Improving a Skills of EFL Students Using Duolingo in a Rural Madurese School

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Abstract

Speaking skill is one of the main challenges for EFL (English as a Foreign Language) learners, especially in rural areas with limited access to authentic communication and digital technology. This study aimed to examine the effectiveness of the Duolingo application in improving the English-speaking skills of eighth-grade students at MTs Nurul Huda Al Maroniyah Sampang. This research employed a pre-experimental one-group pretest-posttest design with a total of 30 students as participants. The research procedure consisted of a pretest, three weeks of treatment using Duolingo, and a posttest. The main research instrument was a speaking test that assessed five aspects: fluency, grammar and accuracy, pronunciation, vocabulary use, and comprehensibility, scored on a 1–5 Likert scale. Data from the pretest and posttest were analyzed using the Wilcoxon Signed-Rank Test via SPSS 25 to determine the statistical significance, and effect size was calculated to measure the magnitude of improvement. The results revealed a statistically significant improvement in students' speaking skills (p = 0.000) with a very large effect size (r = 0.861). These findings indicate that Duolingo can be an effective, engaging, and practical tool for developing speaking skills in resource-limited educational contexts, particularly in rural Islamic junior high schools in Indonesia. Future studies are recommended to explore the combination of Duolingo with live speaking practice or compare its effectiveness with other mobile-assisted language learning applications.

Keywords: *Duolingo, Speaking Skill, Mobile-Assisted Language Learning, Rural Education, EFL Learners*

Abstrak

Keterampilan berbicara merupakan salah satu tantangan utama bagi siswa EFL (English as a Foreign Language), terutama di daerah pedesaan yang memiliki akses terbatas terhadap komunikasi autentik dan teknologi digital. Penelitian ini bertujuan untuk mengetahui efektivitas aplikasi Duolingo dalam meningkatkan kemampuan berbicara bahasa Inggris siswa kelas VIII MTs Nurul Huda Al Maroniyah Sampang. Penelitian ini menggunakan desain pra-eksperimental one-group pretest-posttest dengan total 30 siswa sebagai peserta. Prosedur penelitian meliputi tahap pra-ujian, perlakuan menggunakan aplikasi Duolingo selama tiga minggu, dan pasca-ujian. Instrumen penelitian berupa tes berbicara yang menilai lima aspek, yaitu kefasihan, tata bahasa dan ketepatan, pelafalan, penggunaan kosakata, dan keterpahaman, dengan skala penilaian Likert 1–5. Data pretest dan posttest dianalisis menggunakan uji Wilcoxon Signed-Rank melalui SPSS 25 untuk melihat signifikansi perbedaan, serta dihitung ukuran efek (effect size) untuk mengetahui besar pengaruh perlakuan. Hasil penelitian menunjukkan peningkatan kemampuan berbicara yang signifikan secara statistik (p = 0,000) dengan ukuran efek yang sangat besar (r = 0,861). Temuan ini menunjukkan bahwa Duolingo dapat menjadi alat yang efektif, menarik, dan praktis untuk mengembangkan keterampilan berbicara di lingkungan pendidikan yang minim sumber daya, khususnya di madrasah tsanawiyah pedesaan di Indonesia. Disarankan agar penelitian selanjutnya mengeksplorasi kombinasi Duolingo dengan praktik berbicara langsung atau membandingkan efektivitasnya dengan aplikasi pembelajaran bahasa lainnya.

Kata kunci: Duolingo, keterampilan berbicara, pembelajaran bahasa berbantuan gawai, pendidikan pedesaan, pembelajar EFL.

INTRODUCTION

English is widely considered a global language and is taught at all levels of education in Indonesia, from elementary to tertiary level. Among the four main language skills—listening, speaking, reading, and writing—speaking is the most difficult to master, especially for students in rural areas. Speaking not only requires mastery of vocabulary and grammar, but also requires confidence and continuous practice (Kusuma, 2021). However, in practice, this skill is often under-appreciated in classrooms, especially in schools that have limited time, facilities, and exposure to authentic English. Technological advances have opened up new opportunities to support language learning. One of the emerging innovations is the mobile-based language learning application, Duolingo. This application provides interactive, game-based exercises (gamified) designed to help users build vocabulary, improve pronunciation, and practice speaking skills in a fun way. According to (Nushi & Eqbali, 2017), Duolingo has been used by more than 500 million users worldwide and is considered very effective in learning foreign languages. However, the use of digital applications such as Duolingo in rural schools in Indonesia is still relatively minimal.

MTs Nurul Huda Al Maroniyah, located in Pangarengan, Sampang, is one of the Islamic junior high schools that faces challenges in terms of the environment and availability of technology. Students at this school rarely use English outside of class and have limited access to digital-based learning media. However, the fact that studtewnryents at this school were able to excel in local English speech competitions shows that they have high motivation and potential in learning a foreign language.

According to Piaget's cognitive development theory, grade VIII students are in the formal operational stage, which is the stage where they are able to think abstractly and solve complex problems. Therefore, the use of structured but flexible learning media such as Duolingo is very possible to support their cognitive development and language skills.

Several previous studies have discussed the effectiveness of using Duolingo in vocabulary mastery or general language comprehension. (Hernadijaya, 2020) and (Budiyanto & Ridho, 2024) showed that this application is effective in improving vocabulary mastery. (ELGI, 2024) found that students have a positive perception of using Duolingo for speaking activities in a junior high school setting. Similarly, Smith et al. (Charlotte Smith et al., 2023) highlighted the role of digital tools in promoting computational empowerment and language learning in education. However, there are still few studies that specifically highlight the influence of Duolingo on students' speaking skills, especially in madrasah environments in rural areas. This indicates a gap in the study that needs to be filled through further research. The novelty of this study lies in its focus on measuring the actual improvement of speaking skills through a pretest-posttest experimental design, rather than only exploring vocabulary acquisition or student perception. Moreover, this research provides empirical evidence of Duolingo's effectiveness in a unique rural Islamic school context, which has rarely been investigated before.

Based on these conditions, this study aims to examine whether the use of the Duolingo application can provide a significant improvement in the English speaking skills of grade VIII students at MTs Nurul Huda Al Maroniyah Sampang. In addition, this study also examines the extent of the influence or effectiveness of Duolingo in improving students' speaking skills. The results of this study are expected to provide a real contribution to English learning strategies, especially in schools with limited resources, as well as encourage the integration of digital technology in teaching speaking skills.

METHOD

This study used a quantitative approach with a one-group pretest-posttest pre-experimental design. The subjects of the study were 30 eighth grade students of MTs Nurul Huda Al Maroniyah Pangarengan, Sampang, who were selected using a total sampling technique. Data were collected through a speaking test in the form of a pretest and posttest. This test assesses five aspects of speaking ability, namely fluency, grammar and accuracy, pronunciation, vocabulary use, and comprehensibility. Each aspect is assessed on a Likert scale of 1–5.

The research procedure consisted of three stages: pretest, treatment using the Duolingo application for three weeks, and posttest. During the treatment, students used Duolingo independently and were also monitored by the researcher through the Duolingo class feature.

The data were analyzed using SPSS 25. The normality test was carried out with Shapiro-Wilk. Because the data were not normally distributed, the Wilcoxon Signed-Rank test was used to determine the significance of the increase. The effect size was calculated to measure the magnitude of the influence. The validity of the instrument was tested using Pearson Product Moment and reliability using Cronbach's Alpha..

RESULT AND DISCUSSION

This study aims to measure the effectiveness of using the Duolingo application to improve the speaking ability of class VIII students of MTs Nurul Huda Al Maroniyah Sampang. The assessment was carried out on five aspects of speaking: fluency, grammar and accuracy, pronunciation, vocabulary use, and comprehensibility. The assessment was carried out through a pre-test and post-test after four weeks of treatment.

The pre-test results showed that students' speaking ability was still low, with an overall average score of 10.7. After using the Duolingo application, there was an increase in the average score to 16.5. All aspects showed improvement, with pronunciation and vocabulary use experiencing the most significant improvement.

Table 1. Comparison of Average Scores for Each Aspect of Students' Speaking

Aspect	Pre-test Score	Post-test Score
Fluency	2.2	3.1
Grammar & Accuracy	2.1	2.9
Pronunciation	2.1	3.5
Vocabulary Use	2.3	3.2
Comprehensibility	2.0	3.2
Rata-rata Total	10.7	16.5

Statistical analysis using the Wilcoxon Signed-Rank test showed a significance value (p-value) of 0.000, indicating a statistically significant difference between students' pretest and posttest scores. Furthermore, the effect size value of 0.861 categorized the improvement as a very large influence, suggesting that Duolingo had a substantial impact on students' speaking performance. This finding aligns with the concept of Mobile-Assisted Language Learning (MALL), which emphasizes the role of mobile applications in creating flexible and accessible learning environments (Burston, 2015). In the context of this study, Duolingo functioned as a supplementary learning tool that allowed students to practice speaking beyond the classroom, which supports Stockwell and ("Mobile-Assisted Language Learning," 2023). Argument that mobile learning increases exposure and learner autonomy in language learning.

The highest Improvement was observed in the pronunciation aspect. This result can be attributed to Duolingo's repetition and immediate feedback features, which

enabled students to mimic accurate pronunciation directly. According to (Newton & Nation, 2021) repeated pronunciation drills and input-output cycles enhance phonological awareness and oral fluency. In addition, vocabulary exercises provided by Duolingo in the form of gamified quizzes and visual cues helped strengthen students' retention and recall. This supports the findings of ("The Effects of Mobile-Assisted Language Learning (MALL) on Korean College Students' English-Listening Performance and English-Listening Anxiety," 2017), who demonstrated that gamified language learning platforms improve both vocabulary acquisition and learner motivation through interactive design.

These results are consistent with Hernadijaya's (2020) research, which demonstrated Duolingo's effectiveness in enhancing vocabulary mastery among junior high school students. Similarly, Nushi and Eqbali (2017) found that Duolingo improves pronunciation and language comprehension through its technology-based approach. However, this study expands on previous findings by providing empirical evidence on the direct impact of Duolingo on speaking skills rather than merely vocabulary or perception, especially in the under-researched context of rural Islamic junior high schools in Indonesia. This novelty contributes to the limited body of literature on the effectiveness of digital tools in improving oral communication skills in resource-constrained educational settings.

From a theoretical perspective, this improvement also aligns with Piaget's theory of cognitive development, which states that eighth-grade students are in the formal operational stage, enabling them to engage in abstract reasoning and problem-solving. Duolingo, with its structured yet interactive approach, provided an environment that matched their cognitive readiness for language learning. In addition, the results echo the principles of Communicative Language Teaching (CLT), emphasizing meaningful interaction and consistent practice as key factors for developing speaking skills. Therefore, integrating mobile learning tools like Duolingo into EFL instruction is not only practical but also theoretically justified.

In the context of EFL (English as a Foreign Language) learning, especially in schools with limited resources, these results suggest that mobile-based learning applications such as Duolingo can be a practical and effective alternative solution. With an attractive appearance, gamification system, and the ability to learn independently, this application is able to increase students' learning motivation and allow them to practice consistently outside of class hours.

While these findings provide valuable insights, it is important to acknowledge some limitations of the study. First, the research was conducted in a single rural Islamic junior high school with a relatively small sample size of 30 students, which may limit the generalizability of the findings to other educational contexts. Second, the study employed a pre-experimental one-group pretest-posttest design without a control group, making it difficult to fully isolate the effect of Duolingo from other possible influencing factors. Third, the treatment duration was only three weeks, which may not capture the long-term impact of using the application on speaking skills. Finally, the study focused solely on speaking skills and did not examine other language components such as listening or writing.

Beyond these limitations, the findings also carry practical implications for EFL learning in resource-constrained settings. Future research could address these limitations by involving a larger and more diverse sample, applying a quasi-experimental or true experimental design with a control group, and extending the treatment period to observe long-term effects. Additionally, it would be valuable to explore the integration of Duolingo with live speaking practice or compare it with other mobile-assisted language learning tools to provide a more comprehensive understanding of its effectiveness.

The implications of this study indicate the importance of technology integration in English learning, not only in big cities, but also in remote areas. Teachers and educational institutions need to consider utilizing mobile applications such as Duolingo as a complement to classroom learning.

CONCLUSION

The results of this study indicate that the use of the Duolingo application significantly improves the speaking ability of grade VIII students at MTs Nurul Huda Al Maroniyah Sampang. Improvements occurred in all aspects of speaking assessment, namely fluency, grammar and accuracy, pronunciation, vocabulary use, and comprehensibility, with a very large influence category based on the effect size calculation.

These findings indicate that technology-assisted language learning, especially through mobile-based applications such as Duolingo, can be an effective alternative solution in schools with limited resources. This application encourages consistent independent practice and increases students' learning motivation.

It is recommended for English teachers to consider integrating digital learning applications into the classroom learning process. Further research can explore the use of Duolingo combined with direct speaking practice or compare it with other language learning applications.

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