

## LEARNING ENGLISH VOCABULARY USING BAAMBOOZLE WEB-BASED VIDEO GAME: VOCABULARY MASTERY AT MTS IN BANDUNG

**Fitri Salsabila Nurohman**

Department of English Education, Faculty of Tarbiyah and Teacher Training, UIN Sunan Gunung Djati Bandung, Bandung, Indonesia  
*salsabilafitri411@gmail.com*

**Nia Kurniawati**

Department of English Education, Faculty of Tarbiyah and Teacher Training, UIN Sunan Gunung Djati Bandung, Bandung, Indonesia  
*niakurniawati29\_ftk@uinsgd.ac.id*

**Hapid Ali**

Department of English Education, Faculty of Tarbiyah and Teacher Training, UIN Sunan Gunung Djati Bandung, Bandung, Indonesia  
*hapidali@uinsgd.ac.id*

### Abstract

This study aimed to assess students' vocabulary mastery using the Baamboozle game in English learning. It had three objectives: (1) to examine students' vocabulary mastery using Baamboozle, (2) to examine it without using Baamboozle, and (3) to identify the difference between the two approaches. A quantitative method with a quasi-experimental design was used. The research was conducted at MTs Al-Jawami Cileunyi with seventh-grade students. Two classes, VII A and VII B, were selected as the sample, with 23 students in both the experimental and control groups. Data were collected using pre-tests and post-tests, and analyzed statistically. The experimental group showed a significant improvement, with an average score increase from 56.87 to 85.78. The control group also improved from 55.26 to 78.57. However, the N-Gain analysis revealed that Baamboozle was more effective. The experimental group achieved an N-Gain score of 67.09 (moderately effective), while the control group scored 51.07 (less effective). In conclusion, both groups showed vocabulary improvement, but the experimental group outperformed the control group, indicating that the Baamboozle game is more effective in enhancing students' vocabulary mastery.

Keywords: Vocabulary mastery, web-based video game, Baamboozle game

### INTRODUCTION

In learning English, mastering vocabulary is one of the essential skills that students must acquire because it becomes the foundation for effective communication, both in spoken and written forms. According to Coady and Huckin (1997), developing vocabulary is the most important part of learning a language. Without an adequate vocabulary, it is difficult for students to express their ideas, intentions, and emotions, which causes problems in communication. Furthermore, vocabulary cannot be separated from other language components such as pronunciation, grammar, and spelling, as Berne and Blachowicz (2008) state that the study of vocabulary is integral to mastering a foreign language. However, in reality, vocabulary learning faces several problems. The first problem is that students tend to forget words easily because they rarely use them in daily activities and classroom learning. The second issue is students' lack of motivation and enthusiasm in learning new vocabulary, which

makes them easily bored and unwilling to actively participate in learning sessions. Lastly, the teaching methods used by teachers are often monotonous, with limited use of engaging media such as pictures, flashcards, or digital tools, which makes it difficult for students to understand and memorize new words. To address these issues, teachers are expected to innovate by integrating technology and media into the teaching process, as Larsen-Freeman and Anderson (2011) emphasizes that technology not only serves as a teaching resource but also integrates learning experiences into students' everyday lives.

One of the media that can be used to enhance students' vocabulary mastery is Baamboozle, an online educational game that functions like a quiz competition and can be accessed without requiring students to create an account. Rahayu and Rukmana (2021) explain that Baamboozle provides interactive and engaging learning experiences, which can be played both online and offline. Teachers can search for suitable games or create their own, adjusting the content based on students' needs and levels. This game-based learning platform is expected to increase students' motivation and enthusiasm because it provides a fun and memorable learning environment. Paul also argues that learning through games is an effective approach for acquiring a foreign language in a casual and enjoyable setting, which allows students to feel more relaxed and actively engaged.

The theoretical framework of this research is based on the definition of vocabulary mastery, which refers to the ability to recognize, comprehend, and appropriately use words in speaking, writing, listening, and reading. According to Linse (2005), vocabulary is a list or collection of words that a person knows and uses. Haryadi (2022) also explains that vocabulary mastery involves the ability to learn, remember, and use words effectively in both oral and written communication. Faraj (2015) highlights that having a rich vocabulary is crucial for developing literacy skills and effective communication. The integration of Baamboozle as a game-based learning tool is expected to support this vocabulary acquisition process by providing an engaging and motivating environment for students to actively participate and improve their English proficiency.

Based on the problems and framework described, this study formulates a hypothesis to examine whether there is a significant difference between students' vocabulary mastery taught using Baamboozle games and those taught using conventional media. The hypotheses are as follows:  $H_0$ , there is no significant difference between students' vocabulary mastery being taught with and without using Baamboozle games in the English learning process at MTs Al-Jawami; and  $H_a$ , there is a significant difference between students' vocabulary mastery being taught with and without using Baamboozle games in the English learning process at MTs Al-Jawami. This research is expected to provide valuable insights and benefits for teachers, students, and other researchers, offering alternative strategies and resources for improving vocabulary learning in English language classrooms.

## **METHOD**

This study employed a quantitative research method using a quasi-experimental design with a nonequivalent control group to investigate the effect of using Baamboozle games on students' vocabulary mastery. According to Creswell (2012), quantitative research focuses on examining the relationship between variables through numerical data analysis. In this study, the experimental group was taught using Baamboozle games, while the control group received conventional instruction without the game. The two variables were the use of Baamboozle as the independent variable and students' vocabulary mastery as the dependent variable. Both groups were given a pre-test before the treatment and a post-test after the treatment to measure their vocabulary mastery and evaluate the significance of the improvement.

The participants of this research were 46 seventh-grade students of MTs Al-Jawami Bandung, consisting of two classes: VII-A as the control group and VII-B as the experimental

group, with 23 students in each class. Total sampling was used to include all students from both classes. Data collection involved administering a pre- test, conducting three treatment sessions, and then a post-test. The pre-test, containing 15 multiple-choice questions from the English for Nusantara textbook, was conducted before treatment to assess students' initial vocabulary knowledge. The experimental group was taught with Baamboozle games, while the control group received the same material through conventional teaching. After three meetings, both groups were given a post- test, also consisting of 15 multiple-choice questions, to measure students' vocabulary mastery after treatment.

The research instruments included pre- tests and post-tests, whose quality was examined through validity and reliability tests using SPSS. Out of 25 items initially tested, 15 questions met the validity requirement ( $r \geq 0.40$ ) and were used in both pre- and post-tests. The reliability test, calculated using Cronbach's Alpha, showed a coefficient of 0.881, indicating a very high level of internal consistency. Data analysis techniques applied in this research included descriptive statistics to classify students' vocabulary mastery levels, a normality test using the Kolmogorov-Smirnov method, a homogeneity test with Levene's test, and an N-Gain score analysis to measure the improvement of students' vocabulary mastery after the use of Baamboozle games. The effectiveness of the Baamboozle game was categorized based on the percentage increase in scores, interpreted according to the criteria by Hake (1999).

## FINDINGS AND DISCUSSIONS

This chapter presents the results of students' vocabulary mastery before and after being taught using Baamboozle games and conventional methods, as well as the significance of the difference between the two groups.

### 1. Students' Vocabulary Mastery Before and After Using Baamboozle Game

The pre-test and post-test were conducted to assess the students' initial vocabulary mastery and the improvement after receiving treatment through Baamboozle games. The pre-test was held before the treatment on December 25th, 2024, and the post-test was conducted after three meetings on December 29th, 2024. Both tests consisted of 15 multiple-choice questions taken from English for Nusantara Chapter 2: Culinary and Me. The results of the experimental group are shown in the following table.

Table 1. Students' Pre-test and Post-test Score in the Experimental group

No	Name	Pre-test	Post-test
1	Students 1	60	93
2	Students 2	60	93
3	Students 3	53	93
4	Students 4	60	87
5	Students 5	53	80
6	Students 6	60	87
7	Students 7	67	87
8	Students 8	67	87
9	Students 9	60	93

10	Students 10	47	80
11	Students 11	67	87
12	Students 12	67	93
13	Students 13	67	80
14	Students 14	53	80
15	Students 15	53	80
16	Students 16	60	87
17	Students 17	67	93
18	Students 18	47	87
19	Students 19	60	93
20	Students 20	53	73
21	Students 21	40	80
22	Students 22	40	87
23	Students 23	47	73
<b>Mean</b>		<b>56.87</b>	<b>85.78</b>

Table 1 shows that students in the experimental group experienced a significant improvement in their vocabulary mastery after being taught using Baamboozle games. The average pre-test score was 56.87, while the post-test score increased to 85.78, indicating an increase of 28.91 points. Before the treatment, most students' scores were in the fair and sufficient categories, with only a few achieving good scores. After the treatment, the majority of students moved into the good and very good categories. This substantial increase demonstrates that the Baamboozle game effectively facilitated vocabulary learning and helped students understand and remember new words more easily. The interactive and engaging nature of the game likely contributed to higher motivation and better retention of vocabulary.

## 2. Students' Vocabulary Mastery Before and After Using Conventional Media

The control group followed the same procedure, but without using Baamboozle. The vocabulary material was delivered through conventional teaching methods. The results are presented below.

Table 2. Students' Pre-test and Post-test Scores in the Control Group

No	Name	Pre-test	Post-test
1	Students 1	53	80
2	Students 2	60	87
3	Students 3	60	80
4	Students 4	53	87

5	Students 5	67	80
6	Students 6	60	73
7	Students 7	53	80
8	Students 8	53	80
9	Students 9	60	73
10	Students 10	53	67
11	Students 11	53	73
12	Students 12	67	73
13	Students 13	53	80
14	Students 14	53	73
15	Students 15	40	80
16	Students 16	60	87
17	Students 17	60	80
18	Students 18	40	87
19	Students 19	60	80
20	Students 20	60	87
21	Students 21	40	67
22	Students 22	60	80
23	Students 23	53	73
Mean		55.26	78.57

In Table 2, students in the control group also experienced an increase in their vocabulary mastery, although the improvement was less substantial than in the experimental group. The average pre- test score was 55.26, and the post-test score rose to 78.57, showing an increase of 23.31 points. Most students remained in the fair to good categories, with a smaller number reaching the very good category. This result indicates that conventional teaching methods can still improve vocabulary mastery, but not as effectively as interactive and engaging media such as Baamboozle. The increase in scores also confirms that students can benefit from structured learning, although a more dynamic approach would likely produce greater results.

### 3. The Significant Difference Between Students' Vocabulary Mastery Taught With and Without Baamboozle Game

To test the hypothesis and determine the significance of the differences between the experimental and control groups, several statistical analyses were conducted

### 1. Descriptive Statistics

**Table 3.** Descriptive Statistics of Pre-test and Post-test

N		Pre-test experiment	Post-test experiment	Pre-test control	Post-test control
	Valid	23	23	23	23
Missing	0	0	0	0	
Mean		56.87	85.78	55.26	78.57
Std. Deviation		8.583	6.410	7.454	6.141
Minimum		40	73	40	67
Maximum		67	93	67	87

The table shows that both groups improved after treatment, with the experimental group achieving a higher post-test mean.

### 2. Normality Test

The Shapiro-Wilk test was used because the sample size was less than 50.

**Table 4.** Normality Test Result

Result	Class	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	statistic	df	Sig.
	Pre-test experimental	.208	23	.011	.894	23	.019
	Post-test experimental	.227	23	.003	.862	23	.005
	Pre-test control	.250	23	<.001	.843	23	.002
	Post-test control	.245	23	<.001	.876	23	.008

Since the significance values for both groups were less than 0.05, the data were not normally distributed.

### 3. Hypothesis Test

As the data were not normally distributed, non-parametric tests (Wilcoxon and Mann-Whitney) were applied.

**Wilcoxon signed-rank test** showed p- values < 0.001 in both groups, indicating significant improvement in pre- to post- test scores.

**Table 5.** Wilcoxon Test

	Post-test Experimental Pre-test Experimental	–	Post-test Control Pre-test Control
Z	-4.215 <sup>b</sup>		-4.233 <sup>b</sup>
Asymp. Sig. (2-tailed)	<,001		<,001

**Mann-Whitney U Test** for post-test scores resulted in  $p < 0.001$ , showing a significant difference in vocabulary mastery between the experimental and control groups.

**Table 6.** Man-Whitney U Test  
Test Statistics<sup>a</sup>

	Result
Mann-Whitney U	116.000
Wilixon W	392.000
Z	-3.3389
Asymp. Sig. (2-tailed)	<,001

#### 4. N-Gain Analysis

**Table 7.** N-Gain Scores

Group	N-Gain (%)	Interpretation
Experimental	67.09	Moderately Effective
Control	51.07	Less Effective

Table 7 highlights that the experimental group achieved an N-Gain score of **67.09%**, which is categorized as moderately effective, while the control group reached **51.07%**, classified as less effective. This significant difference in N- Gain values confirms the superiority of the Baamboozle game in enhancing students' vocabulary mastery. The interactive nature of the game likely increased students' attention, participation, and retention of new vocabulary. These results align with research by Klimova (2014) and Hatch & Brown (1995), who emphasized the benefits of using games and interactive media in language learning.

## CONCLUSION

This study concludes that the use of Baamboozle games significantly improves students' vocabulary mastery in English learning. The experimental group showed a notable increase in their vocabulary scores, with the average rising from 56.87 in the pre-test to 85.78 in the post-test. In comparison, the control group, which was taught using conventional media, also experienced improvement from 55.26 to 78.57, but the increase was less substantial. The results of statistical analysis, including the Mann-Whitney U test and N-Gain calculation, confirmed a significant difference in vocabulary mastery between the two groups. These findings demonstrate that incorporating interactive media like Baamboozle into the learning process can effectively enhance students' vocabulary acquisition and should be considered a valuable strategy in language teaching.

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