

**THE EFFECT OF BAAMBOOZLE APPLICATION TO ENHANCE ENGLISH  
VOCABULARY MASTERY  
(A QUASI EXPERIMENT AT<sup>8TH</sup> GRADE MTS NUR RAHMA BENGKULU CITY)**

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**ABSTRACT**

*This study aims to analyze the effect of using the Baamboozle application on the English vocabulary mastery of eighth-grade students at Madrasah Tsanawiyah Nur Rahma, Bengkulu City. This research used a quantitative approach with a quasi-experimental design involving class VIII Zubair as the experimental class and class VIII Sa'ad as the control class. The research sample consisted of 43 students selected using total sampling technique. Data were collected through pre-tests and post-tests, then analyzed using the Shapiro–Wilk normality test, Levene's homogeneity test, and Independent Samples t-test. The results showed that the experimental class's post-test scores were higher than those of the control class. The Independent Samples t-test produced a calculated t-value of 5.581 with a significance value of 0.001 ( $P < 0.05$ ), indicating a significant difference between the two groups after the treatment. These findings demonstrate that the use of the Baamboozle application is effective in improving students' English vocabulary mastery. Based on the results, it can be concluded that the Baamboozle application has a significant effect on the English vocabulary mastery of eighth-grade students at Madrasah Tsanawiyah Nur Rahma, Bengkulu City. Therefore, the Baamboozle application can be used as a game-based learning medium to support English vocabulary learning.*

**Keywords:** *Baamboozle Application, Vocabulary Mastery, Game-Based Learning, Quasi-Experiment.*

### **ABSTRAK**

Penelitian ini bertujuan untuk menganalisis pengaruh penggunaan aplikasi Baamboozle terhadap penguasaan kosakata bahasa Inggris siswa kelas VIII di Madrasah Tsanawiyah Nur Rahma Kota Bengkulu. Penelitian ini menggunakan pendekatan kuantitatif dengan desain quasi-experimental yang melibatkan kelas VIII Zubair sebagai kelas eksperimen dan kelas VIII Sa'ad sebagai kelas kontrol. Sampel penelitian berjumlah 43 siswa yang dipilih menggunakan Teknik total sampling.. Data dikumpulkan melalui pre-test dan post-test, kemudian dianalisis menggunakan uji normalitas Shapiro–Wilk, uji homogenitas Levene, dan Independent Samples t-test. Hasil penelitian menunjukkan bahwa nilai post-test kelas eksperimen lebih tinggi daripada kelas control. Hasil Independent Samples t-test memperoleh nilai t-hitung sebesar 5,581 dengan nilai signifikansi 0,001 ( $P < 0,05$ ), yang menunjukkan adanya perbedaan yang signifikan antara kedua kelompok setelah diberikan perlakuan. Temuan ini membuktikan bahwa penggunaan aplikasi Baamboozle efektif dalam meningkatkan penguasaan kosakata bahasa Inggris siswa. Berdasarkan hasil penelitian, dapat disimpulkan bahwa aplikasi Baamboozle memberikan pengaruh yang signifikan terhadap penguasaan kosakata bahasa Inggris siswa kelas VIII di Madrasah Tsanawiyah Nur Rahma Kota Bengkulu. Oleh karena itu, aplikasi Baamboozle dapat digunakan sebagai media pembelajaran berbasis permainan (*game-based learning*) untuk mendukung pembelajaran kosakata bahasa Inggris.

**Kata kunci:** Aplikasi Baamboozle, Penguasaan Kosakata, Pembelajaran Berbasis Permainan, Kuasi-Eksperimen.

#### **A. INTRODUCTION**

In Indonesia, English is taught as the primary foreign language from elementary school through university, highlighting its strategic role in preparing students to face a developing world. However, mastery of various language aspects is

required to become an effective communicator; vocabulary is the most important pillar. According to Ghalebi et al. (2021), vocabulary acts as a helpful basis for students to achieve effective communication and sufficient performance in speaking, listening, reading, and writing Li (2022)

mentioned that vocabulary holds a significant position as one of the fundamental elements of language and has a vital role in acquiring language.

Based on the importance of vocabulary mastery in English language learning, learning strategies are needed that can help students understand and remember vocabulary more effectively. However, vocabulary learning that is still conventional is often uninteresting for students, resulting in low motivation and engagement in the learning process. Therefore, teachers need to introduce learning innovations that are in line with the characteristics of today's students. Fitri et al. (2022) stated that today's students live in a digital era where they use technology in their daily lives. As a result, technology has contributed to the field of education to help optimize learning. Rintaningrum (2023) also states that technology in language learning, especially in English language learning, can help students improve their English proficiency and develop independence in learning.

Based on the results of preliminary research at MTs Nur Rahma in

Bengkulu City, it was concluded that most students showed low levels of motivation and concentration when learning English using the lecture method without interactive activities or games. Students tend to be passive, unmotivated, and not very active during the learning process, resulting in less than optimal enthusiasm and vocabulary mastery. This is supported by the classroom learning process, which indicates that only about 6-8 students actively responded to the teacher's questions throughout the vocabulary learning process. This condition indicates that the currently used lecture method is unable to increase student motivation and vocabulary mastery in an appropriate manner.

Previous studies have shown that the application of game-based learning methods through Baamboozle media is effective in improving students' English vocabulary skills. The use of Baamboozle makes students more enthusiastic, active, and focused during the learning process compared to conventional methods. In addition to improving vocabulary mastery, this media also helps students become

more confident in communicating and creates a fun and engaging learning atmosphere (Sunardi et al., 2025). The results of Aryansyah's (2024) research also show that the use of Baamboozle games in English learning can significantly improve students' vocabulary mastery. Furthermore, the application of Baamboozle makes students more active, enthusiastic, and motivated in participating in the learning process compared to learning using conventional methods.

Rahmi & Refnaldi (2022) indicated that Baamboozle is an effective teaching tool for teaching English at the high school level. This game is not only effective in improving cognitive learning (word recognition) but also effective in affective learning (motivation and participation) when compared to traditional drill methods. According to Habsah et al. (2025), the results of the study show that the use of Baamboozle media increases student engagement, curiosity, and critical thinking in learning English vocabulary in a more enjoyable and meaningful way.

However, most previous studies still focus on improving general

vocabulary skills or student learning outcomes, while studies that specifically link student learning motivation and vocabulary mastery, especially in the context of MTs-level madrasahs, are still limited. Therefore, this research is important to assess the effectiveness of using the Baamboozle application in increasing student learning motivation and vocabulary mastery in the context and characteristics of different students. This research is expected to provide new contributions in the form of empirical evidence regarding the use of the Baamboozle application as an innovative learning medium that not only improves learning outcomes but also student motivation and engagement in English vocabulary learning.

Based on the background above, the research question is: Is there an effect of the application of the Baamboozle application as a learning medium on the improvement of English vocabulary of eighth-grade students at MTs Nur Rahma Bengkulu for the 2025-2026 academic year? The objective of this study is to determine whether the Baamboozle application is effective in improving the

English vocabulary mastery of eighth-grade students at MTs Nur Rahma Bengkulu in the 2025-2026 academic year.

## **B. RESEARCH METHODOLOGY**

This study used a quantitative approach with a quasi-experimental design. This design was chosen because the research was conducted in real classroom settings where full randomization of subjects was not possible, since students were already organized into administratively established class groups. The study involved two groups: an experimental class and a control class, using a non-equivalent control group design. In this design, both groups were given a pre-test to measure students' initial ability, then the experimental group received treatment in the form of vocabulary instruction using the Baamboozle application, while the control group received instruction using conventional teaching methods (PowerPoint presentations). After the treatment was completed, both groups were given a post-test to measure improvements in students' vocabulary mastery.

The study was conducted at Madrasah Tsanawiyah Nur Rahma, Bengkulu City, located on Pulau Bai. The research took place from May 13 to June 6, 2026. The population of this study was all eighth-grade students of MTs Nur Rahma Bengkulu City, which consisted of two classes, namely VIII Zubair and VIII Sa'ad, with a total of 43 students.

The sampling technique used was total sampling, in which all members of the population were taken as the research sample. Class VIII Zubair, consisting of 22 students, was designated as the experimental class, while Class VIII Sa'ad, consisting of 21 students, was designated as the control class.

The variables in this study consisted of two types: the independent variable and the dependent variable. The independent variable in this study was the use of the Baamboozle application, while the dependent variable was students' English vocabulary mastery. Vocabulary mastery was operationalized as students' ability to recognize, understand, and use English vocabulary in the context of

Comparison Degree (Positive, Comparative, and Superlative forms).

The research instrument used was a multiple-choice vocabulary test consisting of 60 items that had been tested for validity and reliability. The instrument trial was conducted at SMP Negeri 5 Bengkulu involving 30 students. Based on the validity test using the Product Moment correlation formula, of the 60 items trialed, 37 items were declared valid and 23 items were declared invalid. The instrument validity showed correlation coefficients ranging from 0.374 to 0.824 with a significance level of 5%. The instrument reliability test using Cronbach's Alpha formula produced a reliability coefficient of 0.914, which falls into the very high (highly reliable) category. In addition to validity and reliability tests, the instrument was also tested for item difficulty and discrimination power. The difficulty index test showed a value of 60%, which falls into the medium category, while the discrimination power test showed a value of 22%, which is considered sufficiently qualified. Thus, the test instrument was declared suitable for measuring students' vocabulary mastery.

Data collection was carried out through three main stages. The first stage was administering the pre-test on May 13, 2026, to measure students' initial vocabulary ability before treatment. The second stage was administering the treatment, which was conducted over four meetings. In the first meeting (May 18, 2026), the material studied was Positive Degree, focusing on using positive adjectives to describe people, objects, and places. The second meeting (May 22, 2026) continued with Comparative Degree, comparing two people, things, or places using the patterns adjective + -er + than and more + adjective + than. The third meeting (May 25, 2026) focused on Superlative Degree using the patterns the + adjective-est and the most + adjective. The fourth meeting (June 2, 2026) covered the use of comparisons in everyday communication, integrating all three types of Comparison Degree. Meanwhile, in the control class instruction was conducted using conventional teaching methods (PowerPoint presentations) with the same material. The third stage was administering the post-test on June 2, 2026, to measure

improvement in students' vocabulary mastery after receiving the treatment.

Data analysis in this study used parametric statistics with prerequisite tests first, namely normality and homogeneity tests. Normality was tested using the Shapiro-Wilk test because the sample size of each group was less than 30. The decision criterion was that if the significance value is greater than 0.05, the data are considered normally distributed. Homogeneity was tested using Levene's test to determine whether variances between the two groups were homogeneous, with the criterion that if the significance value is greater than 0.05, the variances are considered homogeneous. After the prerequisite tests were met, hypothesis testing was carried out using the Independent Samples t-test to determine the difference in mean post-test scores between the experimental and control classes. The decision criterion was that if the significance (2-tailed) value is less than 0.05,  $H_0$  is rejected and  $H_a$  is accepted, which means there is a significant effect of using the Baamboozle application on students' vocabulary mastery. All statistical

calculations in this study were assisted using SPSS version 27.

### **C. RESULT & DISCUSSION**

The research was conducted four times from May 13 to June 6, 2026. The experimental group was class VIII Zubair and the control group was class VIII Sa'ad. The Baamboozle application was used as the vocabulary learning media for the experimental group. The material taught during the treatment was Comparison Degree, which included Positive Degree, Comparative Degree, and Superlative Degree. The following table shows the pre-test and post-test scores of the students in the experimental and control groups.

## 1. Descriptive Analysis

**Tabel 1 Descriptive Statistics of Pre-test and Post-test Scores for the Experimental**

| No   | Pre-Test | Post-test |
|------|----------|-----------|
| ARF  | 62       | 70        |
| ADB  | 59       | 73        |
| ASPA | 62       | 84        |
| APSA | 51       | 70        |
| AAS  | 76       | 92        |
| ASAH | 65       | 73        |
| AGF  | 89       | 94        |
| BUN  | 49       | 65        |
| BII  | 62       | 81        |
| GR   | 72       | 81        |
| HF   | 51       | 67        |
| KRA  | 65       | 89        |
| KP   | 51       | 73        |
| MMG  | 54       | 84        |
| MDR  | 57       | 81        |
| MDM  | 43       | 62        |
| NFB  | 49       | 86        |
| RAAS | 70       | 94        |
| RRP  | 49       | 73        |
| SDF  | 65       | 81        |
| YA   | 54       | 84        |
| APK  | 57       | 76        |

After treatment with the Baamboozle media, students' post-test scores increased significantly compared to their pre-test scores, with post-test values ranging from 62 to 94.

Overall, all students showed score improvements from the pre-test to the post-test after using the Baamboozle application.

**Table 2 Descriptive Statistics of Pre-test and Post-test Scores for the Control Class**

| No   | Pre-Test | Post-test |
|------|----------|-----------|
| AMT  | 38       | 78        |
| AHN  | 32       | 62        |
| ASAH | 43       | 43        |
| AYP  | 40       | 76        |
| AAD  | 35       | 70        |
| DPR  | 32       | 51        |
| BR   | 27       | 57        |
| BHH  | 18       | 51        |
| FAS  | 40       | 57        |
| FAP  | 21       | 62        |
| HMN  | 30       | 46        |
| FHK  | 35       | 62        |
| MDA  | 22       | 46        |
| MRP  | 24       | 76        |
| MN   | 27       | 43        |
| MS   | 40       | 78        |
| RSG  | 30       | 76        |
| RAZ  | 16       | 67        |
| SPE  | 40       | 59        |
| ZA   | 38       | 62        |
| SS   | 38       | 40        |

Based on the table above, students were given a post-test after the learning process without the

Baamboozle application to determine how much they had learned. The post-test results, with scores between 40 and 78, indicate that students acquired better ability after participating in the classroom learning process.

## 2. Classic Assumption Test

Before hypothesis testing was conducted, prerequisite tests were first performed, including normality and homogeneity tests. Normality was tested using the Shapiro-Wilk test because the sample size of each group was less than 30. The results of the normality test are presented in Tables 1 and 2.

| Tests of Normality |                                 |    |                   |              |    |      |
|--------------------|---------------------------------|----|-------------------|--------------|----|------|
|                    | Kolmogorov-Smirnov <sup>a</sup> |    |                   | Shapiro-Wilk |    |      |
|                    | Statistic                       | df | Sig.              | Statistic    | df | Sig. |
| Pre test           | .127                            | 22 | .200 <sup>*</sup> | .937         | 22 | .170 |
| Posttest           | .143                            | 22 | .200 <sup>*</sup> | .962         | 22 | .523 |

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

**Table 1 normality test results Experiment class**

**Table 2 normality test results Control class**

| Tests of Normality |                                 |    |                   |              |    |      |
|--------------------|---------------------------------|----|-------------------|--------------|----|------|
|                    | Kolmogorov-Smirnov <sup>a</sup> |    |                   | Shapiro-Wilk |    |      |
|                    | Statistic                       | df | Sig.              | Statistic    | df | Sig. |
| Pretest            | .163                            | 21 | .147              | .931         | 21 | .141 |
| Posttest           | .136                            | 21 | .200 <sup>*</sup> | .929         | 21 | .134 |

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Based on Table 1 and 2, all data show significance values greater than 0.05. Thus, it can be concluded that the pre-test and post-test data for both the experimental and control classes are normally distributed.

Next, a homogeneity test was conducted using Levene's test to determine whether the variances between the two groups are homogeneous. The results of the homogeneity test are presented in Table 3 and 4.

**Table 3 Homogeneity of Variances**

|          |                                      | Levene Statistic | df1 | df2    | Sig. |
|----------|--------------------------------------|------------------|-----|--------|------|
| Pre test | Based on Mean                        | .939             | 1   | 41     | .338 |
|          | Based on Median                      | .855             | 1   | 41     | .361 |
|          | Based on Median and with adjusted df | .855             | 1   | 34.678 | .362 |
|          | Based on trimmed mean                | .883             | 1   | 41     | .353 |
|          |                                      |                  |     |        |      |

Based on Table 3, the pre-test data show a significance value of 0.338 (based on Mean), which is greater than 0.05; therefore, the variance of the pre-test scores between the experimental and control classes is homogeneous.

**Table 4 Homogeneity test results**

|          | Levene Statistic                     | df1   | df2 | Sig.        |
|----------|--------------------------------------|-------|-----|-------------|
| Posttest | Based on Mean                        | 1.979 | 1   | 41 .167     |
|          | Based on Median                      | 1.782 | 1   | 41 .189     |
|          | Based on Median and with adjusted df | 1.782 | 1   | 38.510 .190 |
|          | Based on trimmed mean                | 1.973 | 1   | 41 .168     |

Based on Table 4, the post-test data show a significance value of 0.167 (based on Mean), which is also greater than 0.05; therefore, the variance of the post-test scores between the two classes is homogeneous. Thus, the homogeneity assumption is met for both datasets, and the Independent Samples t-test can be continued using the equal variances assumed option.

Thus, the homogeneity assumption is met for both datasets, and the Independent Samples t-test can be continued using the equal variances assumed option.

### 3. Hypothesis Test

After the prerequisite tests were satisfied, hypothesis testing was carried out using the Independent Samples t-test to determine the difference in mean post-test scores between the experimental class and the control class. The results of the Independent Samples t-test are presented in Table 5.

**Table 5 T-test results**

| Independent Samples Test                |                             |       |                              |       |                 |                 |                       |                                           |        |        |
|-----------------------------------------|-----------------------------|-------|------------------------------|-------|-----------------|-----------------|-----------------------|-------------------------------------------|--------|--------|
| Levene's Test for Equality of Variances |                             |       | t-test for Equality of Means |       |                 |                 |                       |                                           |        |        |
|                                         | F                           | Sig.  | t                            | df    | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |        |        |
|                                         |                             |       |                              |       |                 |                 |                       | Lower                                     | Upper  |        |
| Posttest                                | Equal variances assumed     | 1.979 | .167                         | 5.581 | 41              | <.001           | 18.677                | 3.347                                     | 11.919 | 25.436 |
|                                         | Equal variances not assumed |       |                              | 5.542 | 36.804          | <.001           | 18.677                | 3.370                                     | 11.848 | 25.507 |

Based on Table 5, the calculated t-value was 5.581 with degrees of freedom (df) = 41 and a significance value (2-tailed) of <0.001. The obtained significance value is less than 0.05, so  $H_0$  is rejected and  $H_a$  is accepted.

This indicates that there is a significant difference between the mean post-test scores of the experimental class and the control class. Therefore, it can be concluded that the use of the Baamboozle application has a significant effect on the English vocabulary mastery of eighth-grade students at MTs Nur Rahma Bengkulu City

## D. CONCLUSIONS

Based on the research results and discussion, it can be concluded that the use of the Baamboozle application has a significant effect on the English vocabulary mastery of eighth-grade students at MTs Nur Rahma, Bengkulu City. The Independent Samples t-test showed a significance value (2-tailed) of <0.001 ( $p < 0.05$ ) with a calculated t-value of 5.581, indicating a significant difference between the mean post-test scores of the experimental class (78.77) and the control class (60.10). Thus,  $H_0$  is rejected and  $H_a$  is accepted. The effectiveness of the Baamboozle application is supported by its interactive features such as game-based quizzes, group competitions, point systems, challenges, and immediate feedback

that enable autonomous and enjoyable learning. learning.

The findings of this study are similar to previous research conducted by Zulbani & Syafryadin (2025) found that the Baamboozle application significantly improved students' vocabulary knowledge compared to traditional methods. Consistent with the findings of Aryansyah (2024), the Baamboozle application is one of the effective media for teaching English vocabulary to students because the Baamboozle application is considered capable of delivering enjoyable learning and motivating students to study the language. Likewise, Rahmi & Refnaldi (2022) found that vocabulary mastery learning using the Baamboozle application showed significant positive results in students' scores. This means there is a significant effect of using the Baamboozle application on improving students' vocabulary mastery. The use of the Baamboozle application has a positive and significant effect on student learning. Mastery of learning technology-based, particularly through applications like Baamboozle, has been proven to improve students' understanding, motivation, and academic

achievement. Therefore, Baamboozle can be considered an effective learning medium for teaching English.

Considering previous research, this study is quite rare because most earlier studies focused on students' perceptions of using the Baamboozle application. The researcher conducted this study also based on suggestions from earlier researchers who hoped that experimental research could be carried out to see the implications of using the Baamboozle application in English learning to improve students' language abilities. Ultimately, this study has found that there is an effectiveness of using the Baamboozle application in the vocabulary mastery of eighth-grade students at MTs Nur Rahma.

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