. Business English undergraduate teaching mostly adopts the method of large class teaching, with 50–60 people in a class, which can save the investment of educational resources and reduce the burden on teachers [6]. Balzotti and others found that the business English virtual simulation experiment platform has eight practical teaching platforms: foreign trade practice teaching system, foreign trade document teaching system, SimTrade foreign trade practice platform, international settlement teaching platform, marketing simulation platform, international business negotiation simulation platform, international commercial law simulation platform, and entrepreneurship pioneer comprehensive training room [7]. Chu and others believe that language listening comprehension is the key to listening training. First of all, it helps students to understand a series of phonetic rules such as phonetic loss explosion, continuous reading, weak pronunciation, and heavy pronunciation, as well as basic theoretical knowledge such as pronunciation, intonation, speed, and differences between British and American pronunciation [8]. Li and others believe that in the training methods, the methods of difficult and easy collocation and the combination of intensive listening and extensive listening are adopted, following the principle of easy before difficult and refined before extensive. After students understand words and sentences, they can listen to the full text, which is convenient for students to really master [9]. Yang and others believe that the multimedia classroom provides audio and video systems for oral simulation training and solves the dilemma faced by the traditional teaching mode "textbook blackboard chalk" [10]. Fang and others believe that the cultivation of communicative vocabulary and grammar teaching language ability is a crucial link in the cultivation of communicative ability, and the use of vocabulary and grammar makes the whole communication space filled with culture and thought [11]. Fishwick and others believe that in oral English teaching, it is necessary to overcome students' fear of speaking English. El Nagar and others believe that a teaching system "$Z+$ intelligent teaching system" developed under the auspices of academician Zhang Jingzhong of the Chinese Academy of Sciences. The system is mainly aimed at the auxiliary teaching of mathematics. It aims to use the relevant technologies of artificial intelligence for intelligent problem solving, automatic reasoning, dynamic drawing, and even human-computer interaction. It uses information technology tools to cultivate students' three-dimensional sense of geometric space, so as to improve the effect of Mathematics teaching [12].

3. Characteristics of Oral English Course

Oral language, the most basic and convenient communication tool (as shown in Figure 2), is more important because it often shoulders the important task of everyone's social communication efficiency and even success or failure. Strong oral communication ability has also become the most basic ability demand for everyone to adapt to modern social communication. Find some oral materials recorded in the original English version to imitate. In the Internet age, these materials are easy to find. Imitation is the fastest and easiest way to learn. Oral practice can also start from imitation. If you want to practice your spoken language well, you must move your mouth more, advocate reading aloud, find sound material that suits you to imitate the voice and intonation, find the deficiencies in your spoken language in the imitation and then correct them one by one. Oral course has the following characteristics:

3.1. Openness. Oral learning and practice is a form of activity based on groups. In most occasions, there will be no "talking to yourself" but there needs to be real-time communication objects to transmit information through communication. It is difficult to imagine the practical significance of oral activities without communication objects. The cultivation of oral communicative competence should be carried out in the language practice of two-way interaction [13, 14]. We should use every link of oral English to consciously cultivate students' listening and speaking ability; we should create a variety of communication situations inside and outside the class, so that each student can communicate freely in oral English; students should be encouraged to actively exercise their oral communication skills in their daily life.

3.2. Listening and Speaking Cycle. Listening is the accumulation of language and the input of information, while speaking is the comprehensive use of vocabulary and internalized grammatical rules for information output. To learn English, we must first have enough information input, which is the basis of output. To realize classroom interaction, it is necessary to increase the effective input of language information.

3.3. Nonverbal Information. In addition to verbal communication, nonverbal information such as language rules is another important feature in oral teaching. What matters is not what you say but how you speak. Speakers sometimes express their intention through changes in intonation, stress, or volume. For example, I beg your pardon. When using a falling tone, they apologize, and when using a rising tone, they don't understand. Ask the other party to repeat it. As shown in Figure 3, oral ability is divided into three aspects, namely language form, language content, and communication rules.

3.4. Cultural Accommodation. Besides focusing on verbal information exchange and nonverbal information expression, cultural accommodation is another important meaning

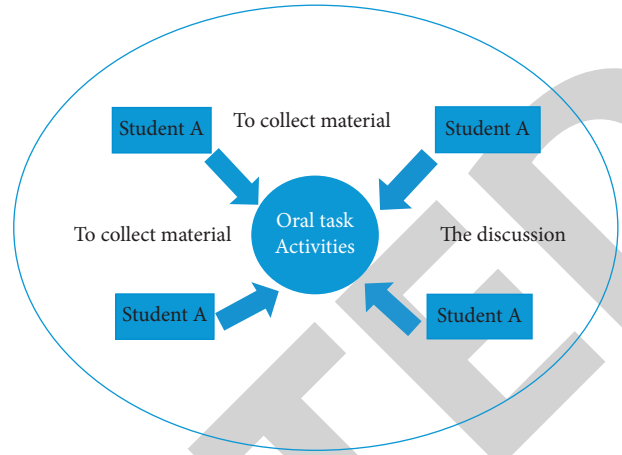

Figure 2: Oral practice mode.

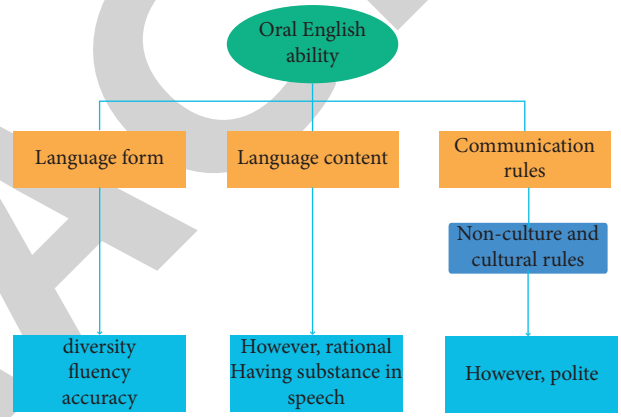

Figure 3: Elements of oral ability.

of oral course. Communication errors often occur between different cultural groups. Most of these errors are due to the lack of cultural tolerance rather than the lack of mastery of vocabulary and grammar [15].

It can be seen that oral communication teaching also includes the cultivation of due listening and speaking attitude, expression and waiting ability according to the communication environment, object, modality, communication purpose, content, focus, and changes, as well as the rapid and accurate understanding of others' meaning, agile thinking, on-the-spot rapid organization of language, clear, and ingenious expression of their own meaning; witty thinking ability and cultivation of oral perception, expression ability, and habit, which is a kind of oral communication ability training with rich and diverse contents, flexible thinking and expression, and two-way or multidirectional interaction. Obviously, the requirements have been greatly expanded and improved. This is a kind of oral communication ability training with rich and diverse content, flexible thinking and expression, and two-way or multi-directional interaction. Obviously, the requirements have been greatly expanded and improved.

In the traditional classroom language environment, it is difficult for middle school students to really understand

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English, let alone have a smooth English dialogue, which is also the root of the problem of "deaf mute English" among middle school students [16]. However, AI can provide technical support for the interactive English teaching environment in middle schools. Through AI technology, computers can comprehensively process text, graphics, images, sounds, and other media information, logically connect these information and integrate them into an intelligent system [17, 18]. The biggest feature of this intelligent system is that it can provide a variety of interactive ways of English teaching. The teaching interaction mode provided by AI is shown in Figure 4.

In the information society dominated by science and technology, computers can provide different services according to different users. Nowadays, with the advancement of the integration of information technology and curriculum, contemporary teachers can also use intelligent computers to teach students according to their aptitude and provide personalized teaching activities according to different students' characteristics. The biggest feature of applying AI to middle school English teaching is also reflected in this, that is, to help English teachers choose corresponding teaching strategies according to students' individual differences and changes in the learning process and achieve personalized teaching objectives by intelligent means and finally optimize the effect of English teaching. In addition, the role of AI in middle school English teaching is optimized [19].

For signal $\{x(n)\}$, short-term speaking energy is defined as follows:

$$En = \sum_{m\longrightarrow\infty}^{\infty} [X(n) * w(x-y)]^2 = \sum_{n-0}^{Y-1} s_w^2(x). \tag{1}$$

The speech signal after windowing is

$$S_w(n) = x(n) * w(n-m). \tag{2}$$

A simple way to solve this problem is to use the short-term average amplitude to represent the change of energy, and the formula is

$$Mn = \sum_{M}^{\infty} |x(m)| w(n-m) = \sum_{m-n}^{n+M-1} |x_w(m)|. \tag{3}$$

The influence of sound source excitation component and channel component of the speech signal on the inversion of the speech signal is further analyzed. Look at the channel component first. If the mathematical model of the speech signal is all pole model, the channel transfer function has all pole mode:

$$H = \frac{G}{n - \sum_{i=1}^{X} \gamma_k} = A \prod_{K-1}^{P} \frac{N}{n - b_k}. \tag{4}$$

Here, $|b_k| < n$, so

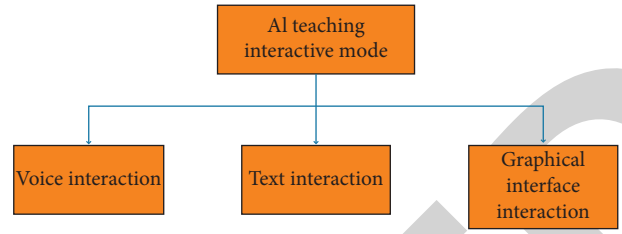

Figure 4: AI teaching interaction mode.

$$H = In[H] = InA - \sum_{k-1}^{p} In\left(1 - b_k^{-1}\right). \tag{5}$$

By making power series expansion, we can get

$$\begin{aligned} h'(n) &= Z^{-1}(h) = InA(n=0), \\ h'(n) &= Z^{-1}\{H'\} = \sum_{k-1}^{p} \frac{b_k^n}{n}(n>0), \\ h'(n) &= Z^{-1}\{H'\} = 0(n<0). \end{aligned} \tag{6}$$

4. Experimental Analysis of the English Classroom Simulation System

At present, the development and implementation of computer management information system (MIS) should follow the principle of integration and division of labor. Most information management systems adopt the C/S structure. At present, with the popularity of the network, in order to facilitate, understand customer perception anytime and anywhere and enhance customer preference, the management system begins to adopt the B/S structure. The following is C/S architecture and B/S architecture. Different comparison and cause analysis of the B/S mode in system development.

The client/server (client/server) structure of the C/S structure is a software development technology. The developer of the computer system connects the components to each workstation and client service through different local distribution functions: on the server side, the real-time reliable communication system is used to reduce the time overhead, but the client can be installed before management and operation. The structure diagram is shown in Figure 5.

The development of this system is committed to improve the English listening and speaking level of secondary vocational students, facilitate teachers to master students' learning, urge students to complete the training [20, 21], achieve the expected objectives, and provide learning basis for teachers to formulate the next teaching plan, so it is very necessary to develop this system.

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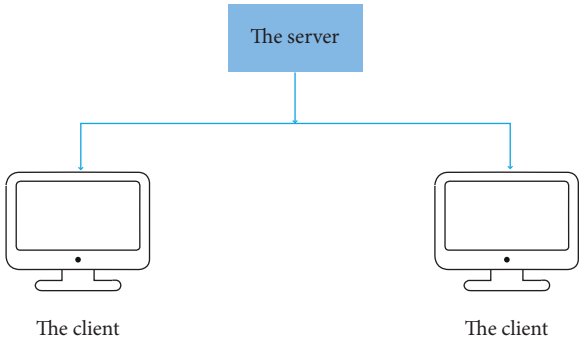

Figure 5: C/S mode structure.

4.1. User Analysis. The three main groups used in this system are: administrators, teachers, and students. The practical teaching team selects the first grade of junior middle school (i.e., grade 7) in a middle school to carry out practical teaching research. Practical teaching is composed of experimental class and control class. There are 37 students in the experimental class. Students' English foundation is poor, and their attitude towards English learning is not correct and their interest is low. There are 34 students in the control class (as shown in Table 1), who have a good foundation in English. As shown in Table 1, the English courses of the two classes in the practical teaching object are taught by the same teacher, and the number of English courses per week of the two classes is equal. The practice began in February and ended in July. In this semester, during the 16 week study, the experimental class reduced ordinary classroom teaching once a week and changed this class to computer class. In the weekly computer class, students use the system uniformly in the computer classroom. The learning method is students' active learning [22]. Researchers, English teachers, and computer teachers in the school only supervise and provide necessary guidance and help. Considering that the learners participating in the practical teaching are the first grade students in the junior middle school and the primary learners of English learning, their vocabulary is relatively small, and the students in the experimental class have a poor foundation. It is difficult to remember the words in the textbook completely, so direct vocabulary teaching is needed.

4.1.1. Administrator. The learning materials and backstage resources designed to improve the students' English listening and speaking level need to be managed and maintained by special personnel. Responsibilities of the administrator: manage users, improve user attributes, and characteristics (such as adding and deleting teachers' users and improve relevant information about teachers' schools, levels, classes, and so on according to teachers' sources); assign the user's identity setting and operation authority in the system; realize the management of learning materials in the system; and daily maintenance to ensure the normal operation of the system.

4.1.2. Teacher. This mainly refers to English teachers. Import the roster of classes according to the set procedures and supplement the students' attributes and characteristics (including basic information such as school and class; and personal information such as name and student number).

4.1.3. Student. Students are the largest group served by the system. The design purpose of the system is to solve the problem of improving secondary vocational students' English listening and speaking.

This system is an "auxiliary teaching system," which is used as an auxiliary tool added outside normal teaching. The "homework" mentioned in this paper is different from the homework in traditional classroom teaching in connotation. It refers to the specified training that teachers need students to complete. The number of topics is one, and the topic type is "listening" or "speaking." Teachers set "homework" topics and set and complete classes and then release homework. This business meets the supervision role of teachers to students, as shown in Figure 6.

After students enter oral training, choose a pronunciation; voice text. Next, according to the process of language learning, you should enter the "speaking" and "scene." The system will realize the training in two ways: the text will explain this business requirement with a group of examples here.

(1) First: Text-Voice. Display text information: when people meet their friends, they usually do three things (defined as text 1).

Students read sentences: the system receives voice information and converts students' sentences into text (defined as text 2) with the help of the third-party "Baidu voice" recognition system. System comparison: system text 1 and text 2 are compared, and the error is marked in red in text 1 and presented on the display for students to correct by themselves. Finally, the students decide whether to repeat the training or complete the homework.

(2) Second: Voice-Text. The system plays a voice message: "Chengdu is a city, once you are here, never wanted to leave!" (defined as text 1, which has been stored in the oral question bank in the form of voice and text) Student: input the sentences you hear into the system with the keyboard (defined as text 2). System comparison: the system compares text 1 and text 2. The error is marked in red in text 1 and presented on the display for students to correct by themselves. Finally: students judge whether to repeat training or complete homework. The oral training presented in the above two ways can strengthen students' acquisition of pronunciation and intonation and accumulate them.

In the "teacher" entity, you need to add the basic information about teachers, as shown in Table 2.

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Table 1: Information of experimental students.

Group	Number of people	Attitude towards learning English	Average oral test score
Experimental class	37	Lack of integrity and low interest	70.12 ± 6.3
Control class	34	Good English foundation	85.5 ± 5.7

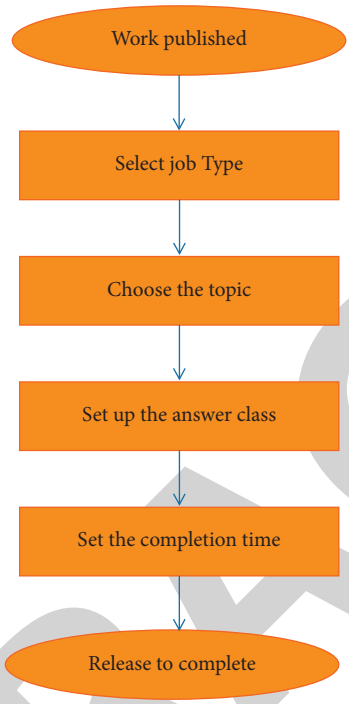

Figure 6: Job release process.

Table 2: Teachers list.

Teacher list					
Field name	Chinese name	Data type	Length	Main foreign key	Can it be blank
Id	Work number	char	10	Primary key	No
Password		varchar	10	Primary key	No
Name	Password	char	20	Primary key	No
School		varchar	15	Primary key	Yes
Title	The name	varchar	10	Primary key	No
Phone		varchar	20	Primary key	No

Table 3: Student list.

Student list					
Field name	Chinese name	Data type	Length	Main foreign key	Can it be blank
S id	Student id	char	10	Primary key	No
S password	Password	varchar	20	—	Yes
S name	The name	char	15	Primary key	No
Class	The class code	varchar	50	—	No
S school	Belongs to the school	varchar	10	Primary key	No
Note	Note	varchar	100	—	No

In the design of "student" data, we should set student number, name, class, school, head teacher, and remarks (See Table 3 student list for details).

The realization of this function also needs the support of corresponding data tables. Here, the implementation process of this module is also illustrated by an example. The realization of

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Table 4: Oral question bank.

Oral question bank [23]					
Field name	Chinese name	Data type	Length	Main foreign key	Can it be blank
SP id	Spoken text number	int		Primary key, incrementing	No
SP audio	Audio file path	varchar	220	—	No
SPE text	Text file path	varchar	230	—	No

the function of this module is carried out in two ways, but in the end, the system evaluates the comparison of text information, as shown in Table 4 [23]. The table of oral question bank is the data table showing the oral question bank.

Based on scores mostly used for phonemes, the general methods include log-likelihood scoring, log a posteriori probability scoring, and so on. Compared with feature comparison scoring, this kind of method reflects the learners' ability to pronounce a language to a certain extent, rather than just the differences between individuals with standard pronunciation. Log-likelihood score, which is defined as follows:

$$S_i = \sum_{t-\tau}^{\varsigma+1-1} \lg\left[P\left(q_t \mid \mid q_t - 1\right)P\left(O_t\right)\right]. \quad (7)$$

Considering that the sentence pronunciation of English beginners is relatively slow, the speech rate should also be added to the pronunciation score as an influencing factor. Finally, the score of phoneme duration can be defined as

$$D = \frac{1}{N}\sum_{i-1}^{N} \lg\left[p\left(f\left(d_i \mid q_i\right)\right)\right]. \quad (8)$$

4.2. Simulation System Analysis. Firstly, by comparing the average scores of the simulated oral system, it can be seen that the teaching system has a significant effect in practical teaching, as shown in Figures 7 and 8. For example, the average score of the control class is 36.6, the final score is 41.4, and the difference between the average score of the midterm and the final is 4.79. The average score of the experimental class is 40.05, the average score of the final period is 46.91, and the difference between the average score of the middle period and the final period is 6.86 points. These data show that the performance of the experimental class is always better than that of the control class, and the difference between the experimental class and the control class is 3.44 at the middle of the period and 5.501 at the end of the period. The final grade of the experimental class is larger than that of the control class. For another example, in the mid-term test, the average score gap between the experimental class and the control class increased by 0.91 points from 11.95 points, that is, compared with the control class, the score of the experimental class decreased slightly. Compared with the midterm test in April, the gap between the experimental class and the control class in July narrowed by 3.27 points from 12.86 points. The results of the experimental class have improved and the gap between the two classes have narrowed, which is the embodiment of the system effect.

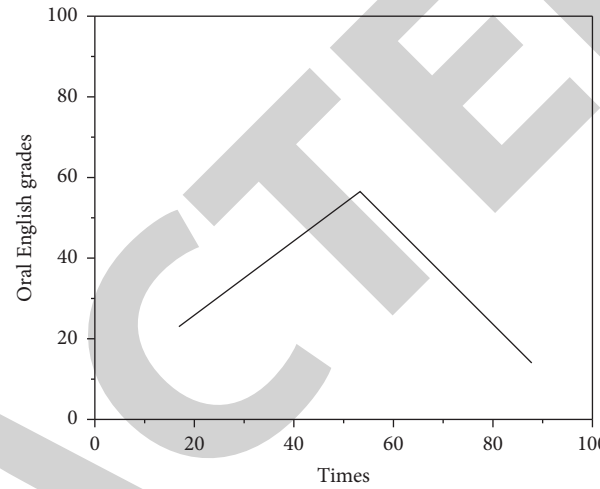

Figure 7: Oral test results of the control class.

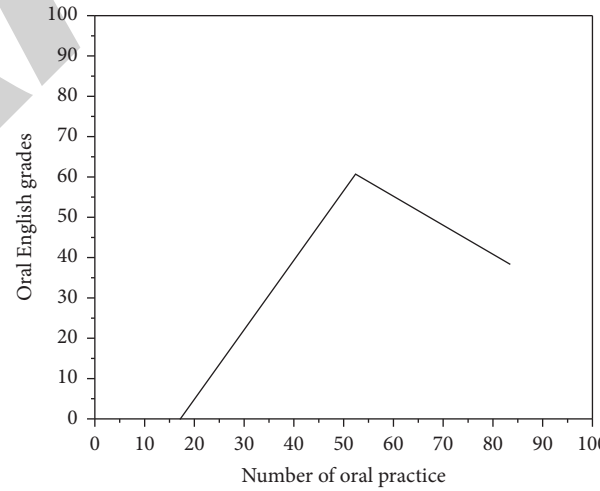

Figure 8: Oral test results of the experimental class.

According to Figures 9(a) and 9(b), at the end of the semester, the experimental team sampled and asked the middle school students in two classes about their attitudes towards the teaching application of the system. Through sorting and analysis, the following data were obtained: 60.5% of the students chose "like" or "like very much," only 2.3% of the students chose "do not like it," 95.3% of the students said they were willing to recommend the system to their friends, and 69.0% of the students said they were willing to continue to use the intelligent English teaching system even if the teacher did not ask for it, only 11.9% of students said they would not continue to use it.

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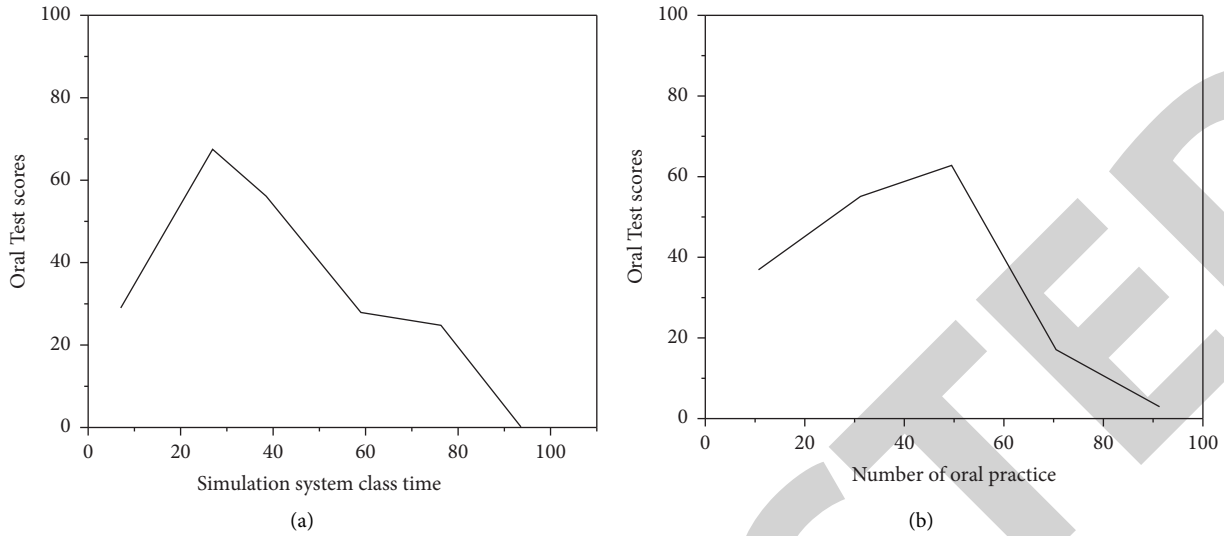

Figure 9: Percentage of students who like the English teaching system. (a) Percentage of experimental class-like teaching system. (b) Percentage of control class-like English teaching system.

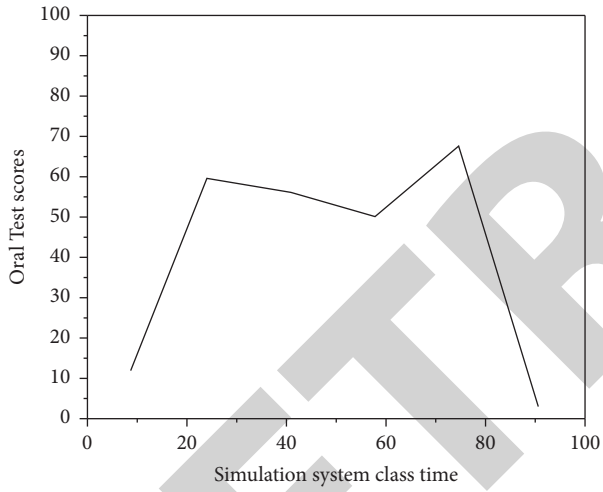

Figure 10: Oral test scores before and after system teaching.

By dividing the students of a middle school, there are 37 people in the experimental class and 34 people in the control class, and they are taught the English intelligent system. As shown in Figure 10, simulation experiments show that the system not only conducts research on listening and speaking materials but also conducts in-depth analysis of data tables. To achieve English listening, speaking, homework publishing, and query functions, to sum up, the intelligent English teaching system and such artificial intelligent English teaching system are helpful for the improvement of middle school students' English learning and examination scores, help to improve middle school students' English scores and interests and optimize the effect of middle school English teaching, which also provides practical significance and guidance for the exploration of this paper. This paper introduces the relevant content of artificial intelligence and analyzes the realization of the rule-based uncertainty expert system and proposes a network computer-based classroom simulation system for spoken English teaching. The English teaching assistant expert system designed in this paper uses the knowledge expression method combining production and the frame type and adopts uncertainty reasoning technology to complete the basic evaluation of English teachers' mastery of knowledge points on students. It can realize the overall evaluation of a single class, multiple classes, a single college, and multiple colleges, reduce the teaching burden of teachers and improve the teaching quality.

5. Conclusion

Synchronous test is a good way to check the students' oral level. Therefore, it is also essential to insist on oral English test and evaluation in daily teaching, midterm, and final period. In the oral test, you can take the form of a computer test, store the questions on the computer, and students can answer the questions on the computer. The topic types generally include reading short passages for about half a minute; Question and answer, given an English topic and answer it in 1.5 minutes; Look at the picture and speak, not only to test students' oral expression ability but also to test their imagination and organizational ability. The scoring criteria reflect students' comprehensive English expression ability according to pronunciation, intonation, fluency, form, and communicative ability. In short, with the deepening of globalization, China is becoming more and more active on the international stage, and cooperation and exchanges between China and the West are becoming more and more frequent. Today, when we advocate higher vocational skill education, we should fully understand the law of language learning and understand the internal relationship of listening and speaking skills training in the process of college English teaching from multiple angles, overcome the impetuous psychology of looking for a shortcut and improve

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the comprehensive application ability of English language, so as to bid farewell to the muddy path of "more time-consuming and less effective" and move towards the smooth road of success. The construction of a national virtual simulation experiment center is of great significance.

English teaching has become indispensable content in the field of education, and the future trend of English classrooms will be closer to social needs. At the same time, English, as a vocational skill, helps to promote the competitiveness of the workplace. Therefore, junior high school is a starting point. It should start from the English classroom, pay attention to the practical application of English teaching and further explore and innovate the English teaching mode.

Data Availability

No data were used to support this study.

Conflicts of Interest

The authors declare that there are no conflict of interest.

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