

A study of the effects of the application of Artificial Intelligence (AI) on improving the spoken English of university students: Voices of students from a Chinese university

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Abstract. Recently, artificial intelligence has received more and more widespread attention, and its applications in all aspects of people's lives are increasing, especially in the field of education. This study used the research method of semi-structured interviews with the aim of exploring the role of AI in improving college students' speaking, in order to better utilise AI to promote college students' learning of spoken English. In this study, 11 students from a Chinese university were interviewed for about 10 minutes each, and they were questioned about their ideas of using AI to learn speaking, and their answers were used to understand the current development of AI in speaking. And, a content analysis of the interview results revealed that most of the university students thought that AI helped their speaking learning, but at the same time, they also pointed out that there were still some aspects of AI that needed to be improved. They also evaluated the functions of these AI apps for speaking practice from different perspectives. Finally, this study discusses the practical significance of AI-assisted English-speaking learning and suggestions for further research.

1 Introduction

With the acceleration of globalization and the rapid development of science and technology, the importance of English as the main language of international communication is becoming more and more prominent. However, the traditional mode of teaching spoken English is often limited by teachers' teaching methods and teaching resources, and it is difficult to perfectly meet the individual needs of students.

In recent years, the rapid development of artificial intelligence technology has provided new ideas and methods for oral English teaching. Artificial intelligence technology has powerful data processing capability, intelligent analysis capability and personalized service capability, which can provide customized learning resources and teaching strategies according to the actual situation of students, so as to effectively improve students' English speaking ability.

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Therefore, the selected topic of this paper aims to explore the application effect of artificial intelligence in the teaching of spoken English for college students and analyse its specific role in improving English speaking ability. This study combines artificial intelligence technology with English speaking and explores its application effect through interviews. Artificial intelligence technology helps to meet students' personalized learning needs and improve students' learning interest and motivation.

Through the introduction of AI technology, teaching means and methods can be enriched to provide a more diversified and interesting learning experience, thus effectively improving the effect and quality of spoken English teaching. Improving college students' English speaking ability not only helps personal career development and social communication, but also helps to enhance the country's international competitiveness and cultural soft power.

2 Literature Review

2.1 The current situation of teaching spoken English

In the current oral English teaching, there are some problems. Firstly, traditional oral teaching mainly takes textbooks as the learning carrier and is based on the grammar-translation method. Its content is single, narrow, backward and lacks timeliness, which is not conducive to the development of the applicability of oral learning. Secondly, the classroom is basically dominated by the teacher's lectures, that is, teacher-centred education is adopted, and there are fewer classroom drills for students. Third, the oral assessment of students is mainly based on the final examination results. This summative assessment cannot comprehensively and truly reflect students' speaking level, and it is not conducive to stimulating students' motivation to learn English speaking [1]. Inaccuracy of speaking will lead to learners' low self-confidence and anxiety, and learners with poorer levels will be more anxious in the process of learning speaking without self-confidence [2]. Therefore, the improvement and correction of spoken language becomes especially important.

2.2 Application of Artificial Intelligence in English-Speaking Teaching

With the rapid development of science and information technology, the application of artificial intelligence is more and more extensive. "Artificial Intelligence, usually refers to the discipline of research and development of theories, methods, technologies and application systems used to simulate, extend, expand and learn from human intelligence. Artificial Intelligence is the beneficial exploration and research of human intelligence and capabilities" [3]. In the context of this era, the rational use of artificial intelligence technology in teaching has become an inevitable trend in the development of the teaching field in the new era. APPs such as LAIX and Duolingo Countries are also gradually welcomed by college students, and more and more college students choose these APPs to carry out oral self-study and improve their speaking level.

2.3 Research Gaps

In previous literature on second language acquisition, a considerable number of researchers have pointed out that second language (L2) learning relies on both implicit and explicit learning, whereas first language learning is thought to rely mainly on implicit learning [4-6]. Error correction is an important part of the explicit learning process as it is a source of explicit input for L2 learners [7]. The vast majority of researchers have studied the correction and improvement of learners' written errors [8-10]. However, only very few researchers have

studied error correction of learners' spoken language, and their studies have demonstrated that AI can effectively improve learners' spoken language and have a positive effect on learners' spoken language correction [11, 12]. Among these studies that investigate spoken language correction, only a few of them take college students as the research object, and most of the studies are on the technology ASR (Automatic Speech Recognition), while English speaking APPs not only use speech recognition technology, but also incorporates a lot of services that are useful for improving the fluency of the college students' speaking as well as providing voice-over practice, etc., and the studies on these APP research is relatively lacking at present.

Therefore, spoken language teaching needs to be deeply integrated with artificial intelligence technology, which can assist English teachers in teaching spoken language, potentially stimulate students' learning enthusiasm, allow learners to self-practice their spoken language at any time and any place, and combine with certain contexts to better understand the characteristics of spoken English. At present, more and more English learning APPs have been developed, and there are many learners who are keen to use these APPs to improve their English ability. Among them, APPs such as Fluent Speaking, Daily English Listening and Duolingo are famous for correcting and improving speaking, and most Chinese college students are using or have used them. These APPs can use artificial intelligence technology to correct users' spoken English. Accordingly, this study will investigate whether AI is effective in the improvement of college students' spoken English by interviewing 10 students majoring in Business English at a Chinese university and by analysing the contents of their interviews.

3 Methodology

All interviewees participated voluntarily and consented to the recording, and all were anonymous in the study.

The participants in this study were students majoring in Business English at a university in China. They were selected because, during their university years, most of the students will choose to study on their own and have the ability to explore suitable apps for learning to speak. At the same time, some of the university students will choose to go abroad for further study, so the improvement of their spoken English is important to them, which is one of the factors that increase the credibility of this study.

The interview questions in this study were designed by reading and referring to a large number of literature. At the same time, the original interview questions in the literature were modified to address the research questions of this study [13-15].

Table 1. Participants.

Participants	Gender	Age	Interview Duration/min	attitude
Lyn	female	22	9	Positive
Candy	female	23	7	Neutral
Rachael	female	22	6	Positive
Jia	female	23	16	Neutral
Gao	female	20	10	Positive
Stella	female	23	14	Positive
Shu	female	23	9	Neutral
Tang	female	23	12	Neutral
Gong	female	21	12	Positive
Chen	female	22	10	Positive
Zhou	female	22	11	Neutral

In this study, 11 students were interviewed and each student answered 8 questions. The entire interview took about 10-20 minutes per person. This allowed for a more comprehensive understanding of how each student really felt about using artificial intelligence to improve their speaking (Table 1).

After the interview, the audio recording of the interview will be converted into text. Next, the Chinese transcripts will be translated into English. Finally, these interview scripts will be analysed. The research questions of this study will be answered by employing content analysis to identify the statements and contents that are relevant to this study and summarize them.

4 Results and discussion

4.1 Using Artificial Intelligence to learn spoken English as a mainstream way for contemporary college students to improve their spoken English

With the advancement of time, Artificial Intelligence has been popularised in every aspect of people's lives. More and more students are inclined to aid their language learning with the help of advanced AI technology. This type of learning not only provides a personalised learning experience, but also intelligently adapts the content and pace of teaching according to each student's speaking level and needs. By simulating real-life dialogue scenarios and providing instant feedback, AI helps students practice pronunciation, grammar and fluency more efficiently.

Therefore, in university, a stage that relies on students' self-learning, the vast majority of college students use AI to help them learn better. Especially in the learning of spoken English, as Jia said, "There is a lack of opportunities to communicate with foreigners in such a domestic environment". Therefore, AI is favoured by many university students because it can provide users with convenient speaking learning services at any time and any place, Shu also mentioned that "it is convenient to turn it on at any time and any place, and you can choose the scenarios that you want to practise speaking, so that you can improve your speaking skills in a targeted way".

4.2 College students' divergent attitudes towards using Artificial Intelligence for English speaking practice

Everyone has different learning habits and preferences, so university students hold different attitudes towards different ways of improving their speaking skills online and offline. On the one hand, some students appreciate the ability of AI to make intelligent adjustments according to individual learning progress and level, provide instant feedback and targeted advice, and thus help them improve their oral expression quickly. On the other hand, some students were concerned that over-reliance on the technology would weaken the ability to communicate authentically, or were sceptical about the accuracy and reliability of the technology.

In this study, a portion of the students thought that offline (e.g., school speaking courses) was more effective, following the preference for face-to-face practice. For example, Lyn, "offline school speaking classes are more face-to-face with the teacher or your classmates, with your partner, and then the teacher will correct you or correct a certain topic on the spot". In addition, Zhou also pointed out that "the speaking classes in schools pay attention to students' pronunciation as well as interpersonal multi-situational and multi-modal speaking practice, in order to promote students' natural use of the spoken language in daily life, to sharpen their sense of language, and to integrate it into their daily life". Another group of

students thought that online (e.g., APPs such as Fluent Speaking) could be more convenient and efficient for learning spoken English. Among the interviewees, Chen believes that she "prefers one-on-one conversations and is better able to find out the deficiencies of her speaking", and she shares the same view with Gao, who "prefers the personalisation and flexibility provided by APPs".

4.3 The aspects of improvement for Artificial Intelligence in enhancing English speaking skills

Although AI can help university students improve themselves and their spoken English to a great extent, it still has a number of areas for improvement. For Rachael, she hopes that it can "recognise the language we output a little bit more accurately". Candy, on the other hand, hopes that "more free and valuable resources can be introduced, and some students can join together to share a membership", in the hope of lowering the cost of learning for university students. In terms of AI itself, Tang proposed that "the thinking of machines is more qualitative, and it is more important to focus on improving the technology so that it can keep up with the thinking of the human brain". In terms of content, Stella hopes that "the app can provide real-life shooting materials, such as multiple expressions of ordering in a restaurant".

Therefore, future AI systems can be designed to pay more attention to simulating real interpersonal communication in order to enhance the learner's sense of engagement and immersion. Second, AI should be able to more intelligently adjust teaching content and difficulty according to individual differences to provide a more personalised learning experience. In addition, AI can form learning communities with other learners to promote communication and competition among them. Through continuous technological innovation and improvement, AI can be expected to play a greater role in improving spoken English.

5 Conclusion

This study focuses on the improvement effect of AI on college students' spoken English, and adopts the research method of semi-structured interviews to find out the current situation of college students' application of AI to learn spoken language, and to explore college students' attitudes and suggestions on AI for practising spoken language. In this study, the use and basic attitudes of university students towards AI and suggestions for AI to improve speaking were explored with an unstudied population of university students. Some directions for improvement of AI for practising spoken language are provided to better promote AI in education and to increase the usefulness of AI for university students. This study has some limitations that may broaden the way for future research. Firstly, the interviews in this study were all women and did not involve interviews with men. College students of different genders may have different attitudes and willingness to use AI. Second, the sample size was relatively small, which limits the generalisability of the results. Future research could generalize the findings by including a larger sample and applying them to a wider range of settings. Finally, only interviews, a qualitative research method, were used in this study, and future research could employ quantitative research methods to understand university students' perceptions of using AI to improve their speaking.

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