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The Study of the Effectiveness of Engklek Game in Vocabulary Learning at Primary Schools in Mojokerto

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Abstract. This study aims to measure the effectiveness of using the traditional game "engklek" for teaching English vocabulary mastery of grade 6 students at SDN Mlaten, Mojokerto. This research used a quantitative approach with a one group pretest-posttest design. The research sample consisted of students in grades 6A and 6B at SDN Mlaten. Data was collected through pretest and posttest to measure students' vocabulary mastery before and after intervention. Data analysis was conducted using paired t-test statistical test to determine the significance of the value results. The results showed that there was a significant change in students' English vocabulary mastery after participating in learning using the traditional game "engklek". The average score of the pretest was 56.73 and the average score of the posttest was 82.65. The test carried out also produced positive results because the sig level. is below or less than alpha (0.00 < 0.05). This has implications for rejecting the null hypothesis (H0) and accepting the alternative hypothesis (Ha). The use of the traditional game "engklek" has proven effective for teaching English vocabulary mastery at primary school.

Keywords: traditional games, engklek, English vocabulary, teaching, primary school.

1. INTRODUCTION

Vocabulary refers to a collection of words owned and known by a person or in a particular language. This includes understanding words, using words in context, and the ability to remember and reproduce those words effectively. Hatch & Brown [1] say that vocabulary refers to a list or collection of words for a specific dialect or a list or collection of words that may well be utilized by each speaker of the dialect. From this articulation Lexicon can be characterized as all the words known or utilized by a individual everybody, which is all the words in a specific dialect. Vocabulary is very important in the communication process, both verbally and in writing, because the ability to use words appropriately and variedly plays a crucial role in conveying ideas, expressions or information. Mastery of vocabulary also includes understanding the meaning of words, synonyms, antonyms and the context of their use, which together form a strong communicative foundation in a language.

Vocabulary is the main focus in language learning, especially for students who master a second or foreign language. Vocabulary learning involves various strategies, such as reading, writing, listening, and speaking. Students can expand their vocabulary through direct interaction with language, facing communicative situations, and engaging in challenging learning activities.

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Elihami et al., [2] states that teaching could be a prepare hawing or making a difference somebody to memorize how to do learning, giving assessment, directing within the consider of something, giving with information, causing to know to get it. Vocabulary teaching in Indonesia is often faced with challenges, and one of the criticisms that arises is the use of methods that are considered monotonous. Some teachers often rely on approaches that lack variety, such as giving lists of words to memorize without context or using teaching methods that are less interactive.

The impact of vocabulary teaching in Indonesia which still relies on monotonous methods can negatively influence students' motivation and interest in learning English. Monotonous methods, such as simply memorizing a list of words without context or practical application, can make the learning process feel boring and less interesting for students. As a linguist, Thornbury [2] says that vocabulary learning is exceptionally imperative, without exceptionally small language structure can be passed on, without vocabulary nothing can be passed on. This can result in low active participation and student involvement in lessons, which in turn can have an impact on effective vocabulary mastery.

In addition, the use of monotonous methods can also limit the development of students' communication skills in English. Vocabulary that is taught without connection to everyday contexts or communicative situations tends to be difficult to remember and apply practically. Vocabulary learning that is less interactive and less interesting can also hinder students' ability to understand and use English fluently in various communication contexts.

2. REVIEW OF RELATED LITERATURE

The Definition of Vocabulary

Vocabulary is the basic tool of communication and knowledge. Vocabulary is essential to successful reading for three reasons. Diamond and Gutlohn [11] argue that vocabulary is the knowledge of words and their meanings. Nunan [12] argues that vocabulary is more than just a list of words in the target language. As an indispensable part of the language system, vocabulary is closely associated with grammar. The lexical system of most languages can be divided into "grammatical words" such as prepositions, articles, adverbs, etc. and word content. This is supported by Ur [13] who revealed that vocabulary can be roughly defined as the words that teachers teach in a foreign language.

However, vocabulary does not only consist of a single word but can also contain many words. Hadfield [14] The concept suggests a division of two-word vocabulary into two categories: active and passive. Active vocabulary, the first type, pertains to words that learners

can use correctly in speaking or writing. It is often referred to as active vocabulary. Mastery of active vocabulary requires proper pronunciation, understanding of grammar, familiarity with collocations, and awareness of word connotations. This skill is challenging to implement and is employed in both spoken and written communication.

Types of Vocabulary

There are four categories of vocabulary usage: listening (identifying words while listening), speaking (utilizing words in spoken language), reading (identifying words while reading), and writing (utilizing words in written language).

1. Reading vocabulary

   Reading vocabulary Refers to the collection of words or comprehension that a person can understand when reading. It includes words that can be identified, understood for their meaning, and used to understand written text. Reading vocabulary covers various levels and types of words, ranging from general words to more technical or specific words according to the type of reading at hand.

2. Listening Vocabulary

   Listening vocabulary refers to a collection of words or vocabulary that a person can understand and identify when listening. This includes words that can be recognized and understood in meaning when spoken or conveyed orally. In this context, "listening vocabulary" focuses on understanding words as they are heard, not as they are read. Developing listening vocabulary is important in improving one's listening skills and also contributes to a general understanding of language. Someone who has a good listening vocabulary will be better able to understand and respond to conversations, lectures, or other oral material more effectively. Strategies for improving listening vocabulary involve actively listening, engaging in conversation, and participating in diverse language listening activities.

3. Speaking Vocabulary

   Speaking vocabulary refers to a collection of words or vocabulary that someone can use fluently and precisely when speaking or conveying information orally. It includes words that listeners can pronounce and understand during a conversation or presentation. The ability to select and use appropriate words in speaking is an important part of oral language competence.

4. Writing Vocabulary

A person's written vocabulary encompasses all the words they can recognize and use when engaged in writing activities. Whether composing formal essays or contributing to social media feeds, words take on various forms in different writing contexts. Unlike spoken language, where only a subset of written words is commonly used, writers tend to employ a specific set of words during communication.

Teaching Vocabulary

Teaching is the process of conveying information or knowledge from educators to students, whether it occurs in a classroom, outdoors, or indoors. When it comes to teaching vocabulary, effective techniques are essential to aid students in understanding and utilizing words. According to Gnainoska [14], employing accessible teaching methods can imbue vocabulary instruction with significance. This approach aims to make the learning process more enjoyable, engaging, and motivating for students. This study concentrates on two parts of speech—nouns and adjectives. Vocabulary is crucial in developing language skills. The more vocabulary a learner has, the easier it becomes to enhance their four language skills. While many teachers recognize the importance of teaching vocabulary, they often struggle with how to teach it effectively.

The Importance of Vocabulary

The primary aspect to grasp in language learning is vocabulary, marking its significance in English language education. Vocabulary holds a central role as students rely on it to articulate their thoughts and comprehend lessons effectively. Without a solid vocabulary foundation, expressing ideas becomes challenging. In English teaching, emphasizing vocabulary becomes essential to ensure students grasp the lesson content. According to Schmitt [15], learners commonly carry dictionaries rather than grammar books, highlighting the importance of focusing on teaching vocabulary. In essence, instructing vocabulary proves beneficial for students, enabling them to comprehend and communicate effectively in English.

Traditional Game

Traditional games are defined as activities that are carried out voluntarily and create pleasure for the perpetrator, regulated by the rules of the game which are carried out based on traditions passed down from generation to generation. So traditional games are games whose activities are enjoyable, using simple tools according to the circumstances. This traditional

game will hone brain abilities, the ability to make strategies, sociability, and build EQ. Traditional games are born from creativity that originates from local wisdom values. Traditional games are a means of playing that have been around for a long time ancient times and passed down from generation to generation. In general, traditional games are a form of someone's creativity because these games are usually made with materials that are around us.

Types of traditional games

Indonesia has a variety of traditional games that reflect the diversity of cultures and traditions in various regions. The following are several types of popular Indonesian traditional games:

1. Congklak

   Congklak is a traditional game that originates from Indonesia and is played using a wooden board and seeds. Congklak boards usually consist of two rows of holes filled with grain. Each row has seven holes, and between the two rows are two large holes called "houses." The end goal is to have more checkers at home than your opponent when the entire board is full of checkers. Congklak not only challenges strategy, but also involves speed and accuracy in handling grain. This game is not only played for entertainment but also has educational value in honing the cognitive and social skills of players.

2. Jump Rope

   Jumping rope is a game that uses a rope made of rubber bands. It was very popular in the 1970s and 1980s, often played at school and after school. The game can be played individually or in groups. When playing alone, a child typically ties the rope to a pole or any available support and then jumps over it.

3. Hide and Seek

   Hide and seek is a well-known outdoor game that requires at least two players and involves hiding and seeking actions. In this game, one player serves as the seeker and begins by counting to a predetermined number while the other players find a place to hide.

   Even though it is popular among Indonesian children, hide and seek does not originate from Indonesia. This game is believed to originate from Greece. Evidence for this claim can be found in the writings of a Greek novelist named Julius Pollux in the second century BC.

Engklek

The Engklek game, which has the original name "ZondagMaandag" which is Dutch, is based on history, the traditional game of Engklek entered Indonesia through the Dutch, who at the time colonized Indonesia. It is believed that at that time the colonialists brought the Engklek game to Indonesia. The Engklek game is found in various regions of Indonesia. The Engklek or sondah game is a game of jumping over a line with one foot, this game is found in West Java and outside Java. The Sonlah/Sondah game is a game that requires gross motor coordination for each player. It is called engklekbecause it plays using one foot which in Javanese means "Engklek". Children who like this simple game are usually girls. But when the boys see it, they can join in playing. The number of Engklek players is free, usually 2 to 5 children.

3. RESEARCH METHODS

Design of the Research

In this research, the researcher used a quantitative approach. The design of this research is One-Group Pretest - Posttest design. One-Group Pretest-Posttest Design is a research method that is often used in pre-experimental studies to evaluate the effectiveness of a treatment or intervention in one group of participants. This method was developed as part of a broader pre-experimental method by research methodologists Donald T. Campbell and Julian C. Stanley. This design focuses on assessing the impact of an intervention by measuring participants before (pretest) and after (posttest) the treatment. In contrast to more rigorous experimental designs, the One-Group Pretest-Posttest Design does not involve an equivalent control group for direct comparison, making it suitable for use when forming such a control group is difficult or impossible.

In this research approach, the pretest serves as a baseline measurement, reflecting participants' initial condition on the dependent variable before exposure to the intervention. After providing treatment, post-test measurements are carried out to observe and analyze changes or effects that arise as a result of the intervention. Although this design provides insight into changes within a single group over time, it is important to recognize its vulnerability to various threats to internal validity, including history, maturity, or testing effects.

The advantage of the One-Group Pretest-Posttest Design lies in its ease of implementation, making it a valuable exploratory step before more in-depth research with a more rigorous experimental design. However, its limitations are noteworthy, especially the inherent difficulty in making strong causal inferences due to the absence of a control group for comparison and the potential influence of uncontrolled external variables. Researcher often use

these designs to gain initial insight into the potential impact of an intervention before moving on to more controlled experimental designs, emphasizing the need for careful interpretation and awareness of design limitations in making confident causal inferences.

Time and Setting of the Research

In this research, the location used was SDN Mlaten 1, Puri District, Mojokerto Regency. The time used by the researcher was 6 months, starting from February to July 2024.

The choice of place and time in a research context is not just routine administration but is a key element that can form a strong basis for research success. Thorough consideration of research locations provides significant benefits in optimizing the resources involved in research, such as facilities, equipment, and workforce. Choosing a strategic location can facilitate accessibility for researchers, reducing logistical obstacles that may arise during the research implementation stage.

Population and Sample

1) Population

The population used in this research were all students at SDN Mlaten, Puri District, Mojokerto Regency. With a population of 370 students.

Population in the context of research refers to a large group of elements or individuals who have certain characteristics or traits that are the object of research study. This population can include various elements, ranging from humans, animals, objects, or even a phenomenon. According to Creswell [16] ", population is "the entire group of people, objects, or events that have the same characteristics and are the target or source of research data." In other words, a population is a collection of units that have similarities in a particular research context.

2) Sampling Technique

The researcher employed a sampling technique known as simple random sampling. This method involves selecting a sample from a population where every element in the population has an equal chance of being chosen. The selection of elements is done randomly to ensure that the sample accurately represents the entire population.

The main goal of simple random sampling is to ensure that each member of the population has an equal chance of being selected for the sample, thereby producing a sample that is representative and free from bias. By giving equal opportunities to each

element in the population, this technique aims to represent the characteristics of the population as a whole in the sample, which in pairs allows the researcher to make accurate inferences or generalizations about the population. Simple random sampling is also designed to increase the confidence and validity of research results by reducing the possibility of distortion or error caused by subjective selection.

The advantage of a simple random sample is that this method is relatively easy to understand and apply, making it an efficient and practical choice for many types of research. In addition, results obtained from simple random samples are easier to analyze using standard statistical techniques, because the random nature of their selection obeys the basic assumptions of inferential statistics.

3) Sample

In this research, the researcher used two classes, namely class 6 A and class 6 B. 1 class is used for the try-out experiment and 1 class is used for the treatment class. In the context of research, a sample refers to a small portion of the population taken to be observed or measured to obtain a representative picture or generalization. Samples have an important role in research because they can provide data that can be used to make inferences about a larger population. The selection of appropriate and representative samples is very important to support the validity and reliability of research results. Some commonly used sampling techniques involve random or stratified methods to ensure that each element in the population has an equal chance of being selected so that research results can be applied more widely.

4. RESULT AND DISCUSSION

This chapter presents the research results and discusses them in depth. The results were obtained through meticulous and systematic data analysis by the methods described in the previous chapter. The results will be analyzed to determine the extent to which the research objectives have been achieved and whether the proposed hypotheses have been confirmed.

Result

The research lasted for five days and took place at SDN Mlaten, Puri District, Mojokerto Regency. This research involved two classes, namely class 6A and class 6B. During the research, the researcher held three meetings, with details of one meeting with class 6B to conduct a tryout and two meetings with class 6A to conduct a pre-test, treatment, and post-test.

The results of this research relate to student scores on the pre-test and post-test, classification of student scores, average scores, significant differences between pre-test and post-test scores, and fair hypothesis testing samples. In this research, the researcher presents and calculates data that has been collected using SPSS 25. These results are explained as follows:

1) The Analysis of Student's Pretest and Post Test Score

The administration of pretests at the beginning of a learning program aims to identify the initial level of students' knowledge of the material to be studied. Analyzing students' pretest scores provides critical data to assess their readiness and understand their abilities' variation. These analysis results assist in designing more targeted teaching strategies and allow teachers to identify areas requiring special attention.

Table 1. The classification of students' pre test

No.	Classification	Score	Frequency	Percent
1.	Excellent	90 – 100	0	0%
2.	Good	80 – 89	0	0%
3.	Adequate	65 – 79	12	46,15%
4.	Inadequate	55 – 64	6	23,08%
5.	Failing	Below 55	8	30,77%
Total			**26**	**100%**

From Table 1 presented above, it can be concluded that of the total of 26 students who carried out the pre-test, from this data, there were no students who were in the perfect (0%), and the same category applies to the good category. However, 12 students (46.15%) were in the adequate category. Furthermore, there were six students (23.08%) who were in the inadequate category, and finally, there were eight students (30.77%) who were in the failed category. Based on the data that has been classified, it can be seen that many students still need to get a score of more than 55. This means that their command of English still needs to improve.

The next step is to classify students' post-test scores as follows:

Table 2. The classification of students' post test

No.	Classification	Score	Frequency	Percent
1.	Excellent	90 – 100	13	50%
2.	Good	80 – 89	7	26,92%
3.	Adequate	65 – 79	2	7,69%
4.	Inadequate	55 – 64	3	11,54%
5.	Failing	Below 55	1	3,85%
Total			**26**	**100%**

2) The Analysis of Students' Score

Analysis of student grades is a crucial step in understanding the effectiveness of the learning process that has been implemented. Through this analysis, we can evaluate the extent to which learning objectives are achieved and identify areas that require improvement. The students' pre-test and post-test scores will be analyzed in depth to measure the level of understanding and competency that students have achieved before and after participating in the learning process. After classifying the students' pre-test and post-test scores, the next step is to write down the results of the students' mean scores.

a. Normality Test

The normality test in this research is used to determine whether the data is normally distributed or not. The normality test in this study used the Kolmogorov Smirnov (K-S) test. But before that, there must be a basis for decision-making. The basis for making this decision is:

1. If the significance value is >0.05, then the data is usually distributed
2. If the significance value is <0.05, then the data is not normally distributed

The results of the normality test can be seen in the table below:

Table 3. Normality test

Tests of Normality			
	Kolmogorov-Smirnov[a]		
	Statistic	df	Sig.
PRE TEST	.131	26	.200*
POST TEST	.142	26	.192
*. This is a lower bound of the true significance.			
a. Lilliefors Significance Correction			

The analysis results show that the Kolmogorov-Smirnov statistic for the pre-test score is 0.131 with 26 degrees of freedom (df) and a significance value of 0.200. This indicates that the pre-test data is not significantly different from a normal distribution. A significance value greater than 0.05 indicates that the null hypothesis, which states that the data follows a normal distribution, cannot be rejected. Similarly, for the post-test score, the Kolmogorov-Smirnov statistic is 0.142 with 26 degrees of freedom (df) and a significance value of 0.192. This also shows that the post-test data is not significantly different from a normal distribution. A significance value greater than 0.05 indicates that the null

hypothesis for the post-test data cannot be rejected, indicating that this data also follows a normal distribution.

In other words, both pre-test and post-test scores show a distribution that is not significantly different from a normal distribution. This is an important finding because it satisfies one of the basic assumptions in many advanced statistical analyses: the data should follow a normal distribution. The Kolmogorov-Smirnov test with Lilliefors correction is used here to provide a more accurate test of the normality of the data, especially when the sample size is not very large.

The normal distribution of pre-test and post-test data shows that the variables measured tend to have a symmetrical distribution of data, with most values close to the average. This allows the researchers to use various parametric statistical techniques that assume the normality of data, such as paired t-tests and analysis of variance (ANOVA), with more confidence. To support the results of the Kolmogorov Smirnov (K-S) test, the researcher conducted a graphic test, and the results were as follows:

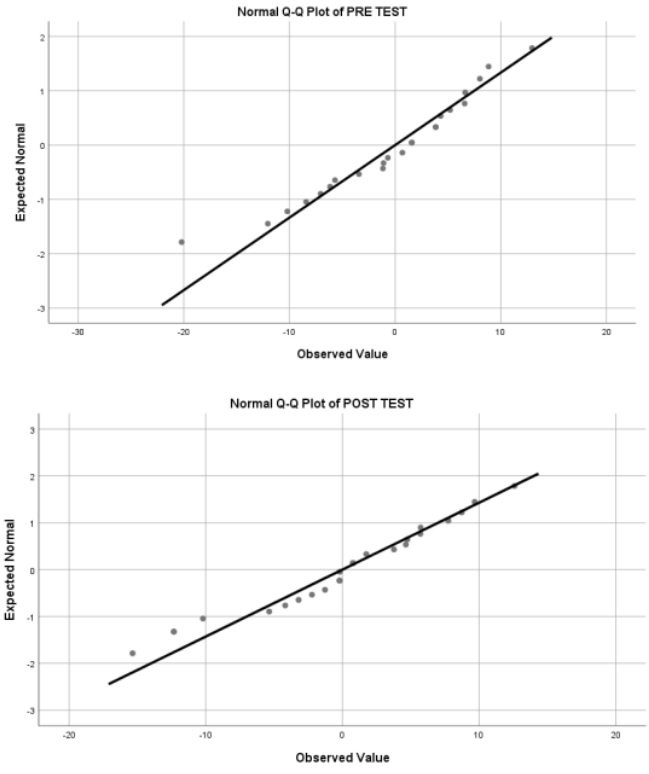

Figure 1. Graphic test

This Q-Q graph is a very useful visual tool for assessing the normality of data. The points on the Q-Q graph depict the sample data's quantiles compared with the normal distribution's quantiles. If the data follows a normal distribution, the points will form a straight line around the diagonal line. Slight deviations from the diagonal line in a Q-Q graph indicate that the data has slight variations from the expected normal distribution but overall follows a normal distribution.

More significant deviations or patterns that do not follow a diagonal line may indicate a deviation from normality. However, in these results, the distribution of points close to the diagonal line indicates that the data can be considered normal. This is important because many parametric statistical techniques, such as t-tests and analysis of variance (ANOVA), assume that data follows a normal distribution.

Thus, the results of this Q-Q graph provide confidence that the data analyzed meets the required normality assumptions. This means that statistical analyses carried out assuming normality will provide valid and reliable results. In conclusion, the Q-Q graph shows that the data is spread symmetrically around the diagonal line, indicating that the distribution is normally distributed.

b. Homogeneity Test

The homogeneity of variances test is a statistical procedure used to test whether the variances of two or more groups of statistical data are the same. The method used by the researcher in the homogeneity test is the one-way ANOVA test. There is also the basis for decision making including:

1. If the significance value is > 0.05, then the data distribution is homogeneous
2. If the significance value is <0.05, then the data distribution is not homogeneous

Table 4. Homogeneity test

Test of Homogeneity of Variances					
		Levene Statistic	df1	df2	Sig.
Student Learning Outcomes	Based on Mean	.468	1	50	.497
	Based on Median	.546	1	50	.463
	Based on Median and with adjusted df	.546	1	47.886	.464
	Based on trimmed mean	.563	1	50	.457

The homogeneity of variance test in this study used a one-way ANOVA test, which shows that the variance between groups in student learning outcomes can be considered homogeneous based on various measurement methods. Based on the analysis results, the Levene statistical value for variance based on the average (mean) is 0.468 with 1 degree of freedom (df1) and 50 degrees of freedom (df2), which has a significance value (Sig.) of 0.497. Likewise, Levene's statistical value is 0.546 based on the median, with a significance value of 0.463. Testing using the median and adjusted degrees of freedom produces a similar statistical value, namely 0.546, with the adjusted degrees of freedom being 47.886 and a significance of 0.464. Consistent results are also seen in measurements based on the trimmed mean with a Levene statistic of 0.563 and a significance of 0.457.

All significance values obtained from the one-way ANOVA test are more significant than the alpha value generally used (0.05), indicating no significant difference in variance between groups based on the measurement method used. Thus, it can be concluded that the assumption of homogeneity of variance is met in this student learning outcomes data. By fulfilling these assumptions, interpretation of the results of further statistical analysis can be carried out more confidently, and the results can be relied upon for decision-making and interpretation of research results.

c. Paired Sample Statistics

After calculating the mean student scores on the pre-test and post-test, the next step is calculating the correlation between the pre-test and post-test. To calculate this correlation, a decision-making basis is needed as follows:

1. If the significance value is > 0.05, then there is no relationship between the pre-test and post-test
2. If the significance value is <0.05, then there is a relationship between the pre-test and post-test

Table 5. The paired sample statistics score

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PRE TEST	56.7308	26	14.27882	2.80031
	POST TEST	82.6538	26	13.34449	2.61707

The table above shows the summary results of descriptive statistics from the two samples of pre-test and post-test data. The average (mean)pre-test score was 56.7308, while the average(mean) post-test score increased to 82.6538, indicating an increase of 25.923 points after the intervention. The number of subjects involved in these two measurements was 26, which suggests that these data have a sufficient basis for analysis. The standard deviation for the pre-test score was 14.27882, and for the post-test was 13.34449, indicating a slight reduction in score variability after the intervention. The mean standard error of the pre-test score was 2.80031, and the post-test score was 2.61707, indicating that the post-test mean estimate was more accurate. Smaller standard deviation values in the post-test compared to the pre-test indicate a reduction in score variability, which may suggest that the intervention had a homogeneous effect among subjects. These results indicate that the intervention provided was effective in increasing post-test scores compared to the pre-test, with lower variability and more accurate mean estimates on the post-test.

d. Paired Samples Correlations

After classifying student scores and calculating the mean and the correlation between the pre-test and post-test, the final step is to calculate through tests using SPPS 25. The test used by the researcher is the T-test; the results of the T-test are as follows:

Basis for decision-making

1. If the Sig. (2-tailed) < 0.05, then there is a significant difference between learning outcomes in pretest and posttest data.
2. If the Sig. (2-tailed) > 0.05, then there is no significant difference between learning outcomes in pretest and posttest data.

From the results of the calculations that have been carried out, the following results are obtained:

Table 6. The paired samples correlations

		N	Correlation	Sig.
Pair 1	PRE TEST & POST TEST	26	.851	.000

The second part of the table is the result of the correlation or relationship between the two data or variables, namely the pre-test and post-test. The number of subjects involved in the correlation analysis was 26, indicating that pre-test and

post-test data were collected from 26 individuals. The calculated Pearson correlation value is 0.851, showing a strong positive relationship between pre-test and post-test scores. This means that, in general, subjects who have high pre-test scores also tend to have high post-test scores, and vice versa. The calculated significance value (Sig.) is 0.000, which indicates the probability that the observed correlation occurred by chance. A p-value < 0.05 was considered statistically significant. Since the p-value in these results is 0.000 (much smaller than 0.05), the observed correlation between pre-test and post-test scores is highly statistically significant. With 26 subjects involved in this study, we can confidently state that the pre-test and post-test scores are significantly positively correlated. The Pearson correlation analysis results show a very strong and statistically significant positive relationship between pre-test and post-test scores ($r = 0.851$, $p < 0.001$). This means that subjects with high scores on the pre-test tended also to have high scores on the post-test, and this strong correlation is not the result of chance. These findings prove that pre-test scores can be a good predictor of post-test scores.

e. T Test Paired Samples Pre test and Post test

Table 7. Paired Sample Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
PRE TEST – POST TEST	-25.92308	7.58379	1.48730	-28.98624	-22.85992	-17.430	25	.000

This research aims to assess the impact of a specific intervention by comparing the pre-test and post-test scores of a group of subjects using the paired t-test method, which is effective for analyzing repeated measurements within the same subjects. Using paired t-tests helps minimize variability between subjects, thereby enhancing result accuracy.

The null hypothesis (H0) posits no significant difference between the pre-test and post-test scores, while the alternative hypothesis (Ha) suggests a significant difference. The average score difference between the pre-test and post-test was -

25.92308, indicating that, on average, the post-test scores were lower than the pre-test scores. This average reduction highlights the tangible impact of the intervention in decreasing scores.

The standard deviation of the score differences was 7.58379, indicating consistency in the variations of score differences among the subjects. A minor standard error of the mean (1.48730) suggests a more precise estimation of the mean differences. The 95% confidence interval for the mean difference (-28.98624 to -22.85992) indicates that we are 95% confident the actual average score difference in the population falls within this range. Importantly, this interval does not include zero, supporting the presence of a significant difference between pre-test and post-test scores.

The calculated t-statistic value is -17.430. This t statistic is calculated by dividing the mean difference by the standard error of the mean. A very high t value in absolute terms indicates that the average difference between the pre-test and post-test is significant. The degrees of freedom for this test are 25, usually calculated as n - 1, where n is the number of data pairs, which is 26 subjects in this case. These degrees of freedom are used to determine the t distribution's critical value corresponding to the specified level of significance.

The calculated p-value is .000, indicating that the significance level of the two-tailed t-test is much less than 0.05, which is the standard limit for rejecting the null hypothesis. Since the p-value < 0.001, we can reject the null hypothesis and conclude that there is a highly significant difference between the pre-test and post-test scores. These results indicate that the intervention provided significantly reduces scores on the post-test compared to the pre-test. The small variability among subjects suggests that the observed changes were consistent across samples.

This study provides strong evidence that the observed changes are not the result of chance but are natural consequences of the treatment administered. In other words, the intervention was effective in reducing the scores measured on the post-test. These results support the importance of interventions in influencing measured outcomes and provide a solid basis to recommendations for the implementation of similar interventions in the future. Overall, the paired t-test used in this study showed a significant and fundamental difference between the pre-test and post-test scores, which supports the effectiveness of the intervention provided.

Discussion

After presenting the research results regarding the effectiveness of the traditional game "engklek" in teaching vocabulary mastery in elementary schools in Mojokerto, the researcher will examine in more depth the implications of these findings.

This research shows that using traditional games in teaching English vocabulary is effective. Data obtained from observations and tests show a significant increase in vocabulary mastery among students who learn through traditional games compared to conventional methods. This substantial increase is proven by the results of the pre-test and post-test scores that have been carried out.

This research is consistent with the findings obtained from a previous study [5], which explored the use of traditional games in learning English vocabulary. The results of their research showed that conventional games were able to increase students' vocabulary mastery significantly, with post-test results being higher compared to the pre-test. This indicates that the traditional Engklek game method effectively teaches students vocabulary mastery. Apart from that, another research [18] suggests that the Engklek game can improve children's gross motor skills, happiness and social skills. This research also confirms that the Engklek game can create an active and collaborative learning environment where students not only memorize new vocabulary but also use the vocabulary in relevant contexts during the game. The implications of the results of this research support game-based learning theory, which states that the integration of game elements in learning can increase student motivation and involvement and strengthen understanding of concepts through fun and interactive experiences. Thus, this research not only strengthens previous studies' results but also provides evidence that traditional games can be an effective learning tool in teaching English vocabulary in elementary schools.

Traditional games are more fun and exciting for students, increasing student motivation and involvement in learning. When students enjoy what they do, they will most likely be actively involved and motivated to learn because they have never previously learned using this play method. Ahmad Salahuddin [18] explains the benefits of the ankle, including improving children's gross motor skills when children jump up and down using one leg, creating happiness and joy in children, developing the ability to socialize, learning to obey rules, and getting to know the environment.

Implementing the "engklek" game in this context can motivate students to learn and proven effective in mastering the subject matter. These findings strongly support using traditional game-based learning methods to improve learning outcomes in elementary schools.

In addition, these results also show the potential of the "engklek" game as an educational tool that can be fun but effective in the context of vocabulary teaching.

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