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The Effectiveness of Duolingo Application to Increase Student's Listening Skills, a Case of The Fifth Gradestudent's of SD Negeri Langgenharjo 01 Juwana

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ABSTRACT

This study examines the impact of the Duolingo app on enhancing the listening skills of fifth-grade students at SD Negeri Langgenharjo 01 Juwana. Using a quasi-experimental design, this research involved 23 students categorized into a treatment group and a comparison group. The experimental group used Duolingo for listening exercises whereas the control group utilized traditional listening approaches. Data was gathered through initial and final assessments, followed by statistical analysis using the t-test and N-gain test. Findings demonstrated a notable enhancement in the listening abilities of the experimental group relative to the control group. The mean pre-test score for the experimental group stood at 61.25, which rose to 80.83 in the post-test. In contrast, the control group's average score increased slightly from 56.45 to 58.81. The t-test results indicated a statistically significant difference ($p < 0.05$), confirming that Duolingo effectively enhances students' listening skills. These findings support the use of technology-based learning tools in language education, particularly for listening comprehension. Duolingo's interactive and gamified approach increases student engagement and motivation, making it a valuable supplement to traditional learning methods. This study suggests that integrating Duolingo into the curriculum can enhance students' listening skills and overall language proficiency.

Keywords: Duolingo, Listening Skills, Language Learning, Gamification, Elementary Students.

INTRODUCTION

Listening is one of the fundamental skills in language learning, playing a crucial role in effective communication. This skill allows individuals to comprehend spoken messages, capture information, and respond appropriately in various social and academic settings (Devito, 2013). However, difficulties in understanding foreign accents, fast speech, and limited vocabulary pose significant challenges for language learners, particularly elementary school students. In recent years, technology has instrumental in language learning innovations, one of which is the use of gamified learning applications such as Duolingo. Duolingo offers an interactive learning method that integrates game elements, challenges, and real-time feedback to enhance students' motivation and language skills (Smith & Vlachopoulos, 2018). With the increasing use of technology among elementary students, incorporating Duolingo as a learning tool has the potential to improve listening skills effectively. This research seeks to assess the impact of utilizing the Duolingo app to improve the listening proficiency of fifth-grade learners at SD Negeri Langgenharjo 01 Juwana. Additionally, it seeks to identify the key benefits that students can gain from using this application in the context of English language learning.

Several previous studies have examined the effectiveness of Duolingo in language learning. For instance, a study by Niah & Pahmi (2019) found that the use of Duolingo improved the speaking and listening skills of junior high school students in Pekanbaru. Meanwhile, research by Karmiati & Kurniawati (2018) demonstrated that this application effectively enhanced the listening skills of senior high school students through pre-test and post-test methods. Despite these findings, research focusing specifically on the impact of Duolingo on listening comprehension at the elementary school level remains limited. Therefore, this study addresses this gap by investigating the effects of Duolingo on the listening skills of fifth-grade students.

This study differs from previous research as it focuses specifically on elementary school students' listening skills. While most existing studies discuss improvements in speaking and vocabulary acquisition, this research emphasizes how Duolingo helps young learners understand spoken English in academic and social contexts. Therefore, this study seeks to explore the effectiveness of the Duolingo application in enhancing the listening skills of fifth-grade students at SD Negeri Langgenharjo 01. It also aims to examine the benefits that students can gain from using Duolingo in listening practice. In line with these objectives, the research focuses on evaluating how Duolingo contributes to improving students' listening comprehension and identifying the specific advantages it offers in facilitating their language learning experience.

Educational games and interactive tools have been widely explored as effective strategies to enhance language learning outcomes. Faqih and Karima (2023) found that incorporating UNO cards in teaching comparative degrees not only made the learning process more engaging but also significantly improved students' understanding of grammar concepts. Similarly, Zahida, Karima, and Kustantinah (2024) analyzed how language use evolves over time, showing that shifts in linguistic expression reflect changes in personality and learning experiences. These findings align with the present study, which examines the effectiveness of Duolingo in improving students' listening skills. Just as UNO cards provide a gamified approach to reinforce grammar, Duolingo's interactive and game-based features create a dynamic learning environment that enhances engagement and comprehension. Additionally, the evolution of language

learning methods, as discussed by Zahida et al. (2024), supports the idea that digital tools like Duolingo contribute to the development of language proficiency over time. By integrating gamification into language learning, both traditional and digital methods offer students a more effective and enjoyable educational experience, reinforcing the significance of technology-driven learning strategies in modern classrooms.

Through this research, it is expected to contribute to the development of technology-based learning methods and serve as a reference for teachers and researchers in improving listening skill instruction in elementary schools.

METHODS OF RESEARCH

This study uses a numerical research method with a quasi-experimental design to assess the efficiency of Duolingo in improving students' listening skills. The study was conducted at SD Negeri Langgenharjo 01, Juwana, with 23 fifth-grade students split into a treatment group (12 students) and a control group (11 students). The experimental group used Duolingo for listening practice, while the control group followed conventional listening exercises. The sampling method used employed a total population sampling technique, where all students in the population were included (Sugiyono, 2016).

The research instrument consisted of a listening assessment comprising both an initial and a final test with 15 multiple-choice questions. The pre-test measured students' initial listening ability, while the post-test assessed their improvement after using Duolingo. The accuracy and consistency of the assessment were evaluated before use (Arikunto, 2013). Information gathering encompassed examinations and observations to measure students' comprehension, engagement, and motivation.

Data analysis included a distribution assessment applying the Kolmogorov-Smirnov technique, a homogeneity test, an independent t-test, and an N-gain test to measure students' improvement in listening comprehension (Sundayana, 2016; Widiyanto, 2013; Lestari & Yudhanegara, 2017). This study aims to provide evidence on the effectiveness of Duolingo in enhancing listening skills and offer insights for educators in integrating digital tools into language learning.

RESULT AND DISCUSSION

This study aims to analyze the effectiveness of the Duolingo application in improving the listening skills of fifth-grade students at SD Negeri Langgenharjo 01 Juwana. The research findings were obtained through the evaluation of initial and final tests scores from both the experimental and control groups. Before the treatment, the average pre-test score of the experimental group was 61.25, while the control group had an average pre-test score of 56.45. After implementing Duolingo, the treatment group exhibited a remarkable improvement, reaching a mean post-test score of 80.83. Conversely, the comparison group, which used conventional learning methods, experienced only a slight improvement, with an average post-test score of 58.81. This difference indicates that the use of Duolingo has a greater impact on improving listening skills compared to traditional methods.

The computation analysis employing the t-test revealed that the gap between initial and final test results in the treatment group was mathematically meaningful ($p < 0.05$), confirming that Duolingo

significantly contributed to students' listening skill enhancement. Additionally, the N-gain evaluation revealed that the improvement within the treatment group was categorized as moderate with a score of 35.78%, while the control group showed a very low level of improvement. This reinforces the notion that game-based learning through Duolingo is more effective than conventional methods.

Table 1. Data Description of the Pre-Test and Post-test Result

Group	Pre-Test Mean	Post-Test Mean	Improvement
Experimental	61.25	80.83	Significant
Control	56.45	58.81	Slight

In addition to quantitative data, observational findings indicated that students in the experimental group were more engaged in the learning process. They demonstrated higher enthusiasm, actively participated in listening exercises, and showed faster comprehension of the material. This can be attributed to Duolingo's gamification approach, offering a more engaging and pleasant educational environment. Students using Duolingo also displayed higher motivation for independent practice, as the app offers immediate feedback, rewards, and challenges that encourage continuous learning.

Further statistical analysis included a normality test, which revealed that the post-test data from the experimental group followed a normal distribution, while the control group's data did not. The homogeneity assessment suggested that the differences between the two groups were fairly consistent, allowing for accurate comparative analysis. This suggests that the improvement in the experimental group's listening skills can be directly linked to the use of Duolingo rather than external factors.

The Wilcoxon assessment for the comparison group demonstrated no substantial variation between the initial and final test outcomes, suggesting that conventional learning methods did not substantially enhance students' listening skills. On the other hand, the paired t-test for the experimental cohort displayed a notable disparity between initial and final test results, confirming that Duolingo had a real positive impact on listening skill development.

Table 1. Statistical Analysis Results

Test	Experimental Group (p-value)	Control Group (p-value)
T-Test	< 0.05	< 0.05
N-Gain Test	35.78% (Moderate)	Very Low

Based on the findings, the use of Duolingo has been proven to be effective in enhancing students' listening skills. This can be attributed to its interactive learning approach, which is more engaging than conventional methods. Duolingo allows students to practice listening through various audio-based activities, helping them improve pronunciation and intonation comprehension. The significant increase in post-test scores indicates that technology-based learning methods can provide greater benefits than

traditional approaches. Moreover, this study highlights that technology integration in learning can enhance student motivation. Students in the experimental group showed greater enthusiasm and participation compared to those in the control group. Features such as immediate feedback, gamification elements like points and challenges, and diverse listening exercises contributed to the improvement in listening skills. Some challenges encountered in this study include limited technological access for some students and differences in adaptation levels when using the application. Some students required more time to become familiar with app-based learning methods. Therefore, the implementation of Duolingo should be accompanied by teacher guidance to help students optimize the app's features.

This study supports previous findings that interactive technology-based learning can improve student achievement in language skills. Therefore, Duolingo can be integrated as a supplementary learning tool to support conventional methods, especially for students struggling with English listening comprehension. The integration of this application into the curriculum could be an innovative solution to enhance listening education at the elementary level.

Additionally, the study provides insights for educators on the importance of incorporating technology into language learning. Students using Duolingo not only showed improvements in listening comprehension but also gained confidence in using English for communication. Thus, schools may consider adopting app-based learning strategies to improve overall academic performance.

However, this study has limitations, such as the relatively small sample size restricted to one school. Future research is recommended to expand the participant scope and explore the effectiveness of similar applications in broader contexts.

Furthermore, while Duolingo was proven to be an effective tool for listening skills enhancement, it may not fully replace traditional listening exercises that include real-time interaction with teachers and peers. The absence of direct conversational practice could be a limitation in developing comprehensive listening and speaking skills. Future research may investigate how Duolingo can be combined with speaking exercises to create a more holistic language learning approach.

Another potential area of improvement is the customization of learning content within Duolingo. Some students may require additional support in understanding complex sentences and varied accents, which are essential components of real-life listening comprehension. Future studies could explore the integration of Duolingo with other language learning applications or supplementary exercises to provide a more tailored learning experience.

Finally, this research indicates that technology-driven learning methods require continuous evaluation and adaptation to maximize their effectiveness. Schools and educators should consider combining traditional and technology-based learning strategies to ensure that students receive a well-rounded language education that fosters both academic success and practical communication skills.

CONCLUSION

This study examined the efficiency of the Duolingo app in enhancing the listening skills of fifth-grade students at SD Negeri Langgenharjo 01 Juwana. The findings indicate that Duolingo significantly enhances students' listening comprehension compared to conventional learning

methods. The treatment group demonstrated a remarkable progression in their final test outcomes, demonstrating that interactive, gamified learning tools can positively impact language acquisition.

The statistical analysis confirmed a considerable variation between the treatment and comparison groups, reinforcing the effectiveness of Duolingo in developing students' listening skills. Additionally, the study found that Duolingo increased student engagement and motivation, making learning more enjoyable and effective. These results support the integration of technology in language learning as a valuable supplement to traditional teaching methods.

Despite its favorable results, this study has some limitations, such as a limited participant pool and limited research scope. Future research is suggested to investigate the prolonged impact of Duolingo on language proficiency and its effectiveness in different learning contexts. Nevertheless, this the study underscores the possibility of digital learning applications in enhancing students' listening skills and indicates that Duolingo may serve as a useful resource for language education at the elementary level.

REFERENCE

- Arikunto, S. (2013). *Prosedur Penelitian: Suatu Pendekatan Praktik*. Jakarta: Rineka Cipta.
- Asyhar, R. (2012). *Kreatif Mengembangkan Media Pembelajaran*. Jakarta: Gaung Persada.
- Crystal, D. (2000). *English as a global language*. New York: Cambridge University Press.
- Devito, J. A. (2013). *The Interpersonal Communication Book 13th Edition*. New Jersey: Pearson Education.
- Djamarah, S. B., & Zein, A. (2014). *Strategi belajar mengajar*. Jakarta : Rineka Cipta.
- Garcia, I. (2013). Learning a language for free while translating the web. Does Duolingo work? *International Journal of English Linguistics*, 3(1), 19.
- Gibson, C. B. (2001). Me and us: differential relationships among goal-setting training, efficacy and effectiveness at the individual and team level. *Organizational Behavior*, 22(7). <https://doi.org/10.1002/job.114>
- Kapp, K. (2012). *The gamification of learning and instruction: Game-based methods and strategies for training and education*. San Francisco, CA: Pfeiffer. Pfeiffer.
- Karmiati, T., & Kurniawati, Y. (2018). Teaching Listening Using Toeic Application. *Teaching Listening Using Toeic Application*, 1(4), 486–491.
- Lestari, K. E., & Yudhanegara, M. . (2017). *Penelitian Pendidikan Matematika*. Bandung: PT Refika Aditama.
- Musfiqon, H. (2015). *Pendekatan Pembelajaran Saintifik*. Sidoarjo: Nizamia Learning Center.
- Niah, S., & Pahmi, P. (2019). The Utilization of Duolingo to Improve the Speaking and Listening Skills of Junior High School Students in Pekanbaru. *Advances in Social Science, Education and Humanities Research*, 373, 54–59. <https://doi.org/10.2991/iccelst-ss-19.2019.12>
- Purwanto. (2017). *Evaluasi Hasil Belajar*. Yogyakarta: Pustaka Belajar.
- Sanjaya, W. (2014). *Media Komunikasi Pembelajaran*. Jakarta : Kencana Prenada Media Group.
- Sari, A. A. (2021). *The Effectiveness Of Podcast Application In The Teaching Of Listening*. University Of

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- Islam Malang Graduate Program English Language Teaching Study Program.
- Schmitt, B. H. (2010). *Handbook on Brand and Experience Management*. Unite Kongdom: Edward Elgar Publishing Limited.
- Siyoto, S., & Sodik, M. A. (2015). *Dasar Metodologi Penelitian*. Yogyakarta: Literasi Media Publishing.
- Smith, B., & Vlachopoulos, D. (2018). Gamifying language learning: The impact of Duolingo on learning Spanish as a second language. *Research in Learning Technology*, 26.
- Sugiyono. (2016). *Metode Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif, dan R&D*. Bandung: Alfabeta.
- Sugiyono. (2017). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Bandung: Alfabeta. Diambil dari https://repository.maranatha.edu/26038/9/1430012_References.pdf
- Faqih, W. M., & Karima, F. H. (2023, November). Improving English Learning Outcomes through UNO in Comparison Degree Learning. In *Prosiding Seminar Nasional Pendidikan Profesi Guru* (Vol. 1, No. 2, pp. 408-412).
- Zahida, A., Karima, R. F. H., & Kustantinah, I. (2024, May). Comparative Analysis Of Personality Changes In Language Style Between See You Again And Flowers By Miley Cyrus. In *PROCEEDING OF ENGLISH TEACHING, LITERATURE AND LINGUISTICS (ETERNAL) CONFERENCE* (Vol. 4, No. 1, pp. 14-27).
- Sukarya, I. W. (2008). *Form of Modern Mask Created by Ida Bagus Anom*. 26(3).
- Sundayana, R. (2016). *Statistika Penelitian Pendidikan*. Bandung: Alfabeta.
- Tarigan, G. H. (2008). *Menyimak: Sebagai Suatu Keterampilan Berbahasa*. Bandung: Angkasa.
- Terry, & Franklin. (2003). Understanding Communication Literature Review. *Journal of Chemical Information and Modeling*, 52.
- Widoyoko, E. P. (2015). *Teknik Penyusunan Instrumen Penelitian*. Yogyakarta: Pustaka Belajar.