

The Influence of Using the Beelinguapp Application on Students' Pronunciation Mastery

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ABSTRACT

This study examines the effect of the Beelinguapp application on students' pronunciation mastery in an EFL context. A quasi-experimental design was employed with two classes of eleventh-grade students at SMK Al-Huda Jati Agung. One class was assigned as the experimental group using Beelinguapp, while the other served as the control group receiving conventional instruction. Data were collected through pre-tests and post-tests and analyzed using paired sample t-tests and independent t-tests. The findings revealed that the experimental group's mean score improved from 62.71 to 81.19, with a mean difference of 18.48 ($p = 0.000$). In contrast, the control group's mean score increased from 61.72 to 67.19, with a smaller mean difference of 5.47 ($p = 0.006$). The independent t-test confirmed that the experimental group achieved significantly greater gains than the control group ($p < 0.05$). These results demonstrate that Beelinguapp is effective in enhancing pronunciation mastery, particularly by providing students with authentic pronunciation models, multimodal input through audio and text, and opportunities for interactive practice. The study highlights the value of integrating mobile-assisted language learning applications into classroom instruction to foster more engaging and effective pronunciation learning. It also suggests that digital tools like Beelinguapp can help overcome common challenges in pronunciation teaching, where traditional approaches often provide limited exposure and practice.

Keywords: Beelinguapp; Mobile-Assisted Language Learning; Pronunciation

INTRODUCTION

Pronunciation mastery is one of the most essential components in the process of learning a foreign language because it directly influences how effectively learners can communicate in real-life interactions. Precise and accurate pronunciation enables listeners to comprehend the intended message, reduces the likelihood of misunderstandings, and fosters confidence in learners when they engage in spoken

communication (Almusharraf, 2022). In the Indonesian context, where English functions primarily as a foreign language, pronunciation mastery becomes even more significant. Unlike countries where English is used widely in daily life, Indonesian students have limited opportunities to interact with native speakers or to be exposed to authentic pronunciation models. As a result, pronunciation challenges often persist even after years of formal study.

Despite its importance, pronunciation has historically received less attention in English classrooms compared to other aspects of language learning, such as grammar and vocabulary. Teachers often prioritize reading comprehension, writing skills, or grammatical accuracy, leaving oral and pronunciation practice to be addressed superficially. This imbalance in teaching focus means that many students develop fossilized pronunciation errors, errors that become ingrained and difficult to correct in later stages of learning (Darcy, 2018). When students feel insecure about their pronunciation, they may also lose confidence in their ability to communicate, which in turn can discourage them from participating actively in class or engaging in conversations beyond the classroom.

Evidence from local studies in Indonesia reinforces these concerns. For example, Juliani (2020) noted that many senior high school students struggled with producing English vowel and consonant sounds due to insufficient exposure to authentic input. Similarly, Haryadi and Aprianoto (2020) reported that even when technology was introduced to assist pronunciation practice, students' difficulties persisted because classroom instruction often lacked consistency and systematic follow-up. These findings highlight a pressing issue: without effective and engaging pronunciation support, Indonesian learners are at risk of underdeveloping one of the most crucial aspects of communicative competence.

This situation underscores the need to explore innovative strategies for addressing students' pronunciation issues. In particular, there is a need for tools and approaches that go beyond the limitations of traditional classroom instruction. One promising development in this regard is the growing use of mobile-assisted language learning (MALL). Mobile applications designed for language learning allow students to access practice materials anytime and anywhere, offering flexibility that is difficult to achieve in conventional classroom settings. The interactive nature of these applications also motivates learners by giving them opportunities for self-paced, personalized learning (Kukulska-Hulme, 2018).

Among the available applications, Beelinguapp offers a unique format by combining bilingual reading texts with audio recordings by native speakers. Learners can read the text in both their native language and the target language while simultaneously listening to the audio version in English. This multimodal approach enables students to connect meaning with sound, reinforcing their listening and speaking skills. By repeatedly hearing authentic models and practicing pronunciation in context, learners can internalize sound patterns more effectively.

Unlike static classroom drills, Beelinguapp offers continuous input and interactive engagement, both of which are essential for mastering pronunciation.

The feasibility of using Beelinguapp in the Indonesian context is also worth highlighting. Mobile technology is increasingly accessible to students across different regions in Indonesia, including rural areas. Smartphones are widely used, and mobile internet coverage has expanded significantly over the past few years. This makes Beelinguapp a practical and cost-effective tool for both learners and teachers. Schools do not need sophisticated equipment to adopt such an application, and students can continue practicing outside class hours, thus extending learning beyond the classroom. In this sense, Beelinguapp aligns well with current educational needs in Indonesia, where schools are encouraged to integrate digital learning tools into their teaching practices as part of the government's efforts to promote innovation and digital literacy in education.

While previous studies have examined the use of mobile applications in supporting English learning, there is limited research that focuses specifically on Beelinguapp's effectiveness for improving pronunciation in Indonesian classrooms. Much of the existing research has centered on other applications such as ELSA Speak or Duolingo, with an emphasis on speaking fluency or vocabulary acquisition rather than pronunciation accuracy. For instance, Kholis (2021) found that ELSA Speak could support learners' speaking proficiency through automatic speech recognition feedback, but this study did not address the unique bilingual input approach of Beelinguapp. Similarly, Winzky and Aswir (2022) explored students' perceptions of mobile applications for pronunciation learning but did not provide empirical evidence on measurable pronunciation outcomes.

This gap presents an opportunity for novelty. Unlike studies that focus broadly on mobile learning or applications designed for general English practice, this study investigates Beelinguapp explicitly and its impact on pronunciation mastery among Indonesian high school students. By examining how Beelinguapp supports pronunciation development, this research contributes not only to the body of knowledge on technology-enhanced language learning but also provides practical insights for teachers seeking effective tools to address pronunciation difficulties.

The urgency of this study lies in the persistent problem of poor pronunciation among Indonesian learners, which affects their communicative competence and confidence in using English. Its feasibility is ensured by the accessibility of mobile applications like Beelinguapp, which can be easily adopted in both urban and rural contexts. The novelty lies in focusing on a relatively underexplored application that integrates bilingual text and authentic audio to enhance pronunciation practice.

Therefore, this research aims to analyze the influence of Beelinguapp on students' pronunciation mastery, with the expectation that the findings will highlight the potential of mobile applications to enhance pronunciation learning more effectively than conventional methods. Ultimately, this study seeks to provide a foundation for

teachers and policymakers in Indonesia to integrate digital tools into language instruction, ensuring that learners receive adequate exposure, practice, and feedback in developing one of the most essential skills for communication: pronunciation.

LITERATURE REVIEW

The Beelinguapp application serves as an effective tool for enhancing students' pronunciation mastery in English as a Foreign Language (EFL). Central to this enhancement is the notion that learners significantly benefit from the interactive features and self-directed nature of mobile applications. For instance, prior studies have established that pronunciation apps offer an opportunity for autonomous learning, allowing students to practice at their convenience and foster independent learning habits (Gilakjani, 2018; Humardhiana, 2022).

(Kholis, 2021; Xodabande, 2017) Noted how learners engaged with apps like ELSA Speak could see marked improvements in speaking proficiency when actively participating with technological support. Such applications often include automatic speech recognition (ASR) features that provide immediate corrective feedback, thus facilitating a more personalized learning experience.

The Beelinguapp application is increasingly recognized for its effectiveness in enhancing students' English pronunciation skills. This application is designed to facilitate language learning by integrating bilingual texts and audio recordings from native speakers, thereby enhancing both auditory and visual interaction (Cisnero, 2024). This dual approach reinforces the learning process by allowing students to hear and echo proper pronunciation, which physical classroom settings might not offer comprehensively. (Kan & Ito, 2020; Utami, 2024) Such applications provide learners with direct access to authentic pronunciation models, enabling them to imitate native speakers more accurately and thus foster better pronunciation. Furthermore, the application promotes a meaning-driven approach, where learners engage with authentic content in their target language, positively affecting their pronunciation and overall language proficiency. As students practice with resources tailored to their level, the individualized lessons significantly contribute to their pronunciation mastery, making Beelinguapp a compelling tool for English as a Foreign Language (EFL) learners.

The use of mobile applications, such as Beelinguapp, for pronunciation mastery exemplifies a shift toward technology-integrated language learning. Central to this is the efficacy of Automatic Speech Recognition (ASR) technology, which has become instrumental in providing immediate feedback and facilitating personalized learning experiences. In a study, Dai and Wu found that ASR within mobile apps allows students to receive tailored corrective feedback during self-paced practice. Such feedback is crucial, as it not only aids in correcting mispronunciations but also reinforces learning through consistent engagement with the material.

Furthermore, mobile applications cater to diverse learning modalities, promoting engagement and retention among users. The features commonly employed in these applications, such as phonetic transcription, audio examples, and interactive exercises, accommodate various user preferences, thereby enriching their learning experiences. Such multimodal approaches have been correlated with improved pronunciation proficiency; students often find themselves more motivated when learning through engaging technological platforms. This perspective is reinforced by studies that suggest the integration of gamified elements within these apps furthers learner motivation and participation in pronunciation practice (Haryadi, S, & Aprianoto, 2020; Winzky & Aswir, 2022). These insights underscore the crucial role that mobile technology plays in fostering a robust and engaging learning environment for achieving pronunciation mastery.

Another critical aspect is the role of feedback in mobile-assisted pronunciation learning. Research suggests that corrective feedback, which students receive via apps, aligns closely with formative assessment practices (Febriani & Irsyad Abdullah, 2018; Klimova, 2019; Klimova & Polakova, 2020). Studies indicate that students reported a favorable response to feedback from pronunciation apps, which helps correct errors and motivates them to engage further with the content and practice consistently. This engagement gradually builds their confidence in speaking and helps refine their pronunciation skills. Furthermore, the use of ASR technology in pronunciation training has been shown to enhance learning efficiency, allowing students to focus on specific sounds or patterns that they find challenging.

Moreover, collaborative features embedded within mobile applications can also enhance pronunciation mastery. (Hwang et al., 2016; Kukulska-Hulme, 2018) emphasized the importance of collaboration in language learning, suggesting that peer interactions facilitated through mobile platforms encourage learners to practice speaking more actively.

Furthermore, it is essential to consider how mobile applications, including Beelinguapp, leverage various pedagogical methods to cater to different learning styles. It is observed that many applications include features such as phonetic transcriptions and audio-recorded examples, which enrich the learning experience by providing multiple input channels. This diversity in teaching methods helps students grasp pronunciation nuances effectively. Collectively, these features encourage not just rote memorization of sounds but a deeper understanding of how these sounds function in different contexts (Meisarah, 2020)

Lastly, evidence suggests a connection between the technology used and students' attitudes toward learning English pronunciation. A study conducted by Tuhfatul Mubarakah Assalamah et al. (2024) found that incorporating educational technology resulted in higher motivation levels and improved language acquisition among learners. This correlation underlines the transformative potential of mobile

applications in pronunciation training; as students become more engaged with their learning tools, they are more likely to persist in their practice and ultimately enhance their skills. Therefore, as Beelinguapp and similar applications continue to evolve, their impact on students' pronunciation mastery becomes increasingly significant.

METHOD

Design and Sample

This study employed a quantitative method with a quasi-experimental design to examine the effect of the Beelinguapp application on students' pronunciation achievement. The research population consisted of all eleventh-grade students at SMK Al-Huda Jati Agung in the 2025 academic year. Using cluster sampling, two intact classes were selected as the study sample, with a total of 58 students. The experimental group consisted of 31 students who received pronunciation practice using Beelinguapp, while the control group consisted of 32 students who received conventional pronunciation instruction.

Instrument and Procedure

The instrument used in this study was a pronunciation test administered at both the pre-test and post-test stages. Students were required to read aloud a set of prepared sentences containing target words that represented various aspects of English phonology, including vowel sounds, consonant clusters, word stress, and rhythm. Their performance was assessed using a rubric adapted from Gilakjani (2016), which covered four criteria: accuracy, intelligibility, stress and rhythm, and fluency. Each criterion was scored on a five-point scale, with 1 indicating very weak performance and 5 representing excellent performance. To ensure objectivity, two independent raters evaluated the recordings, and inter-rater reliability was measured to confirm consistency across the scores.

The data collection procedures were carried out in three stages: pre-test, treatment, and post-test. The pre-test was conducted to establish students' baseline pronunciation skills. During this stage, students read the same set of sentences individually, and their voices were recorded to provide reliable data for further comparison. After the pre-test, the experimental group received treatment using the Beelinguapp application across three sessions. Each session introduced different features of the application, such as listening to native speaker models, practicing through imitation, and receiving instant feedback. Three sessions were considered sufficient because short but intensive practice has been found effective in fostering measurable improvement in pronunciation, while also accommodating classroom scheduling constraints. Moreover, pilot observations indicated that by the third session, students had already demonstrated noticeable changes in their pronunciation, making further sessions less critical for identifying short-term improvements.

Meanwhile, the control group continued with conventional teacher-led pronunciation instruction without app integration. Finally, the post-test was administered using the same format and rubric as the pre-test, ensuring comparability of results. The consistent structure of the instrument and the controlled procedures allowed for objective measurement of changes in students' pronunciation performance.

Data Analysis

The data were analyzed using both descriptive and inferential statistics. Descriptive statistics (mean, standard deviation, and percentage) were used to summarize students' pronunciation scores. Inferential analysis was conducted using an independent-samples t-test to compare the mean gains of the experimental and control groups. This allowed the researchers to determine whether the Beelinguapp application had a statistically significant effect on students' pronunciation achievement. Inter-rater reliability was measured using Cohen's Kappa to confirm consistency between raters' scores.

RESULT AND DISCUSSION

As outlined earlier, pre- and post-tests were central to the data collection strategy, aiming to capture students' pronunciation performance. In addition, a survey was distributed to gather students' perceptions of the Beelinguapp application. The data were analyzed using SPSS to facilitate interpretation, with the following table presenting an overview of the pre- and post-test analysis.

Table 1. Descriptive Statistics

	Descriptive Statistics				
	N	Minimum	Maximum	Mean	Std. Deviation
Pre-Test Eksperimental	31	46	79	62.71	6.827
Post-Test Eksperimental	31	70	88	81.19	4.722
Pre-Test Control Class	32	48	74	61.72	6.155
Post-Test Control Class	32	54	81	67.19	7.315
Valid N (listwise)	31				

The descriptive analysis revealed that the experimental group had a pre-test mean score of 62.71, with a range of 46 to 79 and a standard deviation of 6.827. Following the treatment, the post-test mean score increased to 81.19, with scores ranging from 70 to 88 and a standard deviation of 4.722. These results demonstrate a notable improvement in students' learning performance after the intervention.

Meanwhile, in the control class, the pre-test mean score was 61.72, with a minimum of 48 and a maximum of 74, and a standard deviation of 6.155. After the post-test, the mean score increased to 67.19, with a range of 54 to 81 and a standard deviation of 7.315. Although there was an improvement in the control class, the increase was relatively minor compared to the experimental class.

These descriptive results suggest that the treatment applied to the experimental class was more effective in enhancing students' learning achievement compared to the control class.

Table 2. Tests of Normality

Test of Normality ^a							
		Kolmogorov-Smirnov ^b			Shapiro-Wilk		
	Class	Statistic	df	Sig.	Statistic	df	Sig.
Student Learning Outcomes	Pre-Test Eksperimental Class	.083	31	.200	.986	31	.944
	Post-Test Eksperimental Class	.145	31	.097	.951	31	.162
	Pre-Test Control Class	.121	31	.200	.973	31	.602
	Post-Test Control Class	.082	32	.200	.973	32	.591

- a. Student Learning Outcomes are constant when Class=0. It has been omitted.
- b. Lilliefors Significance Correction

The normality assessment was conducted using the Kolmogorov-Smirnov and Shapiro-Wilk tests. The findings revealed that all significance (Sig.) values were above 0.05. For instance, in the experimental group, the Shapiro-Wilk Sig. The values reached 0.944 for the pre-test and 0.162 for the post-test, while in the control group, the values were 0.602 for the pre-test and 0.591 for the post-test.

Since all p-values exceeded 0.05, it was concluded that the data did not follow a normal distribution. Thus, the dataset was appropriate for parametric analysis, specifically the paired sample t-test.

Table 3. Paired Samples Test

Paired Samples Test									
Paired Differences									
		Mean	Std. Deviation	Std. Error Mean	95% Confidance Interval of the Difference		t	dr	Sig.(2-failed)
					Lower	Upper			
Pair 1	Pre-Test Eksperimental Class - Post-Test Eksperimental Class	-18.484	9.434	1.694	-21.944	-15.024	-10.909	30	.000
Pair 2	Pre-Test Control Class - Post-Test Control Class	-5.469	10.436	1.845	-9.231	-1.706	-2.964	31	.006

The paired sample t-test results showed significant differences between the pre-test and post-test scores in both the experimental and control groups. For the experimental group, the mean difference was -18.484 with a Sig. (2-tailed) value of 0.000, indicating a marked improvement in learning outcomes following the treatment.

In the control class, the mean difference was -5.469 with a Sig. (2-tailed) value of 0.006, reflecting an improvement in learning outcomes, though the progress was less substantial than that of the experimental group. Therefore, the findings confirm that the treatment applied in the experimental class had a more significant effect on students' learning development compared to the conventional method used in the control class.

The results of this study demonstrate that the Beelinguapp application significantly improved students' pronunciation performance compared to conventional instruction. This finding is consistent with constructivist learning theory, which emphasizes active engagement and the learner's role in constructing knowledge through meaningful interaction (Allen, 2022; Bada & Olusegun, 2015). The experimental group's higher gains suggest that digital learning tools, particularly mobile-assisted language learning (MALL) applications, can foster active involvement, self-directed practice, and immediate feedback, all of which contribute to better learning outcomes.

This study's results also align with those of Padingding and Gallego (2023), who demonstrated that innovative instructional strategies enhance motivation and engagement in language learning contexts. The relatively minor improvement in the control group indicates that conventional, teacher-centered methods may not be sufficient to engage students in pronunciation practice, which requires frequent repetition, immediate correction, and learner autonomy (Derwing & Munro, 2015). In line with Juliani (2020), this study confirms that active, creative, and innovative models are more effective in improving students' academic performance than traditional approaches.

More specifically, the improvement in the experimental group supports research on mobile learning tools that integrate reading and listening activities. For example, Godwin-Jones (2017) and Viberg and Grönlund (2017) found that MALL applications promote learner autonomy and provide opportunities for personalized, flexible practice. Similarly, Bai and Wang (2023) argued that digital platforms sustain learner motivation over time by catering to individual needs and interests. The results of this study contribute to the growing body of literature by demonstrating that Beelinguapp, which enables learners to read texts while listening to native speaker audio, effectively bridges input and practice for pronunciation learning.

Another point of comparison comes from Rosell-Aguilar (2017), who showed that podcast-based pronunciation practice improved learners' intelligibility. While Beelinguapp differs in design, it shares the principle of exposing learners to authentic audio models. The current study, therefore, reinforces the notion that integrating authentic listening with guided practice yields positive results. However, it also extends these findings by demonstrating measurable gains in a relatively short period of only three treatment sessions, suggesting that even limited but focused exposure can make a difference in EFL contexts.

From a pedagogical standpoint, this study carries several important implications. First, it highlights the role of digital tools, such as Beelinguapp, in supplementing classroom instruction. Teachers can integrate the app as a form of blended learning, assigning students pronunciation practice outside the classroom and using in-class time for feedback and reinforcement. Second, the structured rubric used in this study suggests that teachers should adopt clear assessment criteria (accuracy, intelligibility, stress and rhythm, and fluency) when evaluating pronunciation progress. Third, this study shows that even short-term, app-based interventions can yield results, making them particularly useful in schools with limited time for English instruction. In practice, teachers can design pronunciation-focused tasks, such as shadowing, repetition drills, or peer feedback activities, using the app's features to sustain engagement.

The findings also encourage teacher professional development in integrating technology. As argued by Kukulska-Hulme and Viberg (2018), the effective use of mobile learning tools necessitates that teachers develop both technological competence and pedagogical creativity. Beelinguapp can be seen as a practical entry point for teachers who are less familiar with technology-enhanced learning, as it provides a simple and user-friendly interface. By experimenting with the app in combination with communicative classroom strategies, teachers can create a more student-centered environment that promotes both accuracy and confidence in pronunciation.

Despite these contributions, this study has limitations. The relatively small sample size (58 students) and short duration (three sessions) limit the generalizability of the findings. Longer interventions might reveal whether the observed

improvements are sustainable over time. Furthermore, the study only examined pronunciation outcomes, while Beelinguapp also has the potential to support other aspects of language learning, such as vocabulary and reading comprehension. Future research could explore these areas to build a more comprehensive understanding of the app's effectiveness. Another limitation concerns the reliance on two raters. However, inter-rater reliability was ensured; future studies might benefit from a larger panel of evaluators or the use of automated speech recognition tools for additional objectivity.

In summary, this study confirms and extends prior research on the effectiveness of mobile applications for language learning. It highlights that Beelinguapp can enhance EFL students' pronunciation skills in a relatively short time by promoting active, independent practice with authentic input. Pedagogically, the study underscores the importance of adopting innovative, technology-supported strategies tailored to learners' needs. While limitations remain, the findings open new avenues for integrating accessible mobile tools into language classrooms, particularly in contexts where conventional instruction has not yielded optimal outcomes.

CONCLUSION

The findings of this study suggest important implications for English teachers, particularly in contexts where pronunciation practice often receives limited attention. Beelinguapp can serve as a practical tool to supplement classroom instruction by providing students with authentic input, interactive practice, and opportunities for independent learning. Teachers may integrate the app into lesson plans as a form of blended learning, assign it for out-of-class practice, or use it to encourage learner autonomy and build confidence in oral production. By leveraging its multimodal features, teachers can create more engaging pronunciation activities that go beyond traditional drilling and foster motivation among learners.

Despite these contributions, the study has several limitations. It focused solely on one application (Beelinguapp) and was implemented within a short treatment period, making it challenging to assess its long-term effectiveness. The relatively small sample size also limits generalizability. Future research could address these issues by conducting comparative studies with multiple pronunciation applications, extending the duration of interventions to track sustained progress, and involving larger and more diverse student populations. Such investigations would provide deeper insights into how different mobile tools can support both segmental features (individual sounds) and suprasegmental features (stress, rhythm, and intonation) in pronunciation learning.

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