

The Use of Cake Application to Improve Students' Speaking Skills at Kwala Madu Boarding School

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ABSTRACT

This study aims to investigate the use of the Cake application in improving students' speaking skills at Kwala Madu Boarding School, given that many students face difficulties in expressing their ideas due to limited vocabulary, lack of confidence, and minimal practice opportunities. A quantitative approach with a pre-experimental one-group pre-test-post-test design was employed, involving students at Kwala Madu Boarding School selected through purposive sampling. Data were collected through speaking tests, observation, and documentation; students completed a pre-test prior to the implementation of the Cake application and a post-test after several treatment sessions. The results show that students' speaking skills improved significantly from pre-test ($M = 52.45$, $SD = 9.86$) to post-test ($M = 77.38$, $SD = 7.46$), $t(28) = 49.04$, $p < .001$, $d = 9.11$, with students becoming more confident, active, and motivated in speaking English. The application's interactive features, such as video-based learning and pronunciation practice, contributed to gains in fluency and accuracy. It is concluded that the Cake application is an effective tool for enhancing students' speaking skills and can be recommended as an alternative learning medium in English language teaching, particularly in boarding school contexts.

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I. INTRODUCTION

English is one of the most important international languages used for communication in various fields such as education, technology, and global interaction. In the context of education, mastering English is essential, especially for students who are expected to communicate effectively both orally and in written forms. Among the four language skills, speaking is considered the most crucial skill because it directly reflects a learner's ability to use the language in real-life communication. As stated by Ginting (2020), speaking skill is a fundamental aspect of language learning as it shows students' ability to express ideas and interact with others. In line with this, Harmer (2007) states that speaking is the ability to communicate fluently and appropriately in different contexts, while Brown (2004) emphasizes that speaking involves not only linguistic competence but also sociolinguistic and strategic competence.

However, many students still face difficulties in developing their speaking skills. These difficulties include limited vocabulary, lack of confidence, fear of making mistakes, and insufficient opportunities to practice speaking in the classroom. This condition is also found among students at Kwala Madu Boarding School, where students tend to be passive and reluctant to express their ideas in English. According to Ur (1996), students' speaking problems are commonly caused by inhibition, nothing to say, low participation, and the use of mother tongue. In addition, Thornbury (2005) explains that speaking requires real-time processing, which makes it difficult for learners who lack practice and exposure.

The difficulties described above are particularly pronounced in Islamic boarding school (*pesantren*) settings such as Kwala Madu Boarding School. Marzulina et al. (2021) reported that English teachers in Indonesian *pesantren* face persistent challenges in developing students' language competence, including large class sizes, limited instructional time, and a shortage of supporting facilities, all of which constrain opportunities for speaking practice. Similarly, Abrar et al. (2018) found that Indonesian EFL learners' speaking difficulties are shaped not only by linguistic barriers such as limited vocabulary and pronunciation but also by psychological factors, including anxiety and low motivation, as well as a learning environment that offers little authentic practice. These conditions underscore the need for supplementary, learner-centered practice tools that can extend speaking opportunities beyond the constraints of the *pesantren* classroom.

In the era of digital technology, the integration of mobile applications in language learning has become increasingly popular. The use of technology can create a more interactive and engaging learning environment. According to Kukulska-Hulme and Shield (2008), mobile-assisted language learning (MALL) provides opportunities for learners to practice language skills anytime and anywhere. Furthermore, Richards (2008) states that the use of communicative and technology-based approaches can significantly improve students' speaking competence and motivation.

A growing body of empirical research supports the pedagogical value of MALL for developing speaking skills. In a systematic literature review of studies published between 2016 and 2020, Rajendran and Yunus (2021) concluded that MALL applications promote principles of constructivist learning, foster a low-anxiety learning environment, and support situated, learner-centered practice that is difficult to replicate in conventional classrooms. Consistent with this, Aliakbari and Mardani (2022) found that EFL learners who used mobile-based speaking practice outperformed, and reported greater satisfaction than, those in conventional face-to-face classes, attributing the gains to the flexibility and repeated practice opportunities that mobile applications afford. These findings provide a theoretical and empirical foundation for examining mobile applications, such as *Cake*, as tools for developing students' speaking skills in under-resourced or practice-limited learning environments.

One of the applications that can be used to support speaking practice is the *Cake* application, a mobile-assisted language learning (MALL) tool that provides short conversational videos, pronunciation practice, and real-life dialogue simulations. A number of recent studies have documented positive outcomes from its use in EFL contexts. Redjeki and Muhajir (2022) found that the *Cake* application supported pre-service English teachers' self-directed speaking practice through its authentic, native-speaker conversation models. Similarly, Hamzah, Al-Hamami, and Al-Qubati (2024) reported that systematic use of the *Cake* application significantly improved secondary school students' speaking performance, while Dorji and Sakulwongs (2024) demonstrated its effectiveness in developing young ESL learners' speaking skills through repeated shadowing and pronunciation feedback. A systematic review by Putri, Ratminingsih, and Santosa (2023) further confirmed that the *Cake* application consistently enhances learners' motivation and oral performance across educational levels.

However, most available studies on the *Cake* application employ qualitative, case-study, or perception-based designs (e.g., Redjeki & Muhajir, 2022), or focus on vocabulary and

pronunciation rather than integrated speaking performance (e.g., Dorji & Sakulwongs, 2024). Quantitative evidence measuring the magnitude of improvement in students' speaking skills—particularly among students in Indonesian boarding school (pesantren) settings—remains limited. This gap provides the empirical rationale for the present study, which employs a pre-experimental pre-test–post-test design to quantitatively examine the effect of the Cake application on students' speaking skills at Kwala Madu Boarding School.

Based on the problems mentioned above, this study aims to investigate the use of the Cake application to improve students' speaking skills at Kwala Madu Boarding School. It is expected that the findings of this study will contribute to the development of effective teaching strategies and provide an alternative medium for English language learning, especially in boarding school environments.

II. METHODS

This study employed a quantitative approach using a pre-experimental design with one group pre-test and post-test. This design was chosen to determine the effectiveness of the Cake application in improving students' speaking skills by comparing the students' performance before and after the treatment.

The research was conducted at Kwala Madu Boarding School. The population of this study consisted of all 200 students (santri), distributed across seven parallel classes (rombongan belajar), while the sample was selected using a purposive sampling technique. The sample consisted of Grade XI-1, one of the seven parallel classes, comprising 29 students, who were selected because this class was identified by the English teacher as having relatively low speaking proficiency compared to the other classes.

The instrument used in this study was a speaking test in which students performed tasks such as describing topics, expressing opinions, and engaging in short conversations. Students' speaking performance was assessed using an analytic rubric covering four criteria—fluency, pronunciation, vocabulary, and grammar—adapted from Brown (2004). To examine inter-rater reliability, two English teachers who had received training in speaking assessment independently rated speaking test recordings from 30 randomly selected students. The level of agreement between raters was analyzed using the Intraclass Correlation Coefficient (ICC) with a two-way mixed model, absolute agreement, where an ICC value of $\geq .75$ was considered to indicate good reliability.

As this study adopted a one-group pre-test–post-test pre-experimental design without a control group, it is acknowledged that the design is susceptible to threats to internal validity, including testing effects, maturation, and history (Sugiyono, 2017). These threats are addressed further as a limitation in the Discussion section.

The procedure of the research consisted of three stages. First, the researcher conducted a pre-test to measure the students' initial speaking ability. Second, the treatment was carried out by using the Cake application in several meetings. During the treatment, students practiced speaking through video-based materials, repeated pronunciation exercises, and interactive speaking activities provided by the application. Third, a post-test was conducted to measure the improvement of students' speaking skills after the treatment.

The data collected from the tests were analyzed using descriptive and inferential statistics. Prior to hypothesis testing, a normality test was conducted to confirm that the pre-test and post-test data were normally distributed. The mean scores and standard deviations of the pre-test and post-test were then calculated, and a paired-sample t-test was used to determine whether there was a statistically significant difference between the two sets of scores, with the significance level set at $\alpha = 0.05$. According to Sugiyono (2017), statistical analysis is used to

test hypotheses and determine the effectiveness of a treatment in quantitative research. (Shapiro-Wilk test on the pre-test–post-test difference scores; see Results).

III. RESULT AND DISCUSSION

Results

This section presents the quantitative results of students' speaking performance before and after the implementation of the Cake application, followed by an interpretation of the findings in relation to previous research. Table 1 presents the descriptive statistics of students' pre-test and post-test speaking scores.

Table 1. Descriptive Statistics of Pre-test and Post-test Speaking Scores

Test	N	Mean	SD	Minimum	Maximum
Pre-test	29	52.45	9.86	35	70
Post-test	29	77.38	7.46	62	89

As shown in Table 1, the mean post-test score ($M = 77.38$, $SD = 7.46$) was higher than the mean pre-test score ($M = 52.45$, $SD = 9.86$), indicating an improvement in students' speaking performance after the treatment.

Prior to hypothesis testing, a normality test was conducted on the pre-test and post-test data. A Shapiro-Wilk test conducted on the pre-test–post-test difference scores indicated that the data were normally distributed, $W = 0.942$, $p = .115$ ($p > .05$), satisfying the assumption required for the paired-sample t-test.

Table 2 presents the results of the paired-sample t-test used to examine whether the difference between the pre-test and post-test scores was statistically significant.

Table 2. Paired-Sample t-Test Results of Pre-test and Post-test Speaking Scores

Comparison	Mean Difference	t	df	Sig. (2-tailed)	Cohen's d
Pre-test – Post-test	24.93	49.04	28	< .001	9.11

The results in Table 2 show a statistically significant difference between the pre-test and post-test scores, $t(28) = 49.04$, $p < .001$, with an effect size of $d = 9.11$, indicating a very large practical effect. This finding confirms that the use of the Cake application had a measurable effect on students' speaking skills at Kwala Madu Boarding School.

In addition, qualitative observation during the treatment indicated improvement in several aspects of speaking, such as fluency, pronunciation, vocabulary, and grammar. Students appeared to demonstrate smoother, more fluent speech with fewer hesitations, and their pronunciation improved through repeated practice using the audio and video features of the Cake application. Furthermore, students showed gains in vocabulary and were able to construct sentences more accurately.

Discussion

The findings of this study are consistent with previous research indicating that the use of digital media in language learning can improve students' motivation and engagement. According to Kukulska-Hulme and Shield (2008), mobile-assisted language learning provides flexible and interactive opportunities for students to practice language skills beyond the classroom. This is highly relevant to the use of the Cake application, which allows students to learn independently and repeatedly.

These findings are also consistent with more recent, application-specific evidence. Hamzah, Al-Hamami, and Al-Qubati (2024) similarly found that systematic use of the Cake application produced significant gains in EFL learners' speaking performance, while Dorji and Sakulwongs (2024) reported comparable improvements in fluency and pronunciation among young ESL learners following repeated use of the application's shadowing and feedback features. The convergence of the present findings with this recent body of research strengthens the argument that Cake, as a MALL tool, offers a viable pedagogical alternative for developing learners' speaking competence.

Furthermore, the findings are also in line with Wahyuni and Vourezky (2021), who found that the use of instructional media combined with repetitive practice techniques, such as drilling, can significantly improve students' speaking achievement. This suggests that consistent practice supported by appropriate media plays an important role in developing speaking skills.

Moreover, during the learning process, students appeared more active and confident in expressing their ideas. They were more motivated to participate in speaking activities because the learning process was more enjoyable and less monotonous. This finding is supported by Richards (2008), who states that communicative and technology-based approaches can enhance students' participation and speaking competence.

Taken together, the results of this study confirm that the Cake application is an effective tool for improving students' speaking skills, $t(28) = 49.04$, $p < .001$, $d = 9.11$. The application appears not only to support students' linguistic competence but also to increase their motivation and confidence in speaking English.

Limitations

This study is not without limitations. First, the very large effect size observed ($d = 9.11$) should be interpreted with caution: the one-group pre-test–post-test pre-experimental design, employed without a control or comparison group, does not fully rule out threats to internal validity such as testing effects, maturation, and history, any of which could inflate the apparent magnitude of improvement (Sugiyono, 2017). Second, the study was conducted with a relatively small, purposively selected sample from a single boarding school ($N = 29$), which limits the generalizability of the findings to other classes, grade levels, or institutions.

With respect to the consistency of the speaking assessment, this study has several additional limitations. First, although rater training and inter-rater reliability testing using the ICC were conducted, the assessment of speaking ability inherently retains an element of subjectivity that cannot be entirely eliminated. Second, this study employed only two raters, and reliability estimates might differ if a larger number of raters were involved. Third, external factors such as students' psychological state during testing and the quality of the audio recordings may have influenced students' speaking performance, which in turn could affect the consistency of the scores assigned. The findings of this study should therefore be interpreted with caution and should not be generalized to all speaking assessment contexts. Future studies are encouraged to employ a quasi-experimental design with a control group, a larger and more diverse sample, and a greater number of raters to provide more robust evidence of the Cake application's effectiveness.

IV. CONCLUSION AND SUGGESTION

This qualitative study robustly concludes that the eighth-grade students at Al-Ulum Junior High School are not passive recipients of knowledge; rather, they actively and independently employ various strategic efforts to improve their English vocabulary mastery. The predominant strategies include traditional cognitive note-taking in dedicated vocabulary journals, the extensive utilization of digital media platforms such as Duolingo and YouTube for

interactive and contextual learning, and the application of memory-based repetition techniques. These student-led strategies successfully promote autonomous learning behaviors and enhance the initial stages of vocabulary retention.

However, a significant limitation identified in this study is the presence of severe psychological and environmental challenges. Persistent issues such as low self-confidence, fear of peer judgment, and a stark lack of authentic practice opportunities outside the classroom drastically hinder the students' ability to transfer their receptive vocabulary into active, productive communication.

Based on these comprehensive conclusions, several practical suggestions and possible applications are offered. Firstly, English teachers play a profoundly crucial role in creating a low-anxiety, highly supportive classroom environment. Teachers should implement more communicative language teaching activities that focus on fluency rather than strict grammatical accuracy to build students' confidence in utilizing their new vocabulary. Secondly, schools are highly encouraged to formally integrate the digital learning tools that students are already using (like gamified apps) into the official curriculum to bridge the gap between informal and formal learning. For future researchers, it is suggested to conduct longitudinal studies to measure the long-term effectiveness of these specific digital strategies on students' productive vocabulary test scores over an extended academic year.

Furthermore, these findings emphasize the importance of balancing both receptive and productive vocabulary development in language learning. While students may successfully recognize and understand new words, the ability to actively use them in meaningful communication remains a crucial goal. Therefore, continuous exposure, guided practice, and supportive feedback are essential in helping students bridge this gap and achieve more effective vocabulary mastery in real-life contexts.

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