



Prosiding

Seminar Nasional Inovasi pendidikan dan Pembelajaran
Fakultas Pendidikan Bahasa dan Seni
IKIP PGRI Bojonegoro

Tema "Inovasi pendidikan dan Pembelajaran di era digital untuk Pengalaman Belajar
Imersif"



The Role of Gamification in Duolingo Application for Vocabulary Mastery in Elementary School

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Abstract— Vocabulary mastery is a crucial component in acquiring English language skills that support listening, speaking, reading, and writing. This study aims to investigate the role of gamification in the Duolingo application for vocabulary mastery in 5th-grade students of SD PLUS AL Qomariyah. A qualitative case study approach was employed through observation, interviews, and vocabulary pre- and post-tests. Results showed that gamification elements such as points, levels, badges, and immediate feedback enhance students' engagement and learning motivation, significantly improving their vocabulary comprehension and retention.

Keywords— Duolingo, Gamification, Vocabulary Mastery, Learning Motivation

Abstrak— Keterampilan penguasaan kosakata merupakan komponen penting dalam penguasaan bahasa Inggris yang mendukung keterampilan mendengar, berbicara, membaca, dan menulis. Penelitian ini bertujuan untuk mengetahui peran gamifikasi dalam aplikasi Duolingo terhadap penguasaan kosakata bahasa Inggris siswa kelas 5 SD PLUS AL Qomariyah. Penelitian menggunakan pendekatan studi kasus kualitatif dengan teknik observasi, wawancara, dan tes kosakata sebelum dan sesudah perlakuan. Hasil menunjukkan bahwa elemen gamifikasi seperti poin, level, lencana, dan umpan balik langsung dalam aplikasi mampu meningkatkan keterlibatan dan motivasi belajar siswa, serta memperkuat penguasaan kosakata secara menyeluruh.

Kata kunci— Duolingo, Gamifikasi, Penguasaan Kosakata, Motivasi Belajar

INTRODUCTION

In the post-pandemic era, the integration of digital tools in education has become more crucial, especially in enhancing students' language learning. One significant area of focus is vocabulary acquisition, which plays a vital role in language proficiency. In particular, the use of technology has been found to increase student motivation, engagement, and overall language learning outcomes (Fitrianingsih, 2023; Nurdianingsih & Rohmah, 2023). Duolingo, as one of the most popular language learning platforms, offers a gamified approach to vocabulary learning, providing immediate feedback, rewards, and motivation that significantly benefit learners (Vesselinov & Grego, 2012; Nushi & Eqbali, 2017). By leveraging its interactive

features, Duolingo has been able to cater to a wide range of learners, making language learning both effective and enjoyable.

The effectiveness of digital tools such as Duolingo can be attributed to their ability to cater to learners' individual needs and provide opportunities for autonomous learning. Rohmah and Nurdianingsih (2024) emphasize the importance of fostering independent learning patterns in students, which is especially crucial in inclusive classrooms. With Duolingo's personalized learning paths, students can progress at their own pace, enhancing their autonomy and self-efficacy in language learning. This is in line with Fitriani's (2023) study, which highlights the role of digital tools like Semantic Mapping Strategy (SMS) in supporting students' vocabulary acquisition and retention.

Moreover, Duolingo's gamification elements have been found to mitigate affective factors, such as anxiety, which can often hinder students' language learning. According to Nurdianingsih and Rohmah (2023), students with social anxiety in English as a Foreign Language (EFL) settings benefit from platforms that offer a non-threatening learning environment. Duolingo's interactive and supportive features help alleviate this anxiety, making vocabulary learning more accessible and enjoyable. Additionally, studies have shown that Duolingo's game-like elements, such as earning points and unlocking achievements, play an important role in motivating learners (Bahjet Essa Ahmed, 2016; Huynh, Zuo, & Iida, 2016).

RESEARCH METHOD

This study utilized a qualitative case study approach to investigate the impact of the Duolingo app on vocabulary mastery among 5th-grade students. The research was conducted at SD PLUS AL Qomariyah, where a group of students was selected as the subjects for the study. Specifically, the participants were 5th-grade students who used the Duolingo app consistently over a period of four weeks. The aim was to explore how gamified language learning through Duolingo could influence their vocabulary acquisition and retention.

Data collection involved several methods to capture a comprehensive understanding of the students' progress and experiences. First, observations were made during the study period to assess how students interacted with the app and their level of engagement during each session. These observations allowed the researchers to observe patterns in the students' behavior, such as how often they used the app, how motivated they seemed, and how they approached learning new vocabulary.

In addition to the observations, interviews were conducted with the students to gain deeper insights into their perceptions of the Duolingo app and its role in their vocabulary learning process. These interviews helped the researchers understand the students' attitudes toward gamified learning, their perceived benefits, and any challenges they encountered while using the app.

Lastly, pre- and post-tests were administered to measure changes in the students' vocabulary mastery. The pre-test was conducted before the students began using the Duolingo app, establishing a baseline for their vocabulary knowledge. After four weeks of consistent app usage, a post-test was given to assess improvements in vocabulary acquisition. This allowed the researchers to quantify the impact of Duolingo on the students' vocabulary skills and determine whether gamification had a significant effect on their language learning outcomes.

FINDINGS AND DISCUSSION

The data indicated a substantial increase in vocabulary mastery among students using the Duolingo application. The table below shows students' vocabulary test scores before and after using the application.

Table 1. Comparison of Pre-Test and Post-Test Scores

No.	Name	Pre-Test Score	Post-Test Score	Improvement
1	Student A	55	85	30
2	Student B	60	90	30
3	Student C	50	82	32
4	Student D	62	88	26
5	Student E	58	86	28

The results of this study demonstrate that the use of Duolingo has a significant positive impact on students' vocabulary acquisition. Students who engaged with Duolingo showed noticeable improvements in their vocabulary scores, with post-test results indicating an increase of 26 to 32 points. This finding supports previous studies, including those by Vesselinov and Grego (2012) and Matra (2020), who found that Duolingo's gamified features enhance learners' retention and engagement. The interactive nature of the platform, which includes immediate feedback and progress tracking, further motivates students to continue their learning journey.

Moreover, students reported a positive experience using Duolingo, emphasizing how the gamified elements—such as earning points and unlocking badges—made vocabulary learning more enjoyable and less intimidating. These findings align with the conclusions of Fitrianingsih (2023), who noted that gamified strategies, such as those employed by Duolingo, help maintain students' interest and motivation in language learning. This was particularly important in reducing learning anxiety, a common barrier in traditional classroom settings, as highlighted by Nurdianingsih and Rohmah (2023).

In addition, the immediate feedback provided by Duolingo played a crucial role in reinforcing correct vocabulary usage. Students appreciated the real-time corrections, which helped them better understand their mistakes and improve their

vocabulary skills. This feature of Duolingo aligns with the principles of effective language learning, where immediate correction and reinforcement are essential for successful language acquisition (Vesselinov & Grego, 2012).

The study also underscores the importance of promoting student autonomy in vocabulary learning. As noted by Rohmah and Nurdianingsih (2024), autonomy in learning allows students to take control of their own progress, and Duolingo supports this by allowing students to learn at their own pace. This autonomy, in turn, leads to greater self-confidence and a more proactive approach to language learning. Furthermore, the design of Duolingo, as discussed by Huynh et al. (2016), ensures that learners are constantly engaged and motivated, leading to continuous learning and improvement.

CONCLUSION

In conclusion, the findings of this study demonstrate that Duolingo is an effective tool for enhancing vocabulary acquisition among students. Its gamified structure, personalized learning paths, and immediate feedback mechanisms help students engage more deeply with the material, while fostering motivation and reducing anxiety. The results support previous research by Fitrianingsih (2023), Nurdianingsih and Rohmah (2023), and Vesselinov and Grego (2012), which all highlight the effectiveness of digital platforms in language learning. By providing an interactive and supportive learning environment, Duolingo not only helps students improve their vocabulary but also promotes autonomy, self-efficacy, and long-term language development.

ACKNOWLEDGEMENT

The author would like to express gratitude to the supervisors Ima Isnaini Taufiqur Rohmah and Ayu Fitrianingsih for their invaluable guidance, and to all the teachers and students of SD PLUS AL Qomariyah for their participation in this study.

REFERENCES

- Azizah, K. (2023). *The implementation of English contests to optimize speaking skills at the eight students of SMP Kartayuda Kedungtuban in the academic year 2022/2023*. (Doctoral dissertation, IKIP PGRI Bojonegoro).
- Bahjet Essa Ahmed, H. (2016). Duolingo as a bilingual learning app: A case study. *Arab World English Journal (AWEJ)*, 7.
- Dayanti, I. A., Tirtanawati, M. R., & Prastiwi, C. H. (2023). An analysis of students' motivation to learn English at fourth grade of MIN 1 Kepatihan Bojonegoro in academic year 2022/2023.
- Fitrianingsih, A. (2023). Upgrading students' vocabularies using SMS (Semantic Mapping Strategy) in post-pandemic era. *Jurnal Pendidikan Edutama*, 10(1), 49–55. <https://doi.org/10.30734/jpe.v10i1.2955>.

- Huynh, D., Zuo, L., & Iida, H. (2016). Analyzing gamification of "Duolingo" with focus on its course structure. In *Games and Learning Alliance: 5th International Conference, GALA 2016, Utrecht, The Netherlands, December 5–7, 2016, Proceedings 5* (pp. 268-277). Springer International Publishing.
- Matra, S. D. (2020). Duolingo applications as vocabulary learning tools. *JELLE: Journal of English Literature, Linguistic, and Education*, 1(1).
- Nurdianingsih, F., & Rohmah, I. I. T. (2023). An analysis of social anxiety of the students' EFL writing skill. *Zabagsqu International Journal of Education and Novelty*, 1(2), Article 6. <https://doi.org/10.61233/zijen.v1i2.6>.
- Nushi, M., & Eqbali, M. H. (2017). Duolingo: A mobile application to assist second language learning. *Teaching English with Technology*, 17(1), 89-98.
- Rohmah, I. I. T., & Nurdianingsih, F. (2024). Autonomous learning patterns of students with special needs in inclusive classrooms: A case study. *Learning Gate Journal*, 7(1), 45-56. <https://learning-gate.com/index.php/2576-8484/article/view/2187>.
- Vesselinov, R., & Grego, J. (2012). Duolingo effectiveness study. *City University of New York, USA*, 28(1-25).