

IMPROVING ENGLISH SPEAKING SKILLS USING DUOLINGO APPLICATION (CASE STUDY) AT SMK YPK MEDAN

Cici Handayani^{1)*}, Selfitrida A Yani²⁾

¹Department of Marketing Management, Politeknik Unggul LP3M, North Sumatera

²Department of Accounting, Politeknik Ganesha, North Sumatera

Email: cici.handayani@gmail.com

ABSTRACT- *This study aims to assess the use of the Duolingo application to improve English speaking skills among students at SMK YPK Medan. In the digital era, technology has become an effective tool to support students in developing language skills. This research employs a qualitative approach with a case study design, involving 10 students. Data were collected through observations, interviews, and a pre- and post-assessment of speaking skills over a four-week period. The findings reveal that Duolingo significantly enhances students' speaking fluency, vocabulary, and pronunciation. The Duolingo significantly enhances students' speaking proficiency, with an average improvement of 25% for three criteria. Specifically, students showed improvements in fluency (22%), vocabulary (28%), and pronunciation (23%). The study also identifies the strengths and limitations of using Duolingo, offering recommendations for incorporating technology in vocational education.*

Keywords: *Duolingo, speaking skills, language learning, mobile applications, vocational education.*

INTRODUCTION

In vocational schools in Indonesia, English proficiency, particularly speaking skills, remains a significant challenge. Traditional teaching methods often struggle to engage students in meaningful speaking activities, limiting their opportunities to practice and improve their oral communication. This issue is especially prominent in vocational education, where students are expected to develop both technical skills and the ability to communicate effectively in English, a crucial skill for future employment. (Anton Adi Purwanto, 2023) emphasizes the importance of integrating technology into language learning, stating that it can provide students with effective tools to practice speaking skills autonomously. This is where language learning applications like Duolingo come into play, offering an interactive and accessible platform that allows students to engage in speaking practice at their own pace and convenience (Huda, 2023). However, while Duolingo has shown promise in general language learning, there is limited research exploring its effectiveness specifically in the context of vocational education. The gap in research concerning the use of Duolingo in

vocational schools makes this study particularly important, as it seeks to evaluate the potential of this mobile application to enhance English speaking skills among vocational school students.

At SMK YPK Medan, a common issue persists: despite the importance of speaking skills in vocational education, many students still struggle to develop proficiency, particularly in real-life conversations. The lack of opportunities for students to practice speaking English outside the classroom, along with traditional teaching methods that do not effectively foster speaking skills, leaves them underprepared for real-world communication (Kazu, 2025). This research aims to investigate how Duolingo, as a mobile-assisted language learning tool, can address this issue by providing students with an engaging, flexible, and interactive platform to practice their speaking skills independently (Loewen, 2019). The study will assess whether Duolingo can help improve the students' speaking fluency, vocabulary, and pronunciation, and whether it can serve as an effective tool in bridging the gap between classroom learning and real-life communication (Malinda, 2024).

The theoretical foundation for this research is based on the Communicative Language Teaching (CLT) approach, which stresses the importance of communication and interaction in language learning. CLT encourages learners to engage in meaningful communication through interactive methods, rather than focusing solely on grammar and vocabulary. Littlewood (Sripradith, 2019) highlights that the aim of CLT is to develop learners' communicative competence, which includes the ability to use language effectively and appropriately in real-life situations. Additionally, the theory of Mobile-Assisted Language Learning (MALL) supports the use of mobile applications, such as Duolingo, in fostering language skills outside the traditional classroom environment (Apoko, 2023). MALL allows learners to practice language in a way that is flexible, personal, and integrated into their daily lives, as noted by Burston (Alotumi, 2021). This theoretical framework aligns with the goal of the study to explore how Duolingo can facilitate the development of speaking skills for students at SMK YPK Medan, ultimately enhancing their communicative competence.

The significance of this study lies in its potential to inform educators, school administrators, and policymakers about the benefits of incorporating mobile learning tools like Duolingo in vocational education. As education systems continue to evolve, integrating technology into teaching methods can offer innovative solutions for addressing traditional challenges, such as improving speaking skills (Handayani, 2023).

This research will contribute to the growing body of knowledge in the field of Mobile-Assisted Language Learning (MALL) by providing empirical evidence on the effectiveness of Duolingo in vocational education. It also offers insights into alternative methods for enhancing speaking proficiency in English, which is essential for students in vocational schools who are preparing for careers where communication skills are highly valued. The findings of this study could guide future efforts to integrate technology in vocational education, providing students with more opportunities to practice and improve their language skills in an accessible and engaging manner (Januar, 2025).

METODOLOGY

This research employs a qualitative approach using a case study design to explore the impact of the Duolingo application on improving English speaking skills among students at SMK YPK Medan. The case study methodology was selected as it allows for a detailed investigation of a specific group of students within a defined context. This approach is ideal for examining the students' experiences, perceptions, and the effectiveness of Duolingo in enhancing their speaking abilities.

The research utilizes a descriptive qualitative methodology to provide in-depth insights into the participants' experiences with the application. Descriptive qualitative research focuses on exploring the meaning behind people's experiences and how they make sense of these experiences. This methodology is appropriate for understanding the nuances of how Duolingo is integrated into language learning and how it influences speaking skills over a set period.

Data collection for this study involved multiple methods to ensure a comprehensive analysis of the research problem. Pre- and post-assessments of speaking skills were administered to measure improvements in fluency, vocabulary, and pronunciation. The pre-assessment established a baseline of students' speaking abilities, while the post-assessment, conducted after four weeks of using Duolingo, provided a comparative analysis of progress. The assessments consisted of oral tasks such as simple dialogues, monologues, and interactive exercises designed to evaluate the key aspects of speaking proficiency.

In addition to the assessments, semi-structured interviews were conducted with 10 students and 2 teachers. The interviews with students focused on their experiences using Duolingo, their perceptions of the application's usefulness in improving their speaking skills, and any changes they noticed in their language abilities. For the teachers, the interviews

explored their observations of students' progress, how Duolingo was integrated into the curriculum, and its overall impact on classroom dynamics. Semi-structured interviews provided flexibility to probe deeper into specific topics that emerged, ensuring a richer understanding of the students' experiences.

Classroom observations were also an essential part of the data collection process. During the study, the researcher observed how students engaged with Duolingo both during class and in independent study sessions. Observations focused on student behavior, engagement with the application, and any noticeable changes in students' enthusiasm or confidence in speaking. These observations were crucial for understanding the contextual factors that may have influenced the effectiveness of Duolingo, such as the classroom environment, teacher support, and students' interaction with the technology (Suryanto, 2024).

The participants were selected through purposive sampling, a non-random sampling method where participants are chosen based on specific criteria. In this case, the selected students had basic English proficiency and were willing to use Duolingo for four weeks. This sampling method ensured that the participants were capable of benefiting from the language learning tool and that the sample group was representative of students who could provide meaningful insights into the research questions.

The collected data were analyzed using thematic analysis, a method of analyzing qualitative data that involves identifying and interpreting patterns or themes within the data. The thematic analysis focused on three key areas of speaking proficiency: fluency, vocabulary, and pronunciation. The analysis involved coding interview responses, observational notes, and assessment results to identify recurring themes related to the improvements in speaking skills. The researcher looked for patterns in student feedback, such as reports of increased confidence, improved vocabulary recall, and better pronunciation accuracy. Thematic analysis allowed the researcher to systematically organize the data and draw conclusions about the effectiveness of Duolingo as a tool for improving speaking skills.

By combining multiple data collection methods—pre- and post-assessments, semi-structured interviews, classroom observations, and thematic analysis—this study provides a comprehensive and detailed exploration of how Duolingo can enhance English speaking skills among vocational school students (Anisa Dwi Tiara, M. Arinal Rahman, 2021). The research design, methodology, and data analysis techniques used in this study ensure a holistic

understanding of the impact of technology on language learning, specifically in the context of vocational education.

RESULTS AND DISCUSSION

The study revealed that Duolingo had a significant positive impact on students' speaking skills, specifically in fluency, vocabulary, and pronunciation (Maru, 2024). The pre- and post-assessment results demonstrated an average improvement of 25% in speaking proficiency across all three criteria. These improvements were consistent across the group, with individual students showing progress ranging from 15% to 35% based on their initial proficiency levels.

To quantify these improvements, the pre- and post-assessments focused on three key criteria: fluency, vocabulary, and pronunciation (Zahara, 2025). The results were calculated using the following formula for each criterion:

$$\text{Improvement Percentage} = \frac{\text{Post-assessment score} - \text{Pre-assessment score}}{\text{Pre-assessment score}} \times 100$$

Detailed Breakdown of Pre- and Post-Assessment Results:

1. Fluency: The average score improvement in fluency was 22%. For example, students initially took an average of 2 minutes to complete a basic conversational task in the pre-assessment, and after four weeks of using Duolingo, they were able to complete the task in approximately 1.5 minutes. The calculation for fluency improvement is as follows:

$$\text{Improvement in Fluency} = \frac{2-1.5}{2} \times 100 = 25\%$$

2. Vocabulary: The average improvement in vocabulary was 28%. The number of distinct words used in the speaking tasks increased from an average of 30 words in the pre-assessment to 38 words in the post-assessment. The calculation for vocabulary improvement is as follows:

$$\text{Improvement in Pronunciation} = \frac{7.6-6.2}{6.2} \times 100 = 22.58\%$$

$$\text{Improvement in Vocabulary} = \frac{38-30}{30} \times 100 = 26.67\%$$

3. Pronunciation: The average improvement in pronunciation was 23%, based on a rubric that rated students' pronunciation on clarity and accuracy. The average score

improved from 6.2/10 in the pre-assessment to 7.6/10 in the post-assessment. The calculation for pronunciation improvement is as follows:

$$\text{Improvement in Pronunciation} = \frac{7.6-6.2}{6.2} \times 100 = 22.58\%$$

Overall Improvement: To calculate the overall improvement in speaking proficiency, we averaged the improvements across the three criteria (fluency, vocabulary, and pronunciation):

$$\text{Over all Improvement} = \frac{25+26.67+22.58}{3} = 24.75\%$$

The pre- and post-assessment data clearly show that Duolingo contributed to significant improvement in speaking proficiency among the students.

Respondents' Demographics and Improvement Analysis:

To provide further context, the demographic characteristics of the respondents, including their proficiency levels and Duolingo usage frequency, are detailed in the table below:

Table: Demographic Characteristics of Respondents

Respondent ID	Gender	Age	English Proficiency Level (Pre-Assessment)	Duolingo Usage Frequency	Improvements (%)
R1	Male	17	Intermediate	5 times/week	27%
R2	Female	16	Beginner	4 times/week	24%
R3	Male	18	Beginner	6 times/week	22%
R4	Female	17	Intermediate	3 times/week	30%
R5	Male	16	Advanced	7 times/week	35%
R6	Female	17	Intermediate	4 times/week	26%
R7	Male	17	Beginner	6 times/week	25%
R8	Female	18	Advanced	3 times/week	32%
R9	Male	16	Intermediate	5 times/week	28%
R10	Female	17	Beginner	4 times/week	23%

Analysis of Respondents:

- Gender Distribution: The sample consisted of 10 respondents, with 5 males and 5

females, ensuring balanced gender representation in the study. This diversity contributes to the generalizability of the findings .

- **Age Range:** All respondents were between 16 and 18 years old, representing a typical age group for students at SMK YPK Medan, which is crucial for language learning. This age range is ideal for developing speaking skills as students are in the cognitive and social stages where they can absorb language input effectively.
- **English Proficiency :** The majority of respondents were at the Intermediate proficiency level, which reflects the general English competence of vocational students. The inclusion of both Beginner and Advanced students allowed for the assessment of Duolingo's effectiveness across different levels of proficiency (Sri Andayani, 2022).
- **Duolingo Usage Frequency:** The students' frequency of Duolingo usage ranged from 3 to 7 times a week, with no clear correlation between frequency and improvement. For example, R5, who used Duolingo 7 times a week, showed the highest improvement (35%), while others with similar usage frequency showed lower improvements. This variability indicates that factors other than usage frequency, such as motivation and individual learning styles, might influence the effectiveness of the app.

Improvements: The percentage of improvement across the respondents ranged from 22% to 35%, with an average improvement of 25%. This consistent positive impact across all proficiency levels demonstrates that Duolingo is beneficial for students at various stages of language proficiency.

DISCUSSION

The findings suggest that Duolingo is an effective tool for improving English speaking skills, particularly when combined with traditional classroom activities (Jiang, 2024). Mobile-assisted language learning (MALL), as highlighted by (Huda, Janattaka, et al., 2023), provides students with a flexible and engaging environment to practice their language skills. Duolingo's gamified interface and its ability to encourage daily practice make it an effective supplementary tool for language learning. However, the lack of real-time interaction with native speakers remains a limitation, as students reported feeling that conversational practice with native speakers would further enhance their fluency and pronunciation.

These results align with previous studies on mobile-assisted language learning, which emphasize the importance of integrating technology with face-to-face practice to achieve optimal language proficiency. While Duolingo can effectively improve certain aspects of language skills, such as vocabulary and pronunciation, it should be supplemented with opportunities for live conversations to foster real-world communication skills (Malinda & Daulay, 2024). Future research should examine how Duolingo can be combined with virtual language exchanges or peer-to-peer conversation sessions to provide a more comprehensive approach to improving speaking skills.

CONCLUSION

This study investigated the effectiveness of Duolingo in improving English speaking skills among students at SMK YPK Medan, focusing on fluency, vocabulary, and pronunciation. The findings suggest that Duolingo significantly enhances students' speaking proficiency, with an average improvement of **25%** for three criteria. Specifically, students showed improvements in fluency (22%), vocabulary (28%), and pronunciation (23%) after four weeks of using the application.

The data also highlighted that Duolingo was particularly effective in providing a flexible, engaging platform for self-directed learning, with 80% of students reporting that they found the app engaging and useful for independent practice (Kazu & Kuvvetli, 2025). However, despite these positive outcomes, students noted the limitations of the app, particularly its lack of real-time interaction with native speakers, which they believed could further enhance their fluency and conversational skills.

Overall, Duolingo emerged as an effective supplementary tool for language learning, particularly when combined with traditional classroom teaching. The integration of Duolingo into the curriculum provides students with more opportunities to practice outside of the classroom, which is essential for enhancing their speaking skills (Kazu & Kuvvetli, 2025). However, the study suggests that for optimal language development, mobile-assisted learning tools like Duolingo should be supplemented with opportunities for live interaction and real-world conversations.

In conclusion, Duolingo proves to be a valuable tool for improving English speaking skills in a vocational education setting. Future research should explore the combination of Duolingo with peer-to-peer conversations or virtual language exchanges to provide a more

comprehensive language learning experience. Furthermore, it would be beneficial to explore the role of motivation and engagement in students' success with mobile learning tools, as these factors seem to influence the degree of improvement observed.

REFERENCES

- Alotumi, M. (2021). EFL college junior and senior students' self-regulated motivation for improving English speaking: A survey study. *Heliyon*, 7(4), e06664. <https://doi.org/10.1016/j.heliyon.2021.e06664>
- Anisa Dwi Tiara, M. Arinal Rahman, C. H. (2021). The Students Perception about Use of Duolingo Application for Improving English Vocabulary. *International Journal of Education, Information Technology and Others (IJEIT)*, 4(4), 690–701. <https://doi.org/10.5281/zenodo.5775915>
- Anton Adi Purwanto, & Syafryadin. (2023). Students' Perception on Using Duolingo for Learning English Vocabulary. *JET (Journal of English Teaching)*, 9(1), 70–82. <https://doi.org/10.33541/jet.v9i1.4506>
- Apoko, T. W., Dunggio, A. A., & Chong, S. L. (2023). the Students' Perceptions on the Use of Mobile-Assisted Language Learning Through Duolingo in Improving Vocabulary Mastery At the Tertiary Level. *English Review: Journal of English Education*, 11(1), 17–26. <https://doi.org/10.25134/erjee.v11i1.7069>
- Handayani, C. (2023). *IMPROVING STUDENTS' SPEAKING SKILL FOR GENERAL COMMUNICATION THROUGH ENGLISH MOVIE (A Study at the Third Semester Students of Polytechnic)*. 189–194.
- Huda, M. C., Janattaka, N., & Prayoga, N. A. (2023). Exploring The Use of Online Resources for English Language Learning: Students' Perspectives. *English Journal Literacy Utama*, 8(1), 794–805. <https://doi.org/https://doi.org/10.33197/ej lutka.vol8.iss1.2023.2655.4585>
- Januar, E., Yati, F. C., & Dahliana, D. (2025). *Learning Indonesian Becomes Fun : Creative Exploration with Methods Picture and Picture in Elementary School*. 2, 1–10.
- Jiang, X., Peters, R., Plonsky, L., & Pajak, B. (2024). The Effectiveness of Duolingo English Courses in Developing Reading and Listening Proficiency. *CALICO Journal*, 41(3), 249–272. <https://doi.org/10.1558/cj.26704>
- Kazu, İ. Y., & Kuvvetli, M. (2025). Digital language learning with Duolingo: assessing its impact on listening, speaking, reading, and writing skills. *Journal of Computers in Education*, 0123456789. <https://doi.org/10.1007/s40692-025-00355-0>
- Loewen, S., Crowther, D., Isbell, D. R., Kim, K. M., Maloney, J., Miller, Z. F., & Rawal, H. (2019). Mobile-assisted language learning: A Duolingo case study. *ReCALL*, 31(3), 293–311. <https://doi.org/10.1017/S0958344019000065>

- Malinda, E., & Daulay, S. H. (2024). The Effectiveness of Duolingo as an English Learning Platform for Students: A Students Feedback. *Electronic Journal of Education, Social Economics and Technology*, 5(2), 63–69. <https://doi.org/10.33122/ejeset.v5i2.242>
- Maru, M. G., Kilmas, F., & Rombepajung, P. (2024). Students' Perception of Using Duolingo As a Media for Learning Vocabulary. *SoCul: International Journal of Research in Social Cultural Issues*, 4(1), 1–12. <https://doi.org/10.53682/soculjrccsscli.v4i1.8545>
- Sri Andayani, E. (2022). The Importance of Learning and Knowing English in Higher Education in Indonesia. *Research and Development Journal Of Education*, 8(1), 372–379. <http://dx.doi.org/10.30998/rdje.v8i1.13315>
- Sripradith, R. (2019). An Investigation of the Round Robin Brainstorming in Improving English Speaking Ability Among Nakhonphanom University's Second Year Students in Thailand. *Journal of Education and Learning*, 8(4), 153. <https://doi.org/10.5539/jel.v8n4p153>
- Suryanto, B. T. (2024). *THE IMPACT OF USING DUOLINGO APPLICATION ON STUDENTS' ENGLISH LEARNING MOTIVATION*. 06(02), 200–211.
- Zahara, B. A. B., Thohir, L., & Junaidi, A. (2025). The Effectiveness of The Learning by Doing Method in Teaching Speaking to 7th Grade Students at SMPN 14 Mataram. *Jurnal Ilmiah Profesi Pendidikan*, 10(1), 239–244. <https://doi.org/10.29303/jipp.v10i1.3138>