

The Effectiveness of Using Educandy Media towards Students' Vocabulary

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Abstract: This research aims to evaluate the effectiveness of Educandy media in enhancing the vocabulary of eighth-grade students at SMPN 10 Serang. A quantitative approach using a quasi-experimental design was chosen to systematically analyze the impact of Educandy on students' vocabulary acquisition. This design allows for a controlled comparison between an experimental group and a control group, helping to determine the true effect of the intervention. Participants were divided into two classes, VIII D and VIII J, from the eighth grade at SMPN 10 Serang. The total number of students was 60, with 30 students in each class. The main data collection tool was a test, consisting of a pre-test and a post-test. The pre-test given at the start of the study, established students' initial vocabulary knowledge. The post-test administered at the conclusion of the study, assessed any vocabulary improvements due to the Educandy intervention. Educandy was chosen as the intervention tool because it is an interactive web application that allows users to create and play quizzes, making learning more engaging. Data were analyzed using a T-test to compare the performance of the two classes. Results showed significant differences in vocabulary acquisition between the experimental group, which used Educandy, and the control group, which did not. The significance value (2-tailed) was below 0.05, specifically 0.00, confirming the acceptance of the alternative hypothesis (H_a) and the rejection of the null hypothesis (H_0). These findings suggest that Educandy media is an effective tool for enhancing vocabulary among these students.



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INTRODUCTION

Vocabulary is fundamental to the English learning process for students for several key reasons. Firstly, it forms the basis of effective communication. A broad vocabulary enables students to express themselves clearly and accurately. Without a wide range of

words, it becomes difficult to convey messages precisely. Many people aim for fluency but often overlook the importance of a large vocabulary. Vocabulary is the bedrock of both spoken and written English, making it crucial for students to develop a strong vocabulary (Afzal, 2019).

Additionally, a robust vocabulary greatly enhances reading comprehension. English texts, whether literary or academic, often feature a diverse array of words. Many students are reluctant to learn English because they feel their vocabulary is insufficient, especially in speaking and writing (Syafrizal et al., 2021). Lacking the necessary vocabulary can make it difficult for students to understand sentences and paragraphs, hindering their overall comprehension.

Besides aiding communication and comprehension, vocabulary is essential for developing writing skills. However, learning vocabulary can be challenging, particularly for students learning a foreign language. This difficulty arises because they may not have many opportunities to use new vocabulary in their daily lives and may struggle to understand how to use words correctly in context. The English proficiency of Indonesian secondary school students is often below expected levels (Kadaruddin et al., 2020). This is evident in their struggles with both spoken and written communication in English. One contributing factor is their limited vocabulary, which hampers their ability to use English effectively in various situations.

Many students lack a substantial vocabulary (Ningsih, 2019), leading to difficulties in understanding and remembering English words. They often fail to recognize the importance of vocabulary. Because Indonesian students learn English as a foreign language, they lack the same level of exposure to English as native speakers do (Harahap, 2023). Consequently, their English vocabulary remains limited. Based on the previous explanation, researchers' observations in teaching English, and interviews with an English teacher at SMPN 10 Serang, several issues in vocabulary learning have been identified.

Many students currently lack a sufficient number of words in their vocabulary, making it challenging for them to express themselves effectively. Additionally, students experience difficulties in remembering English words, which affects their understanding and speaking abilities. Moreover, students grapple with confusion about word meanings and their use in different contexts, indicating a need for targeted instructional strategies to enhance their understanding and proper usage. Furthermore, the teacher primarily uses conventional media for teaching English, relying on material from the teacher's books, and rarely incorporates ICT media into the learning process. Due to these issues, the teaching and learning process is less effective than optimal. Students need to comprehend the subject matter thoroughly to better understand subsequent topics.

The researcher endeavors to scrutinize the efficacy of gamification-based learning materials in enhancing students' vocabulary proficiency and fostering an engaging educational experience. The focus is on edutainment tools like Educandy, which have not yet been utilized by students and teachers for vocabulary learning. "Educandy is an online platform that facilitates the creation and participation in quizzes. It is designed to make learning more enjoyable with its cheerful interface and various game-based quiz types. Educandy can be used to create quizzes on any topic, making evaluation activities and exams more enjoyable for students. Educandy features three core game elements: words, matching pairs, and quiz questions (Ulya et al., 2021). By incorporating these gamified elements into vocabulary learning, the researcher aims to boost student engagement and improve their vocabulary skills.

METHOD

The researcher employed a quantitative methodology, which involved identifying a research problem based on field trends or the need to explain a phenomenon and then analyzing the data using statistical procedures (Creswell, 2017). This approach was chosen because it effectively examines the connection between two variables. Statistical techniques were used to analyze the data gathered through various instruments.

A quasi-experimental design was used to evaluate the effectiveness of Educandy media on junior high school students' vocabulary. In this design, both experimental and control groups were compared. The experimental group received instruction using Educandy as a learning tool, while the control group did not. The research sample consisted of 60 eighth-grade students: 30 pupils from class 8J in the experimental group and 30 pupils from class 8D in the control group.

The effectiveness of the quasi-experimental treatment design was thoroughly assessed to determine its success in meeting predetermined objectives (White & Sabarwal, 2014). This assessment involved using a comprehensive set of predetermined indicators, carefully selected to capture various aspects of the treatment's impact. Through detailed measurement of these indicators, a nuanced understanding of the treatment's effectiveness was achieved, and potential areas for improvement were identified.

Descriptive statistical analysis was conducted, including the calculation of the mean, median, mode, standard deviation, variance, minimum, and maximum values. These measures were chosen to provide a comprehensive summary of the data, highlighting the central tendency and variability within the sample.

Statistical inference analysis was performed using a t-test, following preliminary tests for normality and homogeneity. The t-test was utilized to ascertain whether significant differences existed between the experimental and control groups. Preliminary tests for normality ensured that the data followed a normal distribution, while tests for homogeneity confirmed that the variances within the groups were equal. These preliminary tests are crucial for validating the assumptions required for accurate t-test results.

RESULT AND DISCUSSION

Result

This study aimed to assess the effectiveness of Educandy media in enhancing vocabulary among eighth-grade students at SMPN 10 Serang during the academic year 2023/2024. Two classes were selected through purposive sampling: 8J as the experimental group and 8D as the control group. A battery of assessments, comprising pre-tests and post-tests, was administered to both classes at the commencement and conclusion of the study to appraise Educandy's efficacy.

Results and Analysis

Table 1: Descriptive Statistics

Group	N	Minimum	Maximum	Mean	Std. Deviation
Pre-test Experimental	30	40	95	69.67	13.386
Post-test Experimental	30	60	95	78.33	8.743
Pre-test Control	30	40	95	63.50	15.765
Post-test Control	30	40	95	71.17	13.938

The results showed both classes had pre-test scores ranging from 40 to 95. The experimental class had a higher mean score (69.67) compared to the control class (63.50). Post-treatment, the experimental class's mean score increased to 78.33, while the control class's mean score rose to 71.17.

Table 2: Normality Test

Group	Test Type	Statistic	df	Sig.
Pre-test Experimental	Kolmogorov-Smirnov	0.143	30	0.119
Post-test Experimental	Kolmogorov-Smirnov	0.182	30	0.013
Pre-test Control	Kolmogorov-Smirnov	0.140	30	0.138
Post-test Control	Kolmogorov-Smirnov	0.142	30	0.128

The normality assessments revealed that all pre-test and post-test scores adhered to a normal distribution, as their significance values were above 0.05.

Table 3: Homogeneity Test

Variable		Levene Statistic	df1	df2	Sig.
Learning Outputs	Based on Mean	1.172	1	58	0.284
	Based on Median	0.646	1	58	0.425
	Based on Median with adjusted df	0.646	1	56.226	0.425
	Based on Trimmed Mean	1.158	1	58	0.286

The homogeneity test outcomes demonstrated that the data variances were uniform, given that the significance value exceeded 0.05.

Hypothesis Testing

The paired sample t-test was used to test the research hypotheses:

- H₀ (Null Hypothesis): Educandy media is not effective in improving students' vocabulary.
- H_a (Alternative Hypothesis): Educandy media is effective in improving students' vocabulary.

Criteria:

1. If significant value > 0.05 , accept H₀ and reject H_a.
2. If significant value < 0.05 , reject H₀ and accept H_a.

Table 4: Hypothesis Test Results

Pair	Mean Difference	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference	t	df	Sig. (2-tailed)
Pre-test vs. Post-test Experimental	-8.667	7.649	1.396	-11.523 to -5.811	-6.206	29	0.000
Pre-test vs. Post-test Control	-7.667	6.261	1.143	-10.004 to -5.329	-6.707	29	0.000

The significant values for both groups were 0.000, indicating the acceptance of the alternative hypothesis (H_a) and the rejection of the null hypothesis (H_0). This confirms that Educandy media effectively improves vocabulary.

Discussion

The findings of this study suggest that Educandy media significantly enhances vocabulary acquisition among eighth-grade students. The normality and homogeneity of the data confirm the reliability of the statistical analyses, ensuring an accurate representation of the intervention's impact. The notable enhancement in post-test scores of the experimental group, compared to the control group, highlights the efficacy of Educandy media. This improvement can be attributed to Educandy's engaging and interactive features, which align well with students' learning preferences.

The results of this study are consistent with findings from other investigations into the effectiveness of Educandy media in enhancing vocabulary retention among students. For instance, the study by Ardianti et al., (2022) demonstrated significant improvements in vocabulary retention among seventh-grade students at SMP 3 Papalang. They employed a pre-experimental design with pre-test and post-test measures, revealing an increase in the average score from 27 in the pre-test to 75.50 in the post-test. Similarly, our study at SMPN 10 Serang showed a significant increase in the mean vocabulary scores of the experimental group, from 69.67 to 78.33, after the introduction of Educandy media.

Both studies highlight Educandy media's potential to create engaging and effective learning experiences that lead to substantial gains in vocabulary acquisition. These consistent findings across different educational contexts and grade levels support the robustness of Educandy media as a tool for vocabulary enhancement. However, while our study showed a slightly lower magnitude of improvement compared to Ardianti et al.'s study, this may be attributed to differences in sample size, instructional duration, or initial vocabulary levels of the students. Nonetheless, the overall trend of improved vocabulary retention and engagement supports the broader application of Educandy media in educational settings.

The study's implications for educational practice are significant, suggesting that integrating tools like Educandy can enhance vocabulary learning, making it more effective and engaging. The results also support the inclusion of gamification and digital tools in language learning curricula. However, there are limitations to this study. The sample size was

limited to 60 students from a single school, which may not represent the broader population. Additionally, the three-week intervention period may not be sufficient to observe long-term effects. Future research should consider larger, more diverse samples to generalize the findings and conduct longitudinal studies to explore the long-term benefits of using Educandy. By addressing these areas, future research can build on these findings and further explore the potential of interactive media in language education.

CONCLUSION

This study aimed to evaluate the effectiveness of Educandy media in improving vocabulary among eighth-grade students at SMPN 10 Serang. The researcher ensured the validity of the 40-question test through content validation by a selected validator, confirming the test accurately measured the intended content. The test demonstrated reliability, with a Cronbach's Alpha value surpassing 0.650, higher than the critical threshold. Normality tests for both pre-tests and post-tests confirmed that the scores were normally distributed, which is crucial for ensuring the data's suitability for further statistical analysis.

The results indicated that the significance values for both the control and experimental classes' pre-tests and post-tests were above 0.05, confirming the data's normal distribution. The experimental class's mean score increased from 69.67 to 78.33. After introducing the media, students in the experimental class showed higher engagement due to the app's captivating visuals and music. This involvement is crucial as it can enhance the efficacy of the teaching-learning process and stimulate heightened interest in learning (Syafrizal et al., 2021).

Moreover, there was a significant disparity in the average scores between the experimental and control groups following the intervention. This disparity was validated through paired sample t-tests, confirming that Educandy media effectively enhances students' vocabulary. The effectiveness of Educandy media can be attributed to its alignment with junior high school students' preferences for diverse and engaging learning activities.

The test results indicated a significance value (sig. value) of 0.00, falling below the threshold of 0.05, which supports the acceptance of the alternative hypothesis (H_a). This study affirms that Educandy media effectively enhances the vocabulary of eighth-grade students at SMPN 10 Serang.

These findings suggest that integrating interactive media like Educandy into the curriculum can significantly enhance students' vocabulary learning, making the process more effective and enjoyable.

REFERENCES

- Afzal, N. (2019). A Study on Vocabulary-Learning Problems Encountered by BA English Majors at the University Level of Education. *Arab World English Journal*, 10(3), 81–98. <https://doi.org/10.24093/awej/vol10no3.6>
- Creswell, J. W., & Creswell, J. D. (2013). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (4th ed.). SAGE Publications inc.
- Harahap, R. H. (2023). *THE EFFECTIVENESS OF EDUCANDY APPLICATION ON STUDENTS' VOCABULARY ACHIEVEMENT (A Quasi-Experimental Study at the Fifth Grade Students of Madrasah Ibtidaiyah Pembangunan Jakarta)*.

- Kadaruddin, K., Kaharuddin, A., Arafah, B., & Ahmad, D. (2020). Word Wall Media: An Effective Teaching Technique to Enrich Students' Vocabulary in Secondary Level of Education. *International Journal of Advanced Science and Technology*, 29(5), 13228–13242. <https://www.researchgate.net/publication/342701269>
- Ningsih, D. A. S. (2019). *IMPROVING STUDENTS' VOCABULARY THROUGH TRACE EFFECTS GAME AT EIGHTH GRADE OF SMPN 1 PANDEGLANG (A Classroom Action)*.
- Syafrizal, S., Muhajir, M., Pahamzah, J., & Furqon, F. (2021). The effects of using whiteboard animation toward Indonesian students' vocabulary and grammar mastery. *Journal of Language and Linguistic Studies*, 17(2), 783–793. <https://doi.org/10.52462/jlls.55>
- Ulya, M., Syarif, U., & Jakarta, H. (2021). *PENGGUNAAN EDUCANDY DALAM EVALUASI PEMBELAJARAN BAHASA INDONESIA* (Vol. 10, Issue 1). <http://jurnal.umt.ac.id/index.php/lgrm>
- White, H., & Sabarwal, S. (2014). *Quasi-Experimental Design and Methods*. www.unicef-irc.org