

The Impact Of Blooket On Vocabulary Achievement Of Grade XI MIPA 2 Students At SMA Sutojayan

Alen Isha Kinanti

Universitas Islam Balitar

Email: alenisha18@gmail.com

Hesty Puspita Sari

Universitas Islam Balitar

Email: hestysari1403@gmail.com

Korespondensi Penulis: alenisha18@gmail.com*

Abstract. Vocabulary, comprising words acknowledged by individuals or inherent to a particular language, is essentially a collection of linguistic elements. Vocabulary is being an important element to support students' competence in English. The aim of this study is to examine and enhance students' vocabulary achievement at SMAN 1 Sutojayan, specifically in class XI MIPA 2, using Blooket as a learning tool. In this research, a quantitative methodology is utilized, employing a one-group pre-test post-test design. The research subjects consist of 35 students from class XI MIPA 2. The findings of this investigation demonstrate that the null hypothesis (H_0) was disapproved, while the alternative hypothesis (H_a) was affirmed, revealing a notable mean disparity between pre-test and post-test results. This research provides a deeper understanding of the importance of enriching students' vocabulary during the learning process, as well as establishing a strong foundation for the development of more effective teaching strategies to enhance students' vocabulary comprehension in the future. The findings of this study can be a valuable contribution to efforts aimed at improving the quality of education at SMAN 1 Sutojayan and similar educational institutions. Future research is highly recommended to explore an other tool for students' vocabulary improvement.

Keywords: Vocabulary, Blooket, Achievement

INTRODUCTION

English education in Indonesia has become an integral part of the national curriculum, with the primary goal of preparing the younger generation to face global challenges in the modern era (Maduwu, 2016). Another perspective is expressed by Dzulkifli Isadaud et al. (2022) stating that English education in Indonesia plays a crucial role in opening doors for students to various international opportunities, ranging from further studies to career prospects. Therefore, the significance of English education in preparing the younger generation for a competitive future on the international stage is beyond doubt (Triantoro et al., 2023).

Digital media in English language learning has become a significant global trend in efforts to enhance learning effectiveness (Sari et al., 2023). The term "digital media" refers to all forms of content delivered in digital formats, such as text, images, audio, or video that can be accessed, distributed, or stored using electronic devices like computers, mobile phones, or other smart devices (Cahyati et al., 2019). Digital media offers various advantages, including improved accessibility, interactivity, and the potential to make learning more engaging for students, as corroborated by Sitepu (2022). Abi Hamid et al., (2017) also offer an alternative

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* Alen Isha Kinanti, alenisha18@gmail.com

viewpoint, asserting that, in the quest to improve the standards of English language education in the modern digital age, the utilization of digital media has emerged as a crucial innovation., by integrating various features of digital media, English language education can become more relevant and efficient in preparing students for global communication in this digital age.

Even in this digitally advanced era, the reality remains that many educational practices still rely on conventional methods. Amidst these challenges, specific issues have been identified at SMAN 1 Sutojayan in class XI MIPA 2, where students' vocabulary achievement in English learning has become a primary focus of concern. Vocabulary plays very important role in improving and enhancing students' English competence (Puspitasari et al., 2022). Data collected reveals that the average student scores are still below the Minimum Mastery Criteria (KKM) of 76, indicating a deficiency in students' vocabulary comprehension. It is not uncommon for students to struggle with recalling and applying appropriate vocabulary in everyday communication situations. Factors such as students' lack of motivation, the continued use of conventional teaching methods, and the limitations of available educational resources have all posed real obstacles to achieving the desired educational objectives. The primary objective of this research is to assess the efficacy of the educational gaming platform Blooket in enhancing the English vocabulary of 11th-grade students at SMA Negeri 1 Sutojayan.

Vocabulary, as defined by Omolu & Marhum (2022), encompasses the words within a language and their corresponding meanings. The development of a robust vocabulary plays a crucial role in the language acquisition journey, enhancing our ability to communicate with precision and clarity. English vocabulary, as highlighted by Afzal (2019), holds a central position in the realm of English language learning. Aisyah (2017)describes vocabulary as a compilation of words recognized by individuals or intrinsic to a specific language.

In an effort to enhance students' vocabulary attainment, the use of digital media in English language learning has emerged as an intriguing solution. One type of digital media that has garnered attention in various schools is game-based digital learning media. One such game-based digital learning medium is Blooket. Blooket is a platform that combines gaming elements with learning (Tran, 2022). In Blooket students can engage in various vocabulary quizzes and challenges designed to enhance their understanding of English words (Nugroho & Romadhon, 2022). The advantage of this approach is that learning becomes more interactive and enjoyable, thus potentially boosting student motivation (Susilo et al., 2022) . By adopting Blooket as a tool for learning English, it is hoped that it can improve the vocabulary achievement of 11th-grade science students in SMAN 1 Sutojayan.

METHODS

This study employs a quantitative methodology. The quantitative approach, as outlined by Cook et al., (2002), places a strong emphasis on collecting numerical data and employing statistical analysis to address research questions. In this investigation, data will be collected in numeric format or through numerical techniques, and subsequently analyzed using statistical methods to uncover patterns, relationships, and broader conclusions that are applicable to the larger population. The research design utilized is the One-Group Pretest-Post-test Design, which involves evaluating a single group of study participants before and after they receive a treatment or intervention, as described by Creswell & Creswell (2017).

The study was carried out in a high school located in the Blitar regency, specifically at SMAN 1 Sutojayan. The research was carried out in accordance with the field conditions at that time. The research process extended from the proposal submission to the completion of the final results or thesis, spanning from February to July 2023. metode penelirtian

Within the realm of research, Johnson & Christensen (2014) clarified that the term "population" pertains to a collection of individuals, objects, or phenomena possessing distinct characteristics and attributes that serve as the primary focus of the study, and are the subjects intended for exploration or description by researchers. In this research, the subjects under scrutiny are 35 students from the 11th-grade science class 2 at SMAN 1 Sutojayan. The sample selection was conducted using a saturated sampling technique, ensuring the inclusion of all members of the 11th-grade science class 2 in this study. In this context, researchers will collect data in a natural setting, unaffected by external factors or elements outside the learning context. Data collection was performed using an English vocabulary test consisting of a pre-test on May 16th, 2023, and a post-test on May 26th, 2023. The research instrument underwent validity and reliability testing. Validity results were tested using SPSS 25 software.

RESULT AND DISCUSSION

This research took place in the environment of SMAN 1 Sutojayan and encompassed the try-out, pre-test, treatment, and post-test phases. Class XI MIPA 2 was selected as the research subjects, with the implementation of curriculum-relevant material (KD 3.9) concerning Hortatory Exposition Texts. The choice of this class was based on the recommendation of the English teacher instructing that particular class. This study employed a quantitative method and utilized a web-based platform called Blooket as a learning medium. Blooket can be accessed on various devices such as mobile phones and tablets, facilitating its

use in the teaching process. The main aim of this study was to attain a level of educational accomplishment exceeding a minimum score of 76.

Before collecting data, the researcher conducted an instrument test for the pre-test and post-test. On May 10, 2023, a pilot test was conducted at SMAN 1 Sutojayan, in class XI MIPA 1, which was considered a neutral class with a total of 36 students. This pilot test consisted of a total of 50 questions to be administered, and based on the instrument validation results, 25 questions were selected for use in the pre-test and post-test. The data derived from the initial instrument test were subsequently subjected to a suitable statistical analysis to assess the instrument's validity. To measure the validity of each item, the data were tested using SPSS version 25 software. The following are the results of this analysis.

Based on the information provided in the table below, an item is deemed valid if the calculated "r-value" surpasses the corresponding "r-table" value, which can be located in the statistical r-table. In this specific case, with a sample size (df) of 36 students, where $df = N$ (number of students), the r-table value is 0.329. If the calculated "r-value" is less than this threshold (0.329), the item is considered invalid. The assessment of item validity was conducted at a 5% significance level, involving a total of 36 students and a correlation table value of 0.329. This analysis revealed that out of the multiple-choice test items related to the English subject try-out for class XI MIPA 1, focusing on the Horatory Exposition Text material, 39 items were deemed valid, while 11 items were considered invalid. As a result, out of the suggested group of 39 valid items, 25 questions can be employed for both the Pre-test and Post-test stages.

Table 1 Result Validity Items

Item	r-value	Result	Item	r-value	Result
1	0.721	Valid	26	0.326	Invalid
2	0.321	Invalid	27	0.547	Valid
3	0.615	Valid	28	0.721	Valid
4	0.509	Valid	29	0.321	Invalid
5	0.681	Valid	30	0.615	Valid
6	0.432	Valid	31	0.509	Valid
7	0.460	Valid	32	0.681	Valid
8	0.326	Invalid	33	0.432	Valid
9	0.547	Valid	34	0.460	Valid
10	0.721	Valid	35	0.326	Invalid
11	0.321	Invalid	36	0.547	Valid
12	0.615	Valid	37	0.721	Valid
13	0.509	Valid	38	0.321	Invalid
14	0.681	Valid	39	0.615	Valid
15	0.432	Valid	40	0.509	Valid
16	0.460	Valid	41	0.681	Valid
17	0.326	Invalid	42	0.432	Valid
18	0.547	Valid	43	0.460	Valid
19	0.721	Valid	44	0.326	Invalid
20	0.321	Invalid	45	0.547	Valid
21	0.615	Valid	46	0.721	Valid
22	0.509	Valid	47	0.321	Invalid
23	0.681	Valid	48	0.615	Valid
24	0.432	Valid	49	0.509	Valid
25	0.460	Valid	50	0.681	Valid

After the instrument has been tested and the results are obtained, the next step is to carry out a pre-test. The initial assessment, or pre-test, was conducted during a single session in the research subject class, specifically in class XI MIPA 2. This pre-test took place on May 16, 2023, involving a group of 35 students. The assessment was administered before any treatment or intervention. The results obtained from the pre-test are described as follows:

Table 2 Student Pre-Test Scores

No	Name	Score Pre-test
1.	AR	56
2.	AC	32
3.	BS	48
4.	CP	56
5.	DY	36
6.	DS	64
7.	DY	80
8.	ES	12
9.	ER	12
10.	EW	60
11.	EJ	44
12.	FT	84
13.	FM	68
14.	HS	32
15.	IM	72
16.	IMA	44
17.	IK	44
18.	KR	84
19.	KW	56
20.	LP	24
21.	LH	24
22.	MR	24
23.	MS	64
24.	NZ	32
25.	NH	92
26.	NF	24
27.	NE	36
28.	PN	64
29.	RA	16
30.	RB	0
31.	RS	64
32.	RV	72
33.	SW	76
34.	VS	64
35.	YW	64

Pre-Test Data Concentration Measures are as follows:

Table 3 A Measure of The Concentration of The Pre-Test Data

Statistics PRETEST		
N	Valid Missing	35 0
Mean	49.2571	
Median	56.0000	
Mode	64.00	
Minimum	.00	
Maximum	92.00	

When SPSS was utilized, the following data outcomes were derived: the minimum figure is 0, the maximum figure is 92, the mean is 49, the median stands at 56, and the mode is 64. As observed from the table presented, it becomes evident that the students' average score in the pre-test remains beneath the specified minimum average of 76.

During the study, the sample group was subjected to a treatment involving the use of a game-based digital learning medium called Blooket, for a total of 4 sessions. The gathered data was then analyzed to test the hypothesis of whether H_a is accepted or H_o is rejected concerning the impact of Blooket usage on students' vocabulary enhancement. Therefore, this experimental research method was employed to measure the effects of using game-based digital learning media on the vocabulary improvement of XI MIPA 2 in SMAN 1 Sutojayan.

The Post-test was conducted during a single session in the research subject class, specifically in class XI MIPA 2. The post-test took place on May 25th, 2023, involving 35 students. The tests were administered to the students following the implementation of the treatment.

Table 4 Student Post-Test Scores

No	Name	Score Post-test
1.	AR	88
2.	AC	80
3.	BS	86
4.	CP	84
5.	DY	88
6.	DS	88
7.	DY	92
8.	ES	92
9.	ER	88
10.	EW	76
11.	EJ	88
12.	FT	92
13.	FM	92
14.	HS	88
15.	IM	96
16.	IMA	88
17.	IK	84
18.	KR	90
19.	KW	88
20.	LP	84
21.	LH	80
22.	MR	84
23.	MS	92
24.	NZ	80
25.	NH	100
26.	NF	84
27.	NE	84
28.	PN	92
29.	RA	88
30.	RB	88
31.	RS	92
32.	RV	96
33.	SW	80
34.	VS	88
35.	YW	92

Post-Test Data Concentration Measures are as follows:

Table 5 A Measure of The Concentration of The Post-Test Data

Statistics POSTTEST		
N	Valid Missing	35 0
Mean	87.7714	
Median	88.0000	
Mode	88.00	
Minimum	76.00	
Maximum	100.00	

The data analysis using SPSS yielded the following results: the minimum score was 76, the maximum score reached 100, the mean score was 87, the median score was 88, and the mode was also 88.

In this research, the hypothesis testing utilizes the paired sample t-test. The purpose of this test is to ascertain whether a noteworthy disparity exists in the mean values of the research participants prior to and subsequent to being exposed to the Blooket treatment. The research hypothesis is outlined as follows:

- 1) Alternative hypothesis (H_a): Blooket, the educational game platform, has a significant effect on students' vocabulary achievement.
- 2) Null hypothesis (H_o): Blooket, the educational game platform, does not have a significant effect on students' vocabulary achievement.

The examination was conducted by assessing the significance value and probability at the 0.05 level. One method to examine the paired sample t-test hypothesis involves comparing t-tables and t-counts. The decision criteria are as follows:

- 1) If the t-value exceeds the critical t-table value, the null hypothesis (H_o) is rejected, and the alternative hypothesis (H_a) is accepted.
- 2) If the t-value is less than the critical t-table value, the null hypothesis (H_o) is accepted, and the alternative hypothesis (H_a) is rejected.

Below are the results of the t-test using SPSS:

Table 6 The Test of Paired Samples Test

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% <u>Confidende</u> Interval of the Difference				
					Lower	Upper			
Pair 1	PRETEST-POSTTEST	-38.51429	21.84083	3.69177	-46.01687	-31.01170	-10.432	34	.000

According to the output table of the paired sample test, as indicated in the "t" column, it is evident that the value is negative, precisely -10.432. The negativity of this t-value stems from the situation where the Pre-test's average score is inferior to that of the Post-test. In this context, a negative t-value can be interpreted positively, making the t-value equal to 10.432.

The subsequent step is to find the critical t-table value, which is determined by consulting the degrees of freedom (df) and the significance level ($\alpha/2$). In the provided data, the degrees of freedom (df) are 34, and the significance level ($\alpha/2$) is 0.025, calculated from $0.05/2$. This calculated value serves as a reference for looking up the t-table value in the t-

distribution. Therefore, the t-table value is determined to be 2.0322. Please consult the table provided below:

Table 7 List Ttable Alpha

Table 4.12 T_{tabel} Alpha 5%					
df	0,05	0,025	df	0,05	0,025
1	6.314	12.706	26	1.706	2.056
2	2.920	4.303	27	1.703	2.052
3	2.353	3.182	28	1.701	2.048
4	2.132	2.776	29	1.699	2.045
5	2.015	2.571	30	1.697	2.042
6	1.943	2.447	31	1.696	2.040
7	1.895	2.365	32	1.694	2.037
8	1.860	2.306	33	1.692	2.035
9	1.833	2.262	34	1.691	2.032
10	1.812	2.228	35	1.690	2.030
11	1.796	2.201	36	1.688	2.028
12	1.782	2.179	37	1.687	2.026
13	1.771	2.160	38	1.686	2.024
14	1.761	2.145	39	1.685	2.023
15	1.753	2.131	40	1.684	2.021
16	1.746	2.120	41	1.683	2.020
17	1.740	2.110	42	1.682	2.018
18	1.734	2.101	43	1.681	2.017
19	1.729	2.093	44	1.680	2.015
20	1.725	2.086	45	1.679	2.014
21	1.721	2.080	46	1.679	2.014
22	1.717	2.074	47	1.678	2.013
23	1.714	2.069	48	1.677	2.012
24	1.711	2.064	49	1.677	2.011
25	1.708	2.060	50	1.676	2.010

Hence, the calculated t-value, which is 10.432, surpasses the critical t-table value of 2.0322. Following the decision-making process previously explained, it is clear that the null hypothesis (Ho) is rejected, and the alternative hypothesis (Ha) is accepted. Therefore, it can be inferred that there is a significant difference in the average scores between the pre-test and post-test. Illustrating the influence of utilizing the web-based educational game Blooket to improve students' vocabulary proficiency in hortatory exposition texts among 11th-grade students in class XI MIPA 2 at SMAN 1 Sutojayan.

CONCLUSION

In summary, this study aimed to assess the impact of the web-based educational game Blooket on the vocabulary achievement of class XI MIPA 2 students at SMAN 1 Sutojayan in the context of hortatory exposition texts. The research employed an experimental one-group pre-test post-test design, involving a sample of 35 students selected through probability

sampling. The study began with a validation process for the instrument, involving expert validation and SPSS testing, resulting in a reliable instrument with high consistency.

The pre-test, comprising 25 multiple-choice questions, indicated a mean student score of 49.25. Following the treatment with Blooket, the post-test was conducted, employing the same number of questions. The post-test results showed significant improvement, with an average student score of 87.77. The paired sample t-test was employed to test the research hypothesis, which questioned the effectiveness of the Blooket web-based educational game in enhancing English vocabulary achievement among class XI MIPA 2 students at SMA Negeri 1 Sutojayan. The results revealed a significance value (2-tailed) of 0.000, indicating statistical significance ($p < 0.05$). Therefore, the null hypothesis (H_0) was not supported, and the alternative hypothesis (H_a) was upheld, indicating a significant average distinction between pre-test and post-test results. This supports the positive impact of utilizing the web-based Blooket educational game on students' vocabulary achievement in learning hortatory exposition texts among class XI MIPA 2 students at SMAN 1 Sutojayan.

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