

The Effect Of Using Duolingo On English Writing For EFL University Students

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Abstract: *This study aims to measure the effectiveness of using the Duolingo application in improving English writing skills among EFL students at IAIN Palangka Raya. The research adopts a quantitative approach with saturated sampling techniques and data collection through questionnaires involving 20 respondents. Data analysis was conducted using Jamovi. The findings indicate that although there is an average difference between Duolingo users and non-users, the difference is not statistically significant across various measured aspects, such as writing confidence, skill improvement, and satisfaction with learning outcomes. These findings suggest that while Duolingo has potential as a learning support tool, its impact on writing skills remains limited. Therefore, the study recommends integrating the application with traditional teaching methods for more optimal results.*

INTRODUCTION

In recent years, the integration of technology into education has dramatically transformed language learning methodologies, with various tools being developed to facilitate and enhance the learning experience. Among these tools, Duolingo has gained significant popularity, especially for its accessibility and user-friendly interface. The Duolingo application is a free, gamified language-learning platform that provides users with opportunities to learn and practice multiple languages, including English (Amin, 2021). While Duolingo is widely recognized for its effectiveness in improving reading and listening skills, its impact on writing proficiency, especially in academic contexts, has been less explored and remains an area of significant interest among educators and researchers (Xie, 2024).

As noted by Hyland (2019), academic writing is not just about using the right words; it involves critically analyzing, synthesizing, and presenting information clearly. However, many EFL (English as a Foreign Language) learners, especially those in higher education in Indonesia, face challenges in mastering writing due to limited exposure to quality resources and feedback. English writing, in particular, is often viewed as a challenging area for EFL learners due to its complexity in terms of grammar, structure, and coherence (Aminah and Supriadi, 2023). This is evident in many Indonesian universities, where students struggle to produce academically coherent texts and express their ideas fluently. Therefore, the use of technology, such as Duolingo, may provide a potential solution to this issue by offering a platform for students to practice and improve

their writing skills, particularly outside traditional classroom settings (Aulia, et Al. 2020).

The Indonesian context provides a unique opportunity to study the effectiveness of Duolingo in an academic environment, particularly in institutions such as IAIN Palangka Raya. Despite the increasing use of technology in education in Indonesia, research on the specific impact of language-learning applications on academic writing in the context of Indonesian Islamic higher education institutions is still limited. This gap in research calls for a deeper examination of how Duolingo, as a widely used educational tool, may influence English writing outcomes among university students in Indonesia, particularly at institutions like IAIN Palangka Raya.

Furthermore, this research aims to investigate how Duolingo can help enhance the writing skills of EFL students at IAIN Palangka Raya and provide useful recommendations for the integration of technological tools in the teaching of academic writing in Indonesian universities. Through this study, the potential of Duolingo as a supplemental tool for improving writing skills will be critically evaluated, providing a basis for further research and development in this area.

LITERATURE REVIEW

The use of technology in language learning has gained significant attention in recent years, particularly with the rise of applications such as Duolingo. Research indicates that Duolingo is effective in enhancing language skills, notably in reading and listening (Xie, 2024). However, its impact on writing skills, particularly in academic contexts, remains underexplored. The Duolingo English Test (DET) has shown promise in assessing writing components, yet the assessment of writing structure and flow continues to present challenges (Xie, 2024).

Yu and Xu (2024) highlight the importance of writing assessment literacy, asserting that learners' understanding of evaluation criteria influences their learning strategies and outcomes. This underscores the need for clarity in assessment methods, which is crucial for improving writing skills among students. Moreover, various studies have emphasized that while Duolingo can facilitate language learning, further development in evaluating writing skills is necessary, especially regarding grammar and structure (Xie, 2024).

In the context of higher education in Indonesia, particularly at IAIN Palangka Raya, there is a lack of empirical evidence concerning the effectiveness of Duolingo for enhancing students' English writing skills. The existing literature suggests a gap in understanding how language learning applications impact academic writing within Islamic universities in Indonesia.

The current study aims to contribute to this body of knowledge by examining the effect of the Duolingo application on the writing outcomes of students, focusing on grammar, vocabulary, and overall writing structure. By employing a quantitative approach using Jamovi for data analysis, this research seeks to clarify the relationship between Duolingo usage and improvements in English writing skills, thereby providing valuable insights into the integration of technology in language education.

Through this literature review, it becomes evident that while previous studies acknowledge the potential of Duolingo in language learning, there is a critical need for further research that specifically addresses its effectiveness in writing skills within the context of Indonesian higher education. The findings of this study will not only fill existing gaps but also enhance understanding of the role of technology in academic writing development.

RESEARCH METHODS

This research is a quantitative research with saturated sampling data collection techniques. The questionnaire consists of 5 parts and 11 question items. The respondents of the study were 20 respondents from various departments of Institut Agama Islam Negeri (IAIN) Palangka Raya in the odd semester of the 2024/2025 academic year. This study uses a questionnaire as a data collection instrument, consisting of 8 parts with details in table 1., and data analysis using jamovi.

Table. 1 Questionnaire question topics

Question	Number of questions	Measurement scale
Users and non-users	1	Nominal scale
Effectiveness	3	Likert scale
Impact	3	Likert scale
Frequency	2	Likert scale
Learning outcomes	2	Likert scale

RESULTS

Variable description

Grouping variables

Grouping variables in this study were measured using 1 question item that presented duolingo users and non-users as a benchmark for comparison on the dependent variable. The results of respondents' responses to the questions can be explained in table 2 as follows.

Table. 2 Grouping descriptive

Question	Yes	No
Are you a duolingo user?	7 (35%)	13 (65%)

Source: Processed primary data, 2024

Based on this table, the number of respondents who use and do not use Duolingo. Of the 20 respondents, 7 (35%) are Duolingo users, while 13 (65%) are non-users. This shows that the majority of respondents do not use the application.

Dependent variables

The dependent variable in this study was measured using 10 question items that presented the indicators of the variable. The results of respondents' responses to each question can be explained in table 3 as follows.

Table. 3 Dependent descriptive

No	Question	Answer				
		STS	TS	N	S	SS
1	I feel confident in my ability to write in a foreign language.		2 (10%)	8 (40%)	6 (30%)	4 (20%)
2	I feel like my writing skills are improving over time.	2 (10%)	2 (10%)	4 (20%)	8 (40%)	4 (20%)
3	I can convey my ideas in writing clearly in a foreign language.	2 (10%)	1 (5%)	11 (55%)	4 (20%)	2 (10%)
4	The learning method I use really helps improve my writing skills in a foreign	1 (5%)	2 (10%)	8 (40%)	4 (20%)	5 (25%)

	language.					
5	I saw an improvement in my writing skills, after using certain learning methods.		3 (15%)	6 (30%)	8 (40%)	3 (15%)
6	I feel there are real benefits from the learning methods I use.	1 (5%)	2 (10%)	8 (40%)	4 (20%)	5 (25%)
7	I consistently make time to study or practice writing in a foreign language.	2 (10%)	7 (35%)	7 (35%)	3 (15%)	1 (5%)
8	Learning English (writing) is an important part of my daily routine.	5 (25%)	6 (30%)	7 (35%)	1 (5%)	1 (5%)
9	I am satisfied with the results of my writing skills in a foreign language so far.	1 (5%)	4 (20%)	6 (30%)	5 (25%)	4 (20%)
10	My current writing ability is in line with my learning goals.		2 (10%)	12 (60%)	4 (20%)	2 (10%)

Source: Processed primary data, 2024

Based on table 3, it can be explained that the majority of respondents 1, namely 8 respondents (40%), answered disagree. As many as 6 respondents (30%) chose neutral, while only 4 respondents (20%) answered agree. This shows that the use of Duolingo has the potential to increase confidence in writing, but its influence is not yet significant for all users.

Based on table 3 in respondents 2, 8 respondents (40%) answered agree, followed by 4 respondents (20%) who chose neutral. Only 2 respondents (10%) answered strongly agree, while the rest answered disagree or strongly disagree. The improvement in writing skills was felt by most respondents, indicating the effectiveness of using Duolingo in this aspect.

Based on table 3 in respondents 3, 11 respondents (55%) chose neutral, while 4 respondents (20%) answered agree. Most respondents felt neutral about the ability to convey ideas in writing. This may indicate that Duolingo has a limited impact on this specific skill, or perhaps users have not used features that focus on the skill of conveying ideas in writing.

In respondents 4, 8 respondents (40%) chose neutral, and 5 respondents (25%) stated that they strongly agree. This result shows that the majority of respondents feel the benefits of their learning methods, but it is not yet completely significant

In respondents 5, 8 respondents (40%) answered neutral, while only 3 respondents (15%) strongly agree. This indicates that respondents are aware of the improvement in writing skills, but the effect of learning methods is not so striking for most respondents.

In respondents 6, 8 respondents (40%) answered neutral, while 5 respondents (25%) choose strongly agree. This shows that many respondents feel helped by the learning methods they use.

In respondents 7, Respondents were evenly divided into disagree and neutral answers, each at 35%. Only 1 respondent (5%) answered strongly agree. This data shows a lack of consistency in study time among respondents.

In respondents 48, the majority of respondents, namely 7 respondents (35%), answered neutral, followed by 6 respondents (30%) who answered disagree. Only 1 respondent (5%) answered strongly agree, indicating that learning to write in English has not become a primary habit.

In respondents 49, 6 respondents (30%) chose neutral, while 5 respondents (25%) answered

agree. This shows that most respondents feel that their writing skills are quite satisfactory, but there is still room for improvement.

In respondents 410, the majority of respondents, namely 12 respondents (60%), chose to disagree. Only 2 respondents (10%) answered strongly agree. This indicates that many respondents feel that they have not achieved their writing learning goals.

Hypothesis testing

H_a : The use of Duolingo has an effect on the effectiveness of students' English writing results.

H_0 : The use of Duolingo does not effect the effectiveness of students' English writing results.

Statistical t-test

The t-test results table shows:

N : Number of respondents in each group.

Statistic (t): The value of the t-test statistic, indicating the difference in means between groups.

Degrees of freedom (df): Total observations from both groups.

p-value: Significance value; if $p > 0.05$, then the result is significant.

Results: Whether the differences between groups are significant or not.

The conditions for accepting a hypothesis are:

If the p-value < 0.05 , then H_0 is accepted (no significant difference).

If the p-value ≥ 0.05 , then H_0 is rejected (there is a significant difference).

Table 4. Results of the independent samples T-test

Question	N	T	DF	P	Results
I feel confident in my ability to write in a foreign language.	20	-0.892	18	0.384	Not significant
I feel like my writing skills are improving over time.	20	-0.558	18	0.583	Not significant
I can convey my ideas in writing clearly in a foreign language.	20	0.021	18	0.983	Not significant
The learning method I use really helps improve my writing skills in a foreign language.	20	-0.199	18	0.844	Not significant
I saw an improvement in my writing skills, after using certain learning methods.	20	-0.560	18	0.582	Not significant
I feel there are real benefits from the learning methods I use.	20	0.199	18	0.844	Not significant
I consistently make time to study or practice writing in a foreign language.	20	-2.007	18	0.060	Not significant
Learning English (writing) is an important part of my daily routine.	20	-0.657	18	0.520	Not significant
I am satisfied with the results of my	20	-0.212	18	0.834	Not significant

writing skills in a foreign language so far.					
My current writing ability is in line with my learning goals.	20	0.056	18	0.955	Not significant

Source: Processed primary data, 2024

All results showed a p-value < 0.05 , meaning there was no significant difference in the dependent variable based on the Duolingo user and non-user groups. This means that Duolingo use did not statistically impact the variables measured in this study.

DISCUSSION

Based on the results of the independent t-statistical test analysis, it was found that the p-value for all tested variables was greater than 0.05. This indicates that there is no significant difference between the Duolingo user and non-user groups in the various aspects measured, namely confidence in writing, improvement in writing skills over time, ability to convey ideas in writing, and satisfaction with learning outcomes.

These results indicate that, although there is a mean difference between the groups, the difference is not significant enough to support the alternative hypothesis (H_a) which states that the use of Duolingo has a significant effect on students' English writing effectiveness. Conversely, the null hypothesis (H_0) is accepted, which states that there is no significant effect of the use of Duolingo on writing skills.

For example, in the variable "confidence in writing ability," the majority of respondents were in the neutral or agree category, but with no significant difference between Duolingo users and non-users. The same was found in the variable "ability to convey ideas in writing," where most respondents felt neutral. These findings suggest that while apps like Duolingo can provide certain benefits, their impact on writing skills is still limited.

These findings have both theoretical and practical implications. Theoretically, these results add to the evidence that the use of technology in learning, particularly apps like Duolingo, does not always have a significant impact on the acquisition of specific skills such as writing. As noted by Permana, et al. (2023), the effectiveness of technology-based learning apps may depend on the context in which they are used, including the duration of use, the intensity of learning, and the type of skills being focused on. Further research could explore how to optimize apps like Duolingo to support specific skills, including writing. Practically, educational institutions considering integrating technology like Duolingo into their curriculum should first evaluate its effectiveness in depth. These apps should be complemented with other learning methods, such as hands-on training, group discussions, or written assessments, to ensure optimal learning outcomes. Additionally, institutions could provide usage guidelines or establish consistent study schedules so that students can get the most out of the app.

Overall, this study highlights the importance of a holistic and integrated learning approach. Technologies such as Duolingo can be a useful support tool, but they cannot completely replace traditional learning methods that have proven to be effective. Therefore, collaboration between educational institutions and application developers is needed to design innovative and effective learning strategies, so that they can help students achieve their learning goals more optimally.

CONCLUSION

The findings of this study indicate that the use of the Duolingo application has not had a significant impact on improving the writing skills of EFL students at IAIN Palangka Raya. While some respondents reported benefits from using the application, the majority expressed neutral responses to the measured indicators. These results highlight that technologies like Duolingo can

serve as supplementary learning tools but cannot entirely replace traditional learning methods. Future research is recommended to explore ways to optimize learning applications like Duolingo to enhance writing skills. Educational institutions are encouraged to combine the use of such applications with other learning methods, such as group discussions or hands-on training, to achieve better outcomes.

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