

The Effect Of Duolingo Application Toward Students Listening Achievement Of Seventh Grade Students at Smp Negeri 1 Pasaributobing

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ABSTRACT

This study focused on finding out the effect of applying Duolingo Application on students listening achievement. The objective of the study is to find out whether Duolingo Application affects student achievement in listening. This study was conducted by applied experimental quantitative research. The sample of the study was the first-year students of SMP Negeri 1 Pasaributobing. The writer took VII-A which consists of 29 students as an experimental class with used Duolingo Application and VII-B which consists of 29 students as the control group used the conventional method. The population of this study was 58 students which consist of Seventh classes. The writer took two classes as random sampling to see the effect of Duolingo Application as a media in teaching listening. The data were taken by giving listening test. The tests were divided into two tests: pre-test and post-test for both experimental and control groups. The mean score of pre-test in the experimental class is 49,6 and the post-test is 80,5. The mean score of pre-test in the control group is 50,1 and the post-test is 60,5. The result that t -calculated $>$ t -table as the level of significance $p = 0,05$ ($18,33 > 1.673$). The Alternative hypothesis (H_a) is accepted and the null hypothesis (H_o) is rejected. It is suggested that teachers of English subject apply Duolingo Application as an alternative teaching media to help listening ability at seventh grade students of Junior High School.

Keywords: *Duolingo Application, Sosial Media, and Listening Achievement*

1. Introduction

In the world, learning English is increasingly needed by people in Indonesia the world of work and the era of globalization, due to the introduction and mastery of science and technology are usually written in English and delivered in English. We can see that from education, work, to daily life, English is increasingly being used. There are many advantages if we ask for English language skills. Currently in Indonesia it is also mandatory to include an English language proficiency certificate. The aim is to prove that language skills are mastered because learning or communication processes in the workplace often involve language (Husnur & Putra, 2020; Sinaga et al., 2023).

Listening is a skill that deserves equal treatment with the others, both in the classroom and in the preparation of language teachers (Nushi & Orouji, 2020). Listening should have an important place in teaching learning English because it is impossible for the people to speak without listening first. Listening is used more than 45% in Communication. Listening is vital in the language classroom because it provides input for the learner. Without understanding input

at the right level, any learning simply cannot begin. It means listening is very important in learning English (Amin, 2021; Nita et al., 2023).

However, listening skill for comprehension is not easy as well. Ten problems that are very common for EFL students such as: speaking rate distraction, unable to recognize words they knew, new vocabulary, missing subsequent input, nervousness, sentence complexity, background knowledge, anxiety and frustration, and unfamiliar pronunciation. Based on the data above, it shows that the majority of class VII students at SMP Negeri 1 Pasaributobing experiences difficulty in learning to listen in his understanding. The factors are several problems which the author has mentioned above. Lack of facilities to practice their listening skills and uninteresting way of teaching listening skills is a common problem students face when using them more than 45% in communication. This proves how important listening skills are in everyday life communication, especially in learning English. There are several applications that can be used by teachers, namely the Duolingo, Ling, and other applications while learning to listen. Specifically now digital learning is needed because students study from home to curb it spread of viruses. To overcome this, teachers must replace conventional teaching styles bring meaningful change in this time of crisis. In the teaching and learning process, Teachers need media to convey material easily (Eka, 2020; Butler et al., 2021).

Duolingo is a free language-learning platform, which can be accessed through the web (duolingo.com) or as an application on mobile devices. It is a very popular program for language learning, with around 300 million learners and still counting. Husnur et al. (2020: 31) Duolingo has some features that resemble a game, which will engage learners in learning the language. First, it has a skill tree that consists of some lessons that users can go advance through and unlock the next skill. Each lesson contains 10 to 15 exercises with various types of exercise. Another feature of Duolingo is the leader board, which is activated if the user adds a friend to his list. Duolingo has a store, which the currency is called Lingot, which users can use to purchase additional skills, bonuses such as freeze or customize the appearances of Duolingo, the owl mascot. Duolingo also has a feature on the web called Duolingo for School where the teacher can create virtual classrooms to see the Duolingo's curriculum content, to monitor students' progress and to set assignments for in class activity or homework (Putri & Islamiati, 2018). In this study, Duolingo is seen as an application with a gamification feature for learning a language (Rosyidah et al., 2023).

The Duolingo app employs an effective learning strategy by integrating a highly motivating system. It incorporates game-like elements to provide incentives, resembling a computer game where learners progress through distinct levels of the language tree. Each level mastery unlocks the subsequent lesson, and users engage in diverse exercises, including multiple choice, writing, and speaking via the microphone. Duolingo emphasizes drills and repetitive practice, embracing the "play and learn" concept to make language acquisition comfortable and enjoyable for users across various demographics, offering a momentary escape from daily routines.

Researcher choose the Duolingo application because it was proven by several researchers who succeeded in solving problems using Duolingo a new application with junior high school students. The researcher aimed to improve the purpose of writing students' mastery by using the Duolingo application and observing it effectiveness findings from this study indicate a notable impact of the Duolingo application on enhancing students' knowledge proficiency. The application is contextual. This approach turns students more active and enthusiastic, and students do it do not cause boredom as they do in conventional teaching methods. Teachers can take students' attention is better and enriches their learning with alternative media by using this application (Febrianti, 2018).

2. Research Methods

There were some research design that can be used in conducting a research. There were; descriptive qualitative, descriptive quantitative, classroom action research, and experimental quantitative. This research used experimental quantitative research.

According to Ary (2002:301) states that an experimental design is the general plan for carrying out a study with an active independent variable. The research design was a whole decision that involves studying the topic, informing the decision that the researcher's philosophical assumptions lead to the research (Cresswell, 2014:41). "The Effect of Duolingo application into Students' Listening Achievement of Seventh Grade at SMP Negeri 1 Pasaributobing".

In this research the class divided by 2 groups. The first groups was the experimental groups and the second class was the control groups. Therefore, the writer used the same materials and tasks but with a different treatment for control and experimental group. In experiment groups, the writer used Duolingo application as a media in teaching listening. While in control groups the writer did not used the Duolingo application as the media.

Thus, this research used statistical data to analyze the findings in the end of this research. This research used Quasi-experimental designs. Quasi-experiment was the kind of experimental design which test a hypothesis. White & Sabarwal stated that it had known how well it achieves its objectives, as measured by a prespecified set of indicator (Sinambela et al., 2023).

3. Results and Discussion

1. Data

The data in the research was taken from the scores of students listening test The researcher took the score from the result of pre-test and post-test which were applied in the experimental group and control Group. The Experimental Group was a class that applied the technique while the control group was a class without applied the media. There were 29 students in each class, and the total sample in this research was 58 students of seventh-grade students of Junior High SMP Negeri 1 Pasaributobing. The data were taken by giving listening test in multiple choice. From the data, the reseacher found the mean score of the pre-test in the experimental group is 49,6 and the post-test is 80,5 while in the control group, the mean score of the pre-test is 50,1 and the post- test is 60,5. The result shows that the mean score of post-test in the experimental group is 80,5 higher than post-test in the control group is 60,5.

2. Data Analysis

The data analysis was obtained by giving a listening test to the students to know their ability in listening ability. The writer analyzed the data from the scores of listening tests in the control and experimental group. The purpose of analyzing the data was to know whether there is a significant effect of on students listening ability by comparing students mean scores of post-test in the control and experimental group.

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- **The Tabulation Score Pre-test and Post-test of Experimental Group**

From the table above, the deviation score of Experimental group was calculated as the following:

$$\begin{aligned} Mx &= \frac{\sum d}{N} \\ Mx &= \frac{910}{29} \\ Mx &= 31,3 \end{aligned}$$

The Square of Deviation of Experimental group was calculated as follow:

$$\begin{aligned}d^2 &= (\sum x^2) - \frac{(\sum x)^2}{N} \\d^2 &= 28.575 - \frac{(910)^2}{29} \\d^2 &= 28.575 - 28.555,1 = 19,9\end{aligned}$$

- **The Tabulation Score Pre-test and Post-test of Control Group**

The following formula was used to determine the control group's deviation score based on the previous table:

$$\begin{aligned}My &= \frac{\sum d}{N} \\My &= \frac{305}{29} \\My &= 10,5\end{aligned}$$

The control group's square of deviation was computed using the following formula:

$$\begin{aligned}d^2 &= (\sum x^2) - \frac{\sum x^2}{N} \\d^2 &= 4.325 - \frac{305^2}{29} \\d^2 &= 4.325 - 3.207,7 = 1.117,3\end{aligned}$$

a. Analyzing the Data by using t-test Formula

To find out whether or not the use of Duolingo Application significantly affected the students Listening mastery, the data were calculated by applying t-test formula as follows:

$$t = \frac{Mx - My}{\sqrt{\left[\frac{Dx^2 + Dy^2}{Nx + Ny - 2} \right] \left[\frac{1}{Nx} + \frac{1}{Ny} \right]}}$$

Where:

t = the effect

Mx = mean of the experimental group

My = mean of the control group

Dx^2 = the deviation square of the experimental group

Dy^2 = the deviation square of the control group

Nx = the sample of the experimental group

Ny = the sample of the control group

Mx = 31,3

My = 11,3

$Dx^2 = \sum x^2 - \frac{(\sum x)^2}{N} = 28.575 - \frac{(910)^2}{29} = 28.575 - 28.555,1 = 19,9$

$Dy^2 = \sum y^2 - \frac{(\sum y)^2}{N} = 4.325 - \frac{(305)^2}{29} = 4.325 - 3.207,7 = 1.117,3$

Nx = 29

Ny = 29

$$\begin{aligned}t &= \frac{Mx - My}{\sqrt{\left[\frac{Dx^2 + Dy^2}{Nx + Ny - 2} \right] \left[\frac{1}{Nx} + \frac{1}{Ny} \right]}} \\t &= \frac{31,1 - 11,3}{\sqrt{\left[\frac{19,9 + 1.117,3}{29 + 29 - 2} \right] \left[\frac{1}{29} + \frac{1}{29} \right]}} \\t &= \frac{19,8}{\sqrt{\left[\frac{1.137,2}{58} \right] \left[\frac{2}{29} \right]}}\end{aligned}$$

$$t = \frac{19,8}{\sqrt{[19,6][0,06]}}$$

$$t = \frac{19,8}{\sqrt{1,176}}$$

$$t = \frac{19,8}{1,08}$$

$$t = 18,33$$

The t-observe is 18.33 and is greater than the t-table ($18,33 > 1.673$; $p = 0.05$), according to the t-count results. This suggests that either H_a 's theory is true or that students' listening skills are significantly impacted while using the Duolingo Application as a learning tool.

b. Testing the Hypothesis

Hypothesis testing should be done to know whether the hypothesis is accepted or rejected. It is done by using the t-test formula for degree of freedom ($df=29-29-2$) 56 at the level of significance 0.05. The result of calculating the t-test shows that t-observed is higher than t-table as follows.

1-observed t-table ($p=0.05$) with df 56

6.681.734 ($p0.05$) with df 56

It could be concluded that H_a is accepted and H_o is rejected because the result of the t-test describes that there is a significant effect of Duolingo Application Media on Students listening ability at eight -grade students of SMP Negeri 1 Pasaributobing.

c. Research Findings

It is found that the treatment conducted in the experimental group by using the Duolingo application significantly affected students listening ability. It can be proven by the increasing scores of the students after applying this media and also from the data obtained from the score of the experimental and control group by applying the t-test formula. The result of the calculation of t-test presents that $t\text{-observed} > t\text{-table} = 18,33 > 1.673$ at the level of significance $p=0.05$ degree of freedom (df) = $n_x+n_y-2 = 29+29-2 = 56$. If t-observed is higher than t-table, it indicates that Duolingo application as a media Gave significant effect to the students listening ability (Savira, 2020).

d. Research Discussions

The experimental group was group applied the media teaching. For the results the experimental group was higher than control group. The result of the study provided that Duolingo application as a media could help the students to improve their listening ability and Duolingo application as a media can affect the students listening by watching. The video. Duolingo application can help students actively improve their listening skills. The use of the Duolingo application also helped the students to be easier in listening - because the classroom activity is more interesting and fun, so they were not bored in learning listening. On the other hand, students were experienced find a new way to master listening (Samosir, 2019; Sari & Octaviani, 2022).

4. Conclusion

After conducting this research, the author concluded that implementing the Duolingo application had a significant effect on students listening achievement. The conclusion can be described as follows: Duolingo application is a social media that helps students start learning to listen and improves students' vocabulary. They are interested in the features in the Duolingo application. Some of them are enthusiastic about studying English because they can apply this medium (Hafifah, 2021).

The average score of the experimental group taught using the Duolingo application as a medium was 80,5. This value is higher than the average value of the control group taught without implementing the Duolingo application, namely 60,5.

The hypothesis is proved the value of t-observed is higher than t-table they are $18,33 > 1.673$ at the level of significance alpha 0.05 and the degree of freedom (df) 56. This indicates that the alternative hypothesis (H_a) is accepted and the null hypothesis (H_o) is rejected. Duolingo Application is significantly affected on students listening achievement at SMP Negeri 1 Pasaributobing.

References

- Amin, S. N. (2021). Gamification of Duolingo in Rising Student'S English Language Learning Motivation. *Jurnal Bahasa Lingua Scientia*, 13(2), 191–213. <https://doi.org/10.21274/lis.2021.13.2.191-213>
- Butler, Y. G., Peng, X., & Lee, J. (2021). Young learners' voices: Towards a learner-centered approach to understanding language assessment literacy. *Language Testing*, 38(3), 429–455.
- Eka, W. N. (2020). Gamification of Duolingo in Rising Student'S English Language Learning Motivation. *Jurnal Bahasa Lingua Scientia*, 13(2), 191–213. <https://doi.org/10.21274/lis.2021.13.2.191-213>
- Febrianti, Y. (2018). the Effect of Work Environment and Work Load on Nurses' Motivation in Bhayangkara Sespimma Polri Hospital, South Jakarta in 2018. *Business and Accounting Research (IJEBAR) Peer Reviewed-International Journal*, 3(4), 435–456. <http://jurnal.stie-aas.ac.id/index.php/IJEBAR>
- Hafifah, H. (2021). The effectiveness of Duolingo in improving students' speaking skill at Madrasah Aliyah Bilingual Batu school year 2019/2020. *Language-Edu*, 10(3).
- Husnur., & Putra, I. N. T. D. (2020). The Implementation of Technology-Based Media in Improving English Speaking Skill of Hospitality Students in Mataram Tourism College. *Jo-ELT (Journal of English Language Teaching) Fakultas Pendidikan Bahasa & Seni Prodi Pendidikan Bahasa Inggris IKIP*, 7(2), 96. <https://doi.org/10.33394/jo-elt.v7i2.3188>
- Nita, S., Sari, E. R. N., Sussolaikah, K., & Risky, S. M. F. (2023). The Implementation of Duolingo Application to Enhance English Learning for Millennials. *Journal International of Lingua and Technology*, 2(1), 1–9.
- Nushi, M., & Orouji, F. (2020). Investigating EFL teachers' views on listening difficulties among their learners: The case of Iranian context. *Sage Open*, 10(2), 2158244020917393.
- Putri, L. M., & Islamiati, A. (2018). Teaching listening using Duolingo application. *Journal of English Education*, 1(4), 460.
- Rosyidah, U. J., Laksmi, E. D., & Anugerahwati, M. (2023). Gamification in Duolingo App on Improving English Listening Proficiency of Junior High School Students. *ENGLISH FRANCA: Academic Journal of English Language and Education*, 7(1 May), 119–132.
- Samosir, H. (2019). A Study Of Listening Comprehension Problems Encountered By The Third Semester Students At Stmik Prabumulih. *Acitya: Journal of Teaching and Education*, 1(2), 100–109.
- Sari, A., & Octaviani, S. K. (2022). Duolingo Mobile Application for English Listening Skill Improvement of Vocational School Students. *Journal of English Language and Education*, 7(2), 84–95. <https://doi.org/10.31004/jele.v7i2.306>
- Savira, N. (2020). The use of Duolingo application to enhance junior high school student's english vocabulary. *English Education, Faculty of Language and Arts, Surabaya State University*, 8(2), 17–24.
- Sinaga, Y., Simarmata, R. O., Pakpahan, C., & Panggabean, S. (2023). Improving Students Vocabulary Mastery By Using Ice Breaker Activities To The First Graders Of SMP HKBP idorame. *INNOVATIVE: Journal Of Social Science Research*, 3, 8237–8242.
- Sinambela, E., Gaol, D. L., Tampubolon, S., & Pasaribu, A. N. (2023). The Effect of Using Controlled Writing Technique and Clustering Technique on Students' Writing Skills at

Junior High School. *IDEAS: Journal on English Language Teaching and Learning, Linguistics and Literature*, 11(1), 26–35. <https://doi.org/10.24256/ideas.v11i1.3056>