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The use of mobile app (Fluency in English) to enhance the speaking English ability among Chinese college students

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Abstract: With the rapid advancement of technology, mobile-assisted language learning (MALL) has emerged as a powerful tool for enhancing students' English-speaking proficiency. This study explores the effectiveness of using the Fluency in English app as a digital learning platform to improve college students' English speaking skills. By integrating interactive exercises, AI-driven pronunciation feedback, and real-time communication features, the app provides learners with a flexible and immersive language learning experience. The research examines students' speaking performance before and after using the app through a mixed-methods approach, incorporating quantitative assessments and qualitative feedback. Findings indicate that students demonstrate significant improvements in accuracy, coherence, and flexibility. The results suggest that mobile apps like Fluency in English can be effective tools for improving English-speaking skills in college students.

Keywords: *Fluency in English, Mobile app, Speaking English.*

1. Introduction

The rapid advancement of information technology has significantly impacted various aspects of life, including education [1]. Information technology provides opportunities for learning anytime and anywhere, breaking the barriers of traditional classroom-based education [2]. The evolution of mobile learning enables students to interact in real time and access vast educational resources [3]. Various apps in education have transformed traditional learning methods, making education more accessible and interactive [4].

With the rapid development of information technology, the integration of digital platforms into English language teaching has become increasingly essential, allowing students to access language learning resources at their convenience [5]. Traditional methods of teaching English in China often prioritize reading, writing, and grammar, with limited focus on spoken communication [6]. Consequently, many students graduate with strong theoretical knowledge but lack fluency and confidence in speaking English, which hinders their ability to engage in international communication and professional opportunities [7].

Many Chinese university students struggle with oral proficiency due to various factors, such as lack of confidence, the absence of a speaking environment, or the limitations of traditional teaching methods [8]. Thus, the emphasis on teaching English-speaking skills in universities has become a crucial component of higher education [9].

The Fluency in English app is a mobile application designed for students to practice speaking English. Traditionally, Chinese universities have implemented various approaches to teaching English, yet a persistent challenge remains in developing students' English-speaking proficiency [10]. Nowadays, Fluency in English, one of the most promising applications in this field, provides learners with interactive

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speaking exercises, pronunciation feedback, and real-time conversation practice [11]. This app presents a potential solution by offering an interactive, self-paced, and feedback-driven learning experience to improve English-speaking skills among Chinese university students [12]. Understanding how this app can be integrated into the existing college English curriculum is essential for enhancing students' language proficiency and preparing them for global communication, ultimately helping university students develop their speaking skills [13].

1.2. Research Questions

1.What are the factors affecting students' speaking English ability?

2.What is the effect of using Fluency in English app to improve students' speaking English?

1.3. Research Objectives

1.To analyze the factors affecting university students' speaking English ability in China

2.To assess the effect of using Fluency in English app to improve students' speaking English

2. Lierature Review

2.1. Mobile Learning (ML)

Mobile Learning has gained prominence as an effective method of integrating technology into language education. According to Kukulska-Hulme and Shield [14] mobile applications provide flexibility, accessibility, and personalized learning experiences, enabling students to practice speaking skills outside the classroom. This integration enables English learning to transcend the limitations of time and location,enhencing the students autonomous learning Wang, et al. [15]. Ferdousi [16] described mobile devices which can be installed on various devices such as laptops, e-readers, smartphones, and others si more convenient. Research by Xu and Li [17] found that students using APP of speaking application demonstrated improved pronunciation accuracy and greater speaking confidence compared to those in traditional classroom settings.

2.2. Speaking English Teaching

Speaking English is a crucial skill in language acquisition, often regarded as the most challenging for learners to master. According to Brown and Abeywickrama [18] speaking skills are essential for students to express their thoughts, engage in meaningful conversations, and achieve communicative competence.

In China, English language education has traditionally focused on reading, writing, and grammar, often at the expense of developing speaking skills. As a result, some Chinese university students often exhibit a significant gap between their written and oral English proficiency [19]. Research by Jin and Cortazzi [20] indicates that although many Chinese students can read and write English at an intermediate to advanced level, they struggle to communicate effectively in spoken English.

Wen and Clément [21] argue that students in China tend to avoid speaking in English due to a combination of language anxiety, lack of confidence, and a strong focus on accuracy over fluency. In addition, Zheng and Davison [22] points out that the classroom environment in Chinese universities often lacks opportunities for students to engage in meaningful communication in English, limiting their exposure to real-world language use. Furthermore, Zhou and Li [23] suggest that traditional teaching methods, such as the Grammar-Translation Method and teacher-centered instruction, fail to provide students with the skills needed to participate in communicative language activities, thus limiting their oral proficiency.

2.3. Potential Benifits of Mobile Learning for English Speaking

Mobile learning applications have significantly transformed language education, particularly in English speaking skills. Researchers emphasize that mobile-assisted language learning (MALL) enhances accessibility, engagement, and personalized learning experiences [14]. These applications provide

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learners with flexible and interactive ways to practice speaking English, overcoming traditional classroom limitations. According to Liu and He [24] mobile applications enable students to engage in English-speaking practice beyond the classroom, ensuring continuous exposure to the language. Studies by Ferdousi [16] suggest that the above features improve learners' motivation and confidence in speaking English. Mobile learning apps use adaptive learning technologies to tailor lessons based on learners' proficiency levels and progress [25].

2.4. Challenges of Mobile Learning for English Speaking

Despite the numerous benefits of mobile learning applications for English speaking, several challenges hinder students language learning effectiveness.

One major challenge of mobile learning is the dependence on stable internet connectivity. According to Traxler [25] inconsistent network access can hinder such kind of learning. Ferdousi [16] insists that mobile devices are often associated with social media, gaming,and entertainment, which can lead to distractions during learning.

3.Research Methodology

3.1. Research Design

This study aims to analyze the factors influencing university students' English-speaking ability in China and assess the effectiveness of the Fluency in English app in improving their spoken English. A quantitative research approach will be used to identify three key factors—psychological motivation, learning environment, and personal linguistic differences—that impact students' speaking skills. Additionally, a pre-test and post-test comparison will be conducted to measure the app's effectiveness. To ensure a structured analysis, the researchers have formulated a hypothesis to compare responses and evaluate improvements between different groups.

3.2 .Research Hypothesis

HA: The posttest score of the students' in the speaking test is significantly higher than that of the pretest score at $p = 0.05$.

HO: After learning speaking English using Fluency in English app, the students are not satisfied with at $p = 0.05$.

3.3. Research Participants

The population for this study is 415 fresh undergraduate students who enrolled in Mechenial Engineering College in Liaoning Institute of Science and Technology in China. According to the calculation by Krejcie and Morgan [26] 200 students among the above students are selected as samples by means of a systematic random sample technique. The Sample Size Caculator shows that confidence level is 95%, margin of error is 5%, and the population proportion is 70%. All of the participants have learned English for more than 9 years and they share the common goal of improving their speaking English skills, but none of them have previously used the Fluency in English app.The process of the study is conducted over a 16-week academic semester

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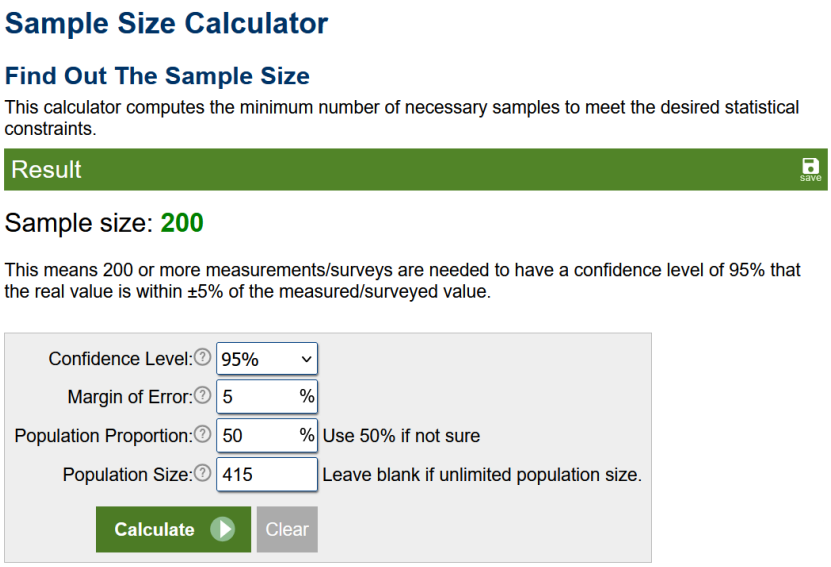

Figure 1.
Sample Size Selection

3.4. Data Collection and Analysis

After designing the questionnaire, participants were asked about their perceptions of factors affecting students' English-speaking ability. The questionnaire focused on three key variables: psychological motivation, learning environment, and personal linguistic differences. It used a 5-point Likert scale (5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, 1 = strongly disagree).

Data were collected and analyzed using SPSS version 26. Descriptive statistics were applied to address the first research question. One large class of 60 students was selected as the experimental group to complete a pre-test at the beginning and a post-test after 16 weeks on a topic discussion.

The test was evaluated based on CET-SET4 standards, assessing accuracy, coherence, and flexibility, with each category scored out of 5 for a total of 15 points. To ensure reliability, three teachers independently scored the tests, and the average score was used for analysis. The pre-test and post-test results were compared to measure students' progress and answer the second research question.

4. Results

4.1. The Questionaire of Affecting Factors Analysis

The questionnaire includes three variables which focus on students' psychological motivation factors(PMF), learning environment factors (LEF)and their personal linguistic differences factors(PLD).A ll variables have 200 valid response. The questionnaire used a 5-point Likert scale ranging from 5=strongly agree, 4=agree, 3=neutral, 2=disagree, 1=strongly disagree.

The above table shows moderate agreement across all factors, with means ranging from 3.2 to 3.8; Moderate variability, as indicated by standard deviations, meaning responses are not highly dispersed; Percentile values confirm consistency, with 50% of responses clustering around 4.

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Table 1.
Questionaire statistics.

Variables		Psychological Motivation Factors (PMF)							Learning Environment Factors(LEF)							Personal Linguistic Differences factors(PLD)						
		PMF 1	PMF 2	PMF 3	PMF 4	PMF 5	PMF 6	PMF 7	LEF 1	LEF 2	LEF 3	LEF 4	LEF 5	LEF 6	LEF 7	PLD 1	PLD 2	PLD 3	PLD 4	PLD 5	PLD 6	PLD7
N	Valid	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Mean		3.52	3.45	3.52	3.41	3.2	3.57	3.49	3.63	3.72	3.75	3.81	3.66	3.74	3.57	3.45	3.52	3.47	3.36	3.34	3.36	3.36
Std. deviation		1.107	1.138	1.186	1.076	0.96	1.059	1.056	1.009	0.932	1.001	0.986	0.995	1	1.054	1.031	0.951	0.992	1.041	0.948	1.066	1.023
Percentiles	25	3	3	2.25	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	50	4	4	4	3	3	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	3
	75	4	4	4	4	4	4	4	4	4	4.75	5	4	4	4	4	4	4	4	4	4	4

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4.2. Pre-Test and Post-Tes Statistics Analysis

Table 2.
Mean Score and Standard Deviation (SD) Analysis.

Category	Pre-test Mean	Post-test Mean	Pre-test SD	Post-test SD
Accuracy	2.27	3.43	0.482	0.647
Coherence	1.85	2.75	0.481	0.571
Flexibility	2.23	2.57	0.673	0.647
Total (Sum)	6.35	8.75	1.233	1.323

From the table ,we can see, Accuracy and Coherence improved the most, showing that students became clearer and more logical in their speech; Total speaking performance improved by 2.4 points, confirming the effectiveness of the intervention; Flexibility showed the smallest gain (+0.34 points), suggesting students still struggle with adapting their speaking style.

So ,we can see that the Fluency in English mobile app had a strong positive impact on students' speaking skills. The results show significant improvement in English-speaking abilities, confirming the effectiveness of the app in enhancing accuracy, coherence, and overall fluency.

Table 3.
Paired Samples t-test Results

Category	t-value	df	p-value (Sig.)
Accuracy	13.041	59	.001*
Coherence	10.23	59	.001*
Flexibility	5.065	59	.001*
Total (Sum)	13.715	59	.001*

The above table shows that: all p-values are 0.001 (< 0.005), confirming that the improvements in accuracy, coherence, flexibility, and total speaking ability are statistically significant. The highest improvement is in overall speaking ability (t = 13.715), followed by accuracy (t = 13.041) and coherence (t = 10.230); Flexibility has the lowest t-value (5.065), meaning it improved the least compared to accuracy and coherence. This suggests that students still struggle with adaptability in speaking English, and additional practice may be needed.

Table 4.
Paied samples effect sizes.

Paired Samples Effect Sizes						
				Point	95% Confidence Interval	
			Standardizer[a]	Estimate	Lower	Upper
accuracy	post-test pre-test	Cohen's d	0.693	1.684	1.286	2.075
		Hedges' correction	0.697	1.673	1.277	2.062
coherence	post test	Cohen's d	0.681	1.321	0.970	1.665
	pre test	Hedges' correction	0.686	1.312	0.964	1.654
flexibility	post test	Cohen's d	0.510	0.654	0.372	0.931
	pre test	Hedges' correction	0.513	0.650	0.370	0.925
sum	post-test	Cohen's d	1.355	1.771	1.361	2.174
	pre-test	Hedges' correction	1.364	1.759	1.352	2.161

Note: a. The denominator used in estimating the effect sizes.
Cohen's d uses the sample standard deviation of the mean difference.
Hedges' correction uses the sample standard deviation of the mean difference, plus a correction factor.

Effect size measures the strength of the difference between pre-test and post-test scores. It is calculated using Cohen's d and Hedges' correction, with 95% confidence intervals (CIs).

we can see the Flency in English app had the strongest impact on overall speaking ability, The total Score (1.355) is significant, followed by accuracy(0.693) and coherence(0.681) and the flexibility(0.510)

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showed moderate improvement, suggesting it may need further reinforcement. Overall, the results provide strong evidence that the Fluency in English mobile app significantly enhanced students' English-speaking skills.

5. Discussion

The results of this research are consistent with the hypothesis. Multiple factors, as identified in previous studies and this research, indeed affect students' English speaking ability. And the Fluency in English app provides a new way to address some of the problems in traditional speaking teaching. The app's features can create more practice opportunities, offer instant feedback, and help students build confidence in speaking.

However, the problems reported by students, like network issues and insufficient deep - level guidance, also need to be considered. The instability of the network can disrupt students' learning processes and reduce the effectiveness of the app. And the lack of in - depth guidance may limit students' development in dealing with high - level speaking tasks.

Conclusions and Recommendations

6. Conclusions

Multiple factors, including psychological aspects, language knowledge, and practice frequency, have an impact on college students' English speaking ability.

The Fluency in English app is an effective tool for improving students' English speaking ability. It can enhance students' learning motivation and provide more practice opportunities with instant feedback.

There are still some problems in using the app, such as network instability and insufficient in - depth guidance for complex topics.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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