



Analysis of Artificial Intelligence Application in English Oral Evaluation

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Abstract. With the rapid development of modern education, there has been a significant change in the education concept in China, which not only focuses on the learning of English vocabulary and words but also emphasizes the cultivation of oral English proficiency to ensure that students have good English-speaking abilities, which can provide assistance for their future learning and development. Therefore, in modern English teaching, there is a need to develop a good English oral evaluation system. Based on the analysis of the requirements for the oral evaluation system, this paper proposes the development of an English oral evaluation system based on artificial intelligence, which can lay a solid foundation for the better development of English oral teaching activities.

Keywords: oral evaluation · artificial intelligence · English proficiency

1 Introduction

With the rapid development of science and technology, artificial intelligence has become more mature and has been widely applied in various fields, including education [1]. In the process of the development of education, many teaching software have been developed using artificial intelligence technology, which has improved the effectiveness of offline and online teaching, and is conducive to students' better completion of learning tasks [2]. However, it should be noted that there are not many English oral evaluation software available, and the functions of these software are not very comprehensive, which to some extent affects the development of English oral teaching activities. Therefore, this paper focuses on the topic of "Analysis of Artificial Intelligence Application in English Oral Evaluation" to provide a better evaluation software for English oral teaching.

2 Design of English Oral Evaluation System Based on Artificial Intelligence

2.1 Task Publishing Module

2.1.1 Task Publishing Process

In the main interface, click on the "Select Type" option and select the corresponding task type based on the specific content of the teaching activity. From the perspective of interaction, tasks can be divided into three types: textbook-based tasks, resource-based

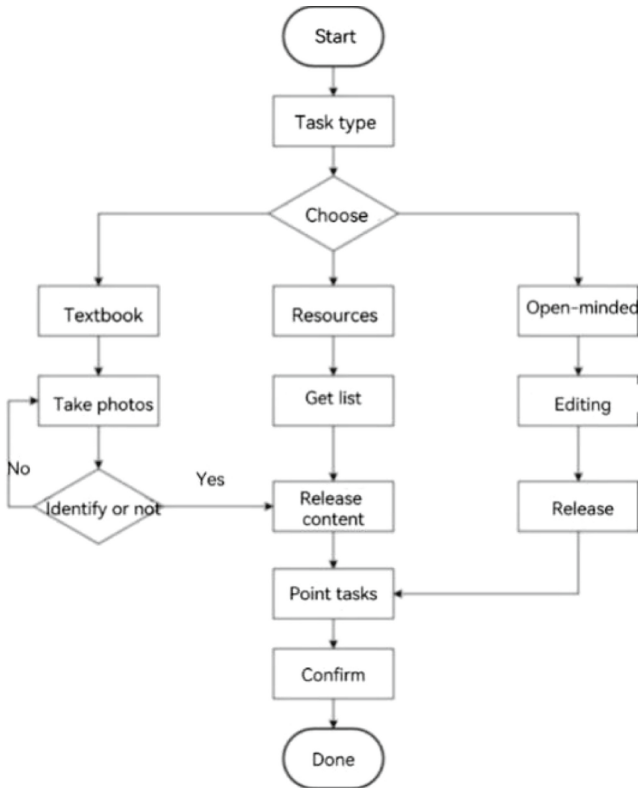


Fig. 1. Task release flowchart

tasks, and open-ended tasks. For the first type of task, the system should automatically select the task category through the recognition of the content captured by the camera. If the content is blurry or unclear and cannot be recognized, the system will prompt the user to “re-shoot” [3]. For the second type of task, students can browse the resource list and choose the corresponding task, which can then be automatically published. For the last type of task, teachers should edit the corresponding pictures, videos, and other content based on the system’s requirements, and upload them to the system. The specific process is shown in Fig. 1.

2.1.2 Task Publishing Interface

The task publishing module consists of 12 interfaces, specifically:

- (1) Content Recognition Interface: through a POST request mode, the path is `books/image`, and the content is the image taken by the teacher. It can recognize successfully and serve as the final response result.
- (2) Read textbook list: through a GET request mode, the path is `/books/teachers/:teacherID`, and the content is the teacher’s name and number, etc., which can obtain the textbook list as the final response result of the system.

- (3) Read textbook directory: through a GET request mode, the path is /books/teachers/:bookName/dictionary, and the content is the textbook, which can obtain the corresponding textbook directory as the final response result of the system.
- (4) Read course content: through a GET request mode, the path is /books/teachers/:bookName/selected/content, and the content is the course chapter, etc., which can obtain the corresponding textbook chapter as the final response result of the system.
- (5) Read key sentences in the textbook: through a GET request mode, the path is /books/teachers/:bookName/keySentence, and the content is the textbook name, etc., which can obtain the corresponding key sentences as the final response result of the system.

2.1.3 Task Publishing Implementation Effect

This system contains multiple task types, and the processes of each type of task are slightly different, and the implementation effects also have certain differences. On the main interface, click the “Word Spelling” option, and the system will open the list of word spelling resources. According to the actual needs, find the corresponding task and browse the related content. After clicking the “Publish” option, enter the publishing interface, where you can select task start and end time, class, and other information, and publish the task successfully. The successful publishing interface is shown in Fig. 2.

2.2 Task Completion Module

2.2.1 Task Completion Process

In the learning interface, students can browse through all task lists and select an unfinished task to start their learning. Generally, a task consists of multiple oral practice units, and students will practice pronunciation and recording according to the content provided. After finishing, the system will automatically evaluate their performance and display the final results. If the evaluation fails or the student is not satisfied with the result, they can redo the recording and evaluation. Once all the exercises are completed, the student can submit their work to complete the evaluation process. The process is shown in Fig. 3.

2.2.2 Task Completion Interface

The main interfaces in this module are:

- (1) Reading detailed information: the interface name is getHomework, accessed through the GET request mode, with the path /homeworks/query and content including task number and student number, which can display detailed information about the task and serve as the final response of the system.
- (2) Uploading exercises: the interface name is submitExercise, accessed through the POST request mode, with the path /exercises/submit and content including task number and student number, which can successfully submit exercises and serve as the final response of the system.

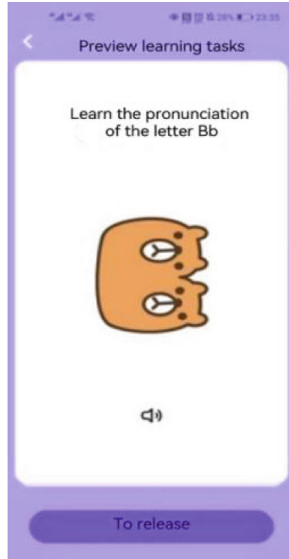


Fig. 2. Task publishing interface

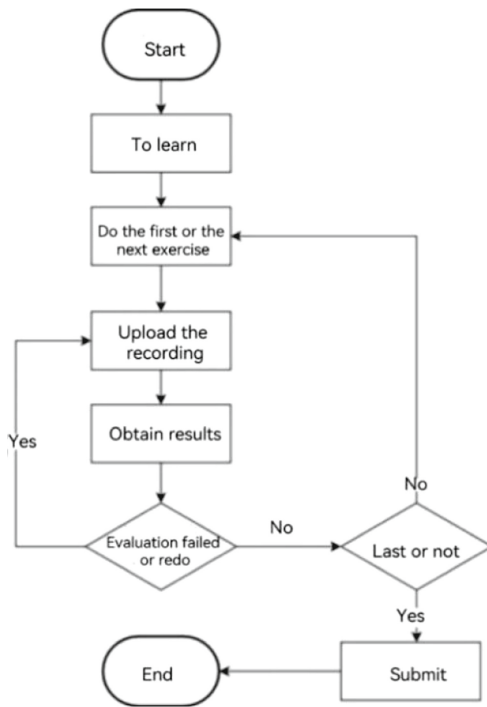


Fig. 3. Task completion flowchart

Table 1. Oral assessment results

No.	Evaluate the content	Measure sample size	Assessment results
1	Vocabulary	8056	96.8%
2	Sentence	2512	99.2%

- (3) Uploading tasks: the interface name is `submitHomework`, accessed through the POST request mode, with the path `/homeworks/submit` and content including task number and student number, which can display detailed information about the task and serve as the final response of the system.

2.2.3 Task Completion Timeline

Firstly, read the detailed information of the task and transmit it to the student end through the corresponding interface to complete the learning task. During each practice module, the student will practice pronunciation and recording, and transmit the recording to the evaluation module for scoring and rating. After transmitting the last segment to the streaming evaluation, the corresponding audio information is transmitted to COS, and the corresponding audio URL is exported. After the client obtains the above information, it will initiate the upload exercise operation and transmit the exercise content to the database. If the exercise is redone, the previous exercise result will be overwritten. After all exercises are completed, the user will transmit all exercise content to the database [4].

3 Oral Evaluation Model Effects

During evaluation, two aspects are mainly considered: completeness and accuracy. Completeness is divided into 81–100 points (able to read the content completely), 61–80 points (able to read the content basically), 41–60 points (the read content is not very complete), 21–40 points (content reading is not complete), and 0–20 points (unable to recognize the audio). Accuracy is divided into 81–100 points (all pronunciation is accurate), 61–80 points (most words are pronounced accurately), 41–60 points (about 50% of words are pronounced accurately), 21–40 points (a few words are pronounced accurately), and 0–20 points (very few words are pronounced accurately or no accurate pronunciation). After evaluation according to this standard, the results shown in Table 1 are obtained [5].

4 Conclusion

This article proposes an English oral evaluation management system that consists of two parts: a task publishing module and a task completion module. With the combined function of these two modules, the system can automatically complete oral exercises and evaluations, accurately understand students' proficiency in oral English, identify areas for improvement, and provide assistance for English oral teaching activities.

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