The Use of Web-Based Blooket in Improving Students Mastery of English Vocabulary

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Abstract

This study investigates the effectiveness of using Blooket, a web-based educational game, to improve English vocabulary mastery among fifth-grade students at SDN 6 Susoh, Southwest Aceh. Employing a pre-experimental one-group pretest-posttest design, the study involved 30 students who received four sessions of Blooket-based learning focused on family member vocabulary. Data were collected using a 20-item multiple-choice test administered before and after the intervention. Analysis through descriptive statistics and a paired sample t-test revealed a significant increase in students' vocabulary scores from a mean of 37.53 on the pretest to 74.83 on the posttest, with a p-value of <0.001. These findings suggest that Blooket effectively enhances vocabulary mastery by increasing student engagement and reducing achievement gaps through interactive, gamified learning. Despite the study's limitations—such as the absence of a control group and a small sample size—Blooket demonstrates promise as a practical and motivating tool for primary school vocabulary instruction, particularly in rural contexts where traditional methods may fall short.

Keywords: *Blooket, game-based learning, vocabulary mastery, English language, primary education*

Introduction

English language education has integrated as one of the important subjects in the Indonesian national standard curriculum, as a follow-up to global transformation demand. In today's global village, learning English is no longer considered a luxury, but a fundamental means through which learners can access knowledge, education and global opportunities. As cited in Kinanti and Sari (2024) In the 21st century students should be able to master English as it is very

important to smoothen students in dealing with the obstacles that they wants to remove in their life. According to Isadaud et al. (2022), English opens opportunities for students to access higher education, international information, and even compete in the global job market. Also, as cited by Triantoro et al. (2023), English remains central to the development of globally competent and competitive individuals.

Technology has been integrated into educational environments as a response to the increasing demand for teaching English efficiently. Texts, pictures, sounds, and videos can now be accessed through various devices like cell phones, tablets, and computers. As Cahyati et al. (2019) elaborate, digital media has made learning more accessible and supports flexible modes of education. Sari et al. (2023) claim that such tools facilitate the creation of interactivity and promote active participation. Students' understanding and retention are also enhanced through digital platforms, as noted by Sitepu (2022). According to Abi Hamid et al. (2017) incorporating technology into instruction of English as a second language is an innovative and necessary change for teaching in the 21st century.

While these technologies have emerged, many primary schools in Indonesia are still stuck using rote teaching approaches which may not be engaging to digital learners. Vocabulary serves as the building block for any language, and in the absence of a robust vocabulary, acquiring language skills becomes an uphill battle. As Puspitasari et al. (2022) express, vocabulary mastery plays an important role in enhancing students' English competence. According to Omolu and Marhum (2022), a language vocabulary is the total words within a language a person can identify and use. Afzal (2019) argues that understanding words is foundational to learning a language and to effective communication. In addition to this Aisyah (2017) claims that vocabulary is not only the corpus of words that can be understood or used, but also those in multiple contexts, for learners.

To assist vocabulary learning problems, educators are now considering game-based learning as a more captivating approach. One website that captures a lot of attention is Blooket, an online educational game that offers tasks in the format of learning and competition. Blooket was confirmed by Tran (2022) to have vocabulary activities that are enjoyable and assists students to reap the benefits more. Nugroho and Romadhon (2022) claim that Blooket's quizzes are designed in such a way that they foster students' motivation and participation in vocabulary learning.

Based on the preliminary study the researcher conducted together with the teacher at Susoh 6 Elementary School, students had some problems related to remembering and using English vocabulary. The method of teaching relied heavily on rote memorization which was quite dull, causing students to lose interest in learning altogether. This scenario calls for more dynamic methods that are focused on the learner and that enhance vocabulary learning and address the gaps posed

by conventional techniques.

Multiple past researches demonstrated that online game platforms can improve students' vocabulary mastery. Elaish et al. (2019) stated that the use of educational games during English classes has greatly enhanced students' motivation and retention of vocabulary. According to Qureshi and Khatoon (2023), the application of digital resources like Quizizz and Kahoot! made students more participative, thus enhancing their understanding of vocabulary in relation to conventional teaching methods. Sartika et al. (2023) studied Blooket and reported that learners became more interested in the classes and showed improved achievement in vocabulary after using the program. Blooket also encouraged active participation of the students, as stated by Çakmak et al. (2021), and enhanced the retention of English vocabulary in recorded sessions through Blooket's interactive features.

Despite previous studies praising the effect of digital game-based platforms such as Blooket on enhancing students' vocabulary building skills, the research is mostly concentrated on the secondary school level with little attention poured on rural primary school pupils, like those at SDN 6 Susoh Aceh Barat Daya. This study attempts to fill that gap by investigating how effective Blooket is for younger learners who struggle with English vocabulary acquisition because of conventional teaching methods. Hence, the research question for this study is:"the is use of Blooket media effective in improving primary school students' English vocabulary acquisition?

Method

This study uses a quantitative approach to measure the effectiveness of Blooket in improving students' English vocabulary acquisition. This study used a pre-experimental one-group pretest-posttest design, in which one group was tested before and after treatment without a control group. This design is suitable for observing the effects of an intervention when full control of variables is limited (Arikunto, 2010; Creswell, 2012).

The population in this study were all grade V students at SDN 6 Susoh, an elementary school located on Jln Komplek Cemara Indah, Susoh District, Southwest Aceh Regency. The sample of this study amounted to 30 grade V students from the same school, who were selected using purposive sampling technique. This technique was chosen based on certain objectives and considerations from the researcher so that the sample taken was relevant to the focus of the research. According to Sugiyono (2017), purposive sampling is used when the researcher has certain criteria in selecting samples that are considered capable of providing data in accordance with the research objectives

Data was collected through an English vocabulary test in the form of 20 multiple choice questions according to the fifth-grade curriculum. The questions in this test were adapted from Suwandesi's (2022). Pretest was conducted before treatment and posttest after treatment to measure students' improvement. Inter-

rater validity was guaranteed through cross-checking with the official answer key from the original source.

The research was conducted over four meetings in the first Meeting on (May 13, 2025), The researchers. Conducted a pre-test consisting of 20 multiple choice questions, In the meeting, the researchers also introduce the Blooket media to the students. The second Meeting (May 15, 2025) focuses on teaching student's vocabulary related to family members. The third meeting (May 20, 2025) includes advanced vocabulary exercises with questions from family members and answer corrections to reinforce students understanding. At the fourth meeting (May 22, 2025), the researcher conducted a final quiz using Blooket and then administered a post-test to measure the improvement in student learning outcomes.

The data obtained from the pretest and posttest were analyzed using descriptive and inferential statistics. Descriptive statistics were used to determine the mean value, standard deviation, and increase in students' vocabulary mastery scores before and after treatment. Meanwhile, inferential analysis was conducted using the paired sample t-test through the help of IBM SPSS software, with a significance level (α) = 0.05.

This test is used to determine whether there is a significant difference between the pretest and posttest scores. If the significance value (sig.) <0.05, it can be concluded that Blooket media is effective in improving students' mastery of English vocabulary.

In this study, the assessment of students' vocabulary mastery was based on several indicators adapted to the fifth-grade English curriculum, specifically focusing on the theme of family members. The indicators included: the students' ability to correctly name and translate the names of family members in English (for example, father, mother, sister, uncle, etc.); their ability to choose appropriate vocabulary based on simple contexts or pictures; their understanding and ability to answer short descriptions or questions related to family members; and their skill in using this vocabulary in simple sentences either spoken or written when prompted during the learning activities.

To measure these indicators, a multiple-choice vocabulary test was administered consisting of 20 questions. Each correct answer was awarded 1 point, while incorrect answers were scored 0. As a result, the minimum possible score was 0 and the maximum was 20. To standardize and interpret the results, the raw scores were then converted into percentage form using the formula:

$$Score = \frac{Number\ of\ correct\ answers}{20} \times 100$$

For example, if a student correctly answered 15 questions, the score would be calculated as $15/20 \times 100 = 75\%15/20 \times 100 = 75\%15/20 \times 100 = 75\%$. This scoring system was consistently applied to both the pre-test and the post-test to

ensure comparability. Subsequently, the data obtained were analyzed using descriptive statistics, including mean, standard deviation, minimum, and maximum values, as well as inferential statistics through a paired sample t-test to determine the significance of differences between the pre-test and post-test scores.

Results
Descriptive

Descriptive statistics are used to provide an overview of the data obtained in the study. This analysis includes the mean, standard deviation, minimum and maximum scores to see the spread and tendency of the data. In this context, descriptive statistics were used to compare the pre-test and post-test results of students' vocabulary skills in the table below:

Table 1. Descriptive Statistics of Students' Vocabulary Scores

Test	N	Mean	SD	Minimum	Maximum
Pre-test	30	37.53	17.92	10	75
Post-test	30	74.83	16.73	45	100

Table 1 shows that students' vocabulary scores increased significantly after the treatment. The mean score rose from 37.53 in the pre-test to 74.83 in the post-test. The standard deviation decreased from 17.92 to 16.73, indicating more consistent results. The minimum and maximum scores also increased, from 10-75 in the pre-test to 45-100 in the post-test.

Figure 1.
Bar graph showing the number of students who correctly answered family vocabulary items.
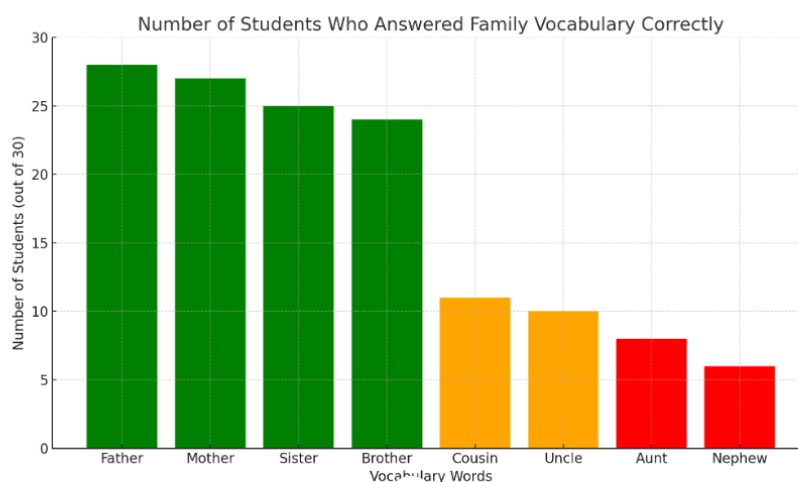
The bar graph presents the percentage of students who correctly answered English vocabulary items about family. Core terms such as *father* (93%), *mother* (90%), *sister* (83%), and *brother* (80%) were well understood. In contrast, extended family terms like *cousin* (37%), *uncle* (33%), *aunt* (27%), and *nephew* (20%) had lower correct response rates.

Normality Test

To continue the t-test analysis, the data must fulfill the normality and homogeneity tests. The test results for Normality show that the Shapiro-Wilk statistical value for the pre-test is 0.958 with a significance value (p) of 0.283. As for the post-test, the statistical value is 0.944 with a significance value of 0.166. Since both significance values are greater than 0.05, it can be concluded that the pre-test and post-test data are normally distributed.

Homogeneity Test

VTest of Homogeneity is a statistical test used to determine whether the variance between data groups is the same (homogeneous) or not. This test is important as a requirement in parametric statistical analysis such as t-test and ANOVA.

Table 2. Tests Homogeneity

		Levene Statistic	**df1**	**df2**	**Sig.**
Pre-test	Based on Mean	2.799	8	18	033
	Based on Median	879	8	18	552
	Based on Median and with adjusted df	879	8	6.159	579
	Based on trimmed mean	2.635	8	18	042
Post-test	Based on Mean	1.936	7	16	130
	Based on Median	813	7	16	590
	Based on Median and with adjusted df	813	7	5.512	611
	Based on trimmed mean	1.873	**7**	16	141

The table above shows the results of Levene's Test to determine whether the variance of pre-test and post-test vocabulary data is homogeneous. Both pre-test and post-test data on vocabulary tests generally meet the assumption of homogeneity of variance. Thus, the data is suitable for further analysis using parametric tests such as ANOVA or t-test, because one of the important

assumptions has been met.

T-Test

The paired sample t-test is a statistical method used to test the difference between the means of two measurements in the same group. Usually, this test is used when researchers want to find out if there is a significant change after a certain treatment or intervention.

Table 3. Paired Samples Test

Pair	Mean Difference	Std. Deviation	Std.Error Mean	95%Confidence Interval of the Difference	t	df	Sig
Pre-test & post-test	37.300	13.068	2.386	-42.180; -32.420	-15.634	29	<,001

Table 3 shows the results of the Paired Samples Test between the pre-test and post-test vocabulary scores. There is an average increase of 37.300 with a significance of <0.001, which means there is a significant difference and improvement in the participants' vocabulary ability after the treatment.

Discussion

The results of this study clearly show the positive impact of using Blooket, a web-based educational game, in improving English vocabulary mastery among fifth-grade students at SDN 6 Susoh. Descriptive statistics show a significant increase in the average score from 37.53 on the initial test to 74.83 on the final test. This increase of more than 37 points is a strong indicator that the intervention had a meaningful impact on students' vocabulary mastery. Additionally, the decrease in standard deviation from 17.92 to 16.73 indicates that students' performance became more consistent after the intervention, suggesting that Blooket helped reduce performance gaps among students with varying abilities.

In addition to descriptive results, normality and homogeneity tests confirmed that the data met the assumptions for further parametric analysis. The Shapiro-Wilk normality test showed that the data were normally distributed, while the Levene test showed homogeneity of variance, meeting the requirements for using the paired t-test. These statistical checks strengthen the validity of the inferential analysis.

The paired sample t-test results further confirmed the significance of the improvement in students' vocabulary scores. The analysis showed a mean difference of 37.3 with a p-value of <0.001, indicating a highly significant difference between pre-test and post-test scores. The confidence interval also did not include zero, providing additional evidence of a genuine improvement due to the treatment.

These findings are in line with previous research. For example, Çakmak et al. (2021) and Sartika et al. (2023) emphasized how Blooket's interactive, competitive, and engaging features contribute to enhanced motivation, leading to better vocabulary retention. Blooket allows students to participate actively and enjoy the learning process, which is critical in overcoming the boredom often associated with rote-based vocabulary teaching. The use of immediate feedback in Blooket also supports the retention and reinforcement of vocabulary knowledge.

Another important point is that the minimum and maximum scores improved markedly, from 10–75 in the pre-test to 45–100 in the post-test. This means even the lowest-performing students in the pre-test showed a substantial gain, indicating that Blooket can effectively support diverse learners and minimize achievement gaps.

Furthermore, the research steps were carefully structured across four meetings. In the first Meeting on (May 13, 2025), The researchers. Conducted a pre-test consisting of 20 multiple choice questions, In the meeting, the researchers also introduce the Blooket media to the studets. The **second** Meeting (May 15, 2025) focuses on teaching student's vocabulary related to family members. The third meeting (May 20, 2025) includes advanced vocabulary exercises with questions from family members and answer corrections to reinforce students understanding. At the fourth meeting (May 22, 2025), the researcher conducted a final quiz using Blooket and then administered a post-test to measure the improvement in student learning outcomes.

However, despite these encouraging results, some limitations must be acknowledged. The study was conducted without a control group, which limits the ability to fully attribute the observed improvement solely to Blooket. Other external factors, such as increased teacher attention or practice effects, may have contributed. The relatively small sample size (n=30) from a single school also constrains the generalizability of the findings.

Nevertheless, the results strongly suggest that Blooket holds considerable promise as a digital game-based learning platform for vocabulary instruction in primary education, particularly in rural contexts where conventional teaching methods may fail to engage students.

The results of the bar graph test in Figure 1 on page 113. The words father, mother, sister, and brother are part of the immediate family that is very close to students' daily lives. In family life, children often interact directly with their parents and siblings, so these words are naturally easier to remember and understand. According to Afzal (2019), vocabulary that is familiar and contextually relevant to students' lives is easier to remember and understand. The vocabulary words father, mother, sister, and brother are familiar because: They are close to the students' lives (Afzal (2019) – Contextual & meaningful), They are concrete and visual (Aisyah (2017) – Real vocabulary is easy to understand), They are included in

comprehensible input (Krashen (1982) – Language acquisition theory), They frequently appear in media (Puspitasari et al. (2022) – Frequency and context), for example, core family vocabulary frequently appears in: Children's textbooks, Children's songs (e.g., "This is my father..."), English-language films or cartoons, and Educational games such as Blooket, Kahoot, and Quizizz.

The vocabulary words nephew, aunt, uncle, and cousin are unfamiliar and difficult for students to master because: They are rarely used in students' lives (Afzal (2019) – Vocabulary words that are rarely encountered are more difficult to remember and master), They are less concrete and have no associations (Aisyah (2017) – Abstract vocabulary is difficult to understand without real-life experience), Not included in comprehensible input (Krashen (1982) – Vocabulary is difficult to acquire if not supported by a comprehensible context).

International articles and research support the notion that extended family vocabulary is often challenging for students and not easily understood: Haviland & Clark (1974); MacWhinney et al. (2021) Psychol. Lang. Res. Studies in psychol. lang. res. show that American children sequentially master family terms: mother/father, then brother/sister, then grandparents, and after that—aunt/uncle and cousin. This reflects that vocabulary such as aunt and cousin is only acquired in the later stages of acquisition, due to its complexity and infrequent use in everyday life.

However, in the context of Indonesian culture, family structures are actually more complex and extensive. Indonesian children generally live in extended families, which include not only parents and siblings, but also aunts, uncles, cousins, grandmothers, grandfathers, nephews, nieces, and in-laws in one social environment or household. Although extended family members are more often physically present in the daily lives of Indonesian children, the use of specific terms in English such as uncle, aunt, cousin, and nephew is more difficult to master.

In my opinion, mispronunciation of vocabulary such as uncle is indeed a challenge for students and often occurs in learning family vocabulary. International Literature and Research Nancy J. Benson & Jeremy M. Anglin (1987) – The Child's Knowledge of English Kin Terms. This study assesses children's understanding of family terms such as aunt and uncle. The results show that the lower the frequency of interaction between children and extended family members, the greater their difficulty in understanding these kin terms—even in native-speaking environments.

Pronunciation Issues: Example of the Word Uncle there is no literature that mentions aucle as the standard pronunciation. However, common mispronunciations occur because: Many students replace vowels and consonants according to Indonesian language patterns. For example, the pronunciation of "uncle" often sounds like 'unkel' or "unkul," especially due to phonological interference from the native language. Studies on EFL pronunciation errors show that students often simplify complex vowel sounds or consonant clusters that do not exist in L1, causing distortions such as "aucle" as a mispronunciation that may appear in informal speech.

Findings support the notion that vocabulary related to extended family members (such as nephew, aunt, uncle, cousin) is often difficult to understand and unfamiliar to second language learners: Understanding Sustainable Development of English Vocabulary Acquisition (2022), Research on English as a foreign language (EFL) learners in China shows that students' ability to connect "head words" with their word family members is very limited, even among proficient learners or native speakers. Without sufficient and repeated input, students cannot guess the meanings of words such as nephew, aunt, or cousin from the head words they know.

In summary, the results section of this study supports the conclusion that Blooket was highly effective in improving students' English vocabulary mastery, promoting active participation, motivation, and more consistent learning outcomes across students. These benefits align well with the broader push toward integrating technology into language education to support 21st-century skills and learner-centered instruction.

Conclusion

Based on the findings of this study, it can be concluded that the use of Blooket as a web-based educational game has proven to be effective in improving English vocabulary mastery among fifth-grade students at SDN 6 Susoh. The results showed a substantial increase in students' mean scores from 37.53 on the pre-test to 74.83 on the post-test, supported by a paired sample t-test indicating a significant difference with a p-value of <0.001. This suggests that Blooket provides a meaningful and statistically significant contribution to vocabulary learning.

The assessment was based on indicators aligned with the fifth-grade English curriculum, including the ability to name and translate family members, choose appropriate vocabulary in simple contexts, answer questions or short descriptions, and use vocabulary in simple sentences. The structured steps over four meetings, starting with coordination and pre-test, followed by Blooket-based learning activities, and ending with a review and post-test, helped ensure consistency, accuracy, and student engagement during the intervention.

The consistency of student achievement also improved, as evidenced by the decreased standard deviation in post-test results, showing a more uniform mastery of vocabulary across all students. These findings indicate that Blooket not only helped raise the overall performance but also reduced achievement gaps between students. The features of Blooket, such as interactive quizzes, instant feedback, and competitive gamified activities, likely increased student engagement and motivation, shifting their learning experience away from monotonous rote memorization to a more dynamic and enjoyable process.

These results are in line with previous studies (Çakmak et al., 2021; Sartika et al., 2023), which found that game-based digital learning platforms can significantly enhance vocabulary retention and learner motivation. For future research, it is recommended to apply a true experimental design with a randomized control group and involve a larger, more diverse sample to validate these findings. Further studies could also explore the long-term impact of Blooket on vocabulary retention and its potential integration into broader language curricula.

In conclusion, Blooket can be considered a promising, practical, and engaging alternative for teaching English vocabulary in primary schools, particularly in rural or underserved areas where traditional methods often fail to maintain student motivation. This platform demonstrates the potential to transform vocabulary instruction into an active, student-centered learning experience that supports the development of 21st-century skills.

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