The Effectiveness of the Quartet Card Game in English Vocabulary Mastery for Students at SMP Islam Terpadu Al-Wahidiyah

Siti Nuresa*, Muhammad Sood, Nizarrahmadi
English Language Education Department, Universitas Nahdlatul Ulama Kalimantan Barat,
Jl. Parit Derabak, Ahmad Yani II, Kabupaten Kubu Raya, Pontianak,
Kalimantan Barat, Indonesia 78391.
* Correspondence author: nuresasiti1@gmail.com

Abstract. Vocabulary mastery is a fundamental aspect of English language skills because it forms the foundation for listening, speaking, reading, and writing. However, in practice, vocabulary learning in the classroom is often conducted monotonously, such as through memorization or written exercises that lack active student participation. This situation has the potential to reduce learning interest and motivation, and impact student learning outcomes. Therefore, innovations in learning strategies are needed to create a more engaging, interactive, and enjoyable learning environment. One alternative learning medium that can be utilized is quartet cards, an educational game that emphasizes student interaction, cooperation, and active involvement in learning and remembering new vocabulary. This study aims to determine the effectiveness of quartet cards in improving English vocabulary mastery at eighth-grade students at Al-Wahidiyah Integrated Islamic Junior High School. The study used a quantitative method with a one-group pre-experimental pretest-posttest design. The sample size was 13 students, selected using a saturated sampling technique. The instrument used was a multiple-choice test administered before and after the treatment. The results showed an increase in the average score from 49.15 in the pretest to 56.38 in the posttest. Further analysis revealed a significant difference between students' abilities before and after using the quartet cards. These findings indicate that the quartet cards are effective in improving junior high school students' English vocabulary mastery. The implication of this study is that English teachers can use the quartet cards as an alternative creative learning strategy that can increase motivation, engagement, and learning outcomes. Furthermore, this research can serve as a basis for developing other educational game-based learning models relevant to students' needs in the modern education era.

Keywords: Effeciveness; English Learning; Quartet Card Media; Students; Vocabulary Mastery.

1. INTRODUCTION

English is one of the most popular languages used by everyone, Yassin and Sood (2024:101), studying English has become very important in education over the years, more important than studying languages like Spanish, French, or Portuguese. almost all countries use English, one of which is Indonesia, English is a language learned after the mother tongue and Indonesian, English is also used as a means of oral and written communication. And also English has become a local learning in junior high schools. The English curriculum in junior high schools is the 2013 Curriculum (K13). This curriculum is designed to improve students' English skills, such as reading, writing, listening, and speaking. This curriculum also emphasizes the importance of effective communication skills in various contexts. English learning materials in junior high schools include vocabulary. Vocabulary is a word that is arranged from the alphabet A to z according to needs, into a form of sentence phrases and expressions that have certain meanings and functions in communicating. according to Yassin,

et al. (2024:349) "Vocabulary is a collection of words that when combined can be used to construct coherent sentences".

And also in the process of learning English involves 4 very important aspects that we must know, namely, listening, speaking, writing and reading. In addition, vocabulary and grammar as a support so that learning is achieved optimally. However, we need to know that in order to be able to do all aspects of English language skills above well, then what we must do first is learn vocabulary, the reason why vocabulary is learned first is because vocabulary does not have a formula like grammar. In speaking, mastering a large vocabulary helps in conveying messages more precisely and clearly, and increases self- confidence. In reading, mastering a large vocabulary allows you to understand writing more deeply and quickly, and improves skills in finding meaning. In listening, mastering a large vocabulary helps to follow conversations better and faster, and improves skills in finding meaning. While in writing, mastering a large vocabulary allows you to construct sentences more effectively and clearly, and improves the ability to convey ideas.

One of the most important components in learning English is vocabulary, because the more vocabulary students master, the better they are at constructing sentences and communicating with others. Not only that, the better or more vocabulary students have, the easier it is for them to learn the 4 important aspects of English. English vocabulary has various types. the classification of these types of vocabulary is according to their respective uses, the types of English vocabulary Thornbury (2002:3-8) stated "as follows. word class, word family, word formation, multi-word units, collocations, and homonyms".

World class is the so-called prat of speech. Word family is a shift or addition of a word from word to word, only there are several additions added. Word formation is the process of forming new words from old words, and affixing is one of the ways new words are formed from old words. Multi-word Units are groups of words that are simultaneously used to form a broader unit of meaning and have different meanings with a combination of individual meanings of each word. Collocations are combinations of words that are often used together so that they have a meaning. Homonyms are words that have the same form but have unrelated meanings. To improve English vocabulary in students, English teachers must have fun techniques, strategies, and media to ensure that the vocabulary taught is stored in students' long-term memory. Vocabulary mastery is the ability to master vocabulary well, including understanding the meaning of words, using words appropriately in different contexts, and expressing oneself clearly and effectively through the use of appropriate vocabulary.

One of the recommended media is, Quartet Card Game Media Aristiani and Nabila (2021:445) stated "Quartet cards are a type of game consisting of several picture cards in which there is a description in the form of writing that explains the picture. Quartet cards generally consist of 48 cards which means they have 12 titles and each card has 4 cards". By utilizing this media, teachers can achieve the desired learning. The limitations of the learning media used by teachers greatly affect student learning outcomes.The novelty of this study lies in the implementation of the quartet card game for eighth-grade students at SMP Islam Terpadu Al-Wahidiyah, which has rarely been applied at this level. Previous studies generally used this medium in elementary schools or with larger populations. This study also employs a saturation sampling technique with a limited sample size, providing a new context for examining the effectiveness of the learning medium. The urgency of this research is based on observations indicating that the English learning process at this school still relies on conventional methods, with minimal use of engaging learning media, which negatively impacts students' motivation and vocabulary mastery. Research purposes To determine whether there is a significant difference in students vocabulary mastery before and after being taught with quartet games.

2. LITERATURE REVIE

A. Understanding Learning Media

Media is something that can be used to make students excited and enthusiastic in participating in learning and stimulate students' minds. Haptanti, et al. (2024:974) stated "media comes from Latin and is the plural form of medium. The word medium comes from the Latin medium which literally means intermediary, messenger. In the context of learning, media is often interpreted as a graphic, photographic, or electronic tool used to obtain, process, and reconstruct visual or verbal information". According to Nurrita (2018:171) "learning media is a tool that can help the teaching and learning process so that the meaning of the message conveyed becomes clearer and educational or learning goals can be achieved effectively and efficiently." Wulandari *, et al. (* 2023:3928) stated that "learning media is part of the learning process and is one of the tools that teachers can use to deliver lessons so that children have an interest and attraction to the lesson". Learning media is a component of the learning process and a tool for teachers to convey material in an interesting way, so that students can understand the material easily, besides that media is also often associated with an introduction in the sense of delivering messages to students so that what is conveyed by the teacher can be understood clearly.

B. Types of Learning Media

The types of learning media according to Titin, et al. (2023:113) are as follows. Visual media is a type of media that presents images both realistically and imaginatively, with characteristics that allow it to be directly perceived by users through their senses. This type of media integrates information and ideas by utilizing images. It is very ideal for conveying succinct information as well as various other content. Audio media. Utilizing the ability to hear as the basis of its use, for example, radio or voice recordings. Audio Visual Media combines audio and visual elements, such as video recordings, films, sound presentations, and so on.

C. Function of Learning Media

The various functions of learning media according to Rahayuningsih, et al. (2013:7) are as follows.

Facilitate the teaching and learning process for students and also provide ease in teaching for teachers. Creating a more real experience transformation from abstract to concrete. Able to attract students' interest more significantly the delivery method is not monotonous. The students' five senses can function, Attract more students attention and interest in the learning process and Can connect theoretical concepts with reality.

D. Understanding Vocabulary Mastery

Vocabulary mastery is the ability to master vocabulary well, including understanding the meaning of words, using words appropriately in different contexts, and expressing oneself clearly and effectively through the use of appropriate vocabulary. According to Sudirman (2024:160), "constructivist theory is a learning theory that focuses on the active role of students in building their own knowledge. This theory argues that students do not merely receive knowledge from teachers or other sources, but they must also actively process and integrate that knowledge into their own cognitive structures." In the context of vocabulary acquisition, constructivist theory can help students build their own vocabulary knowledge through experiences and interactions with the language.

According to Sudirman (2024:178-179), "contextual learning theory is an approach in education that emphasizes the importance of the context or environment in which learning takes place. The fundamental concept of contextual learning theory involves the understanding that learning is more effective when the subject matter is closely related to real, social, or practical situations." In the context of vocabulary mastery, contextual learning theory can help students learn vocabulary in real and relevant contexts. Using quartet card media, students can enhance their vocabulary mastery by actively building their vocabulary knowledge, learning vocabulary

in real and relevant contexts, and developing critical, creative, and independent thinking skills in studying vocabulary. For example, quartet cards can digunakan untuk membantu siswa memahami makna kata, membedakan satudigunakan untuk membantu siswa dalam memahami makna kata, membedakan satu vocabulary from another, and apply vocabulary in various situations.

E. Understanding Quartet Card Media

Quartet cards themselves consist of two words, namely cards and quartet, quartet is a term derived from the Italian quartetto which means four Quartet card media is a type of learning media that uses cards as a tool to facilitate the learning process. This media consists of cards containing information, images, or text related to learning materials, Aristiani and Nabila (2021:445) state, "Quartet cards are a type of game consisting of several picture cards in which there is information in the form of writing that explains the image. Quartet cards generally consist of 48 cards which means they have 12 titles and each card has 4 cards".

F. Definition of Vocabulary

According to KBBI, vocabulary means a word repertory. In English, the term used is vocabulary . This refers to the stock of words possessed by a specific person or unit, or constitutes a component of a specific language. The types of vocabulary in language consist of several categories, one of which is nouns that refer to objects, places, or specific things. Next, there are pronouns that serve to replace nouns to provide variation in sentences and avoid monotony. Verbs function to describe actions, activities, or states that are currently taking place. Additionally, adjectives provide descriptions about the qualities, characteristics, or attributes of an object or thing. Adverbs explain how, conditions, or situations of an action or activity take place. Prepositions indicate relationships between objects, things, or locations with other objects. Conjunctions connect words, phrases, or sentences to form more complex sentences. Lastly, interjections are used to express emotions, feelings, or reactions spontaneously.

According to Jamjam (2022:394), vocabulary is a part of language used as a communication tool by humans, consisting of a collection of phonemes that have meaning. Meanwhile, according to Uswar et al. (2023:31), every statement, writing, and information we receive consists of various word choices. The term vocabulary or phoneme is an important element of language possessed by individuals or certain entities. A phoneme is the smallest unit of language. By combining several phonemes, a word with meaning will appear. Words are components that form sentences. Also, according to Nurjanah (2016:291), vocabulary (in English: vocabulary) is a collection of words recognized by individuals or other entities, or is an element of a certain language. A person's

vocabulary can be defined as the collection of all words understood by that individual or all words that may be used by that individual to construct new sentences.

It can be concluded that vocabulary is a part of language that consists of a collection of phonemes that have meaning, an important element of language possessed by an individual or a certain entity, and a collection of words recognized by other individuals or entities used to construct new sentences.

G. Relevant Research

The first study by Syamsiah, et al. (2021:119) With the title, "The Effectiveness of Quartet Cards on Students' Comprehension Ability in Social Studies Subjects for Grade IV , the independent sample t-test results showed a significant value of 0.00 . Since 0.00 < 0.05, the null hypothesis (ho) was rejected, and the alternative hypothesis (ha) was accepted. The second research was conducted by Arvianti and Mingsih (2025:51) with the title, "The Effectiveness of Using Quartet Card Media on Student Participation in Elementary School English Learning". The results of the study using quartet cards, which were indicated by the t count value compared to the t table results, with a significance of 5% (10, 510> 2.085) and the sig. value. The two axes are, 0.000> 0.05, this shows that quartet card media has an influence, especially in mastering English vocabulary for elementary school student.

H. Research Hypothesis

Hypothesis is an important element in a study that needs to be formulated from the early stages of the study. This is because the hypothesis functions as a temporary answer to the research question which is expected to provide direction in the research process. (Yam & Taufik, 2021:96). There are several hypotheses Lolang, (2014:685) Null hypothesis and alternative hypothesis. The null hypothesis is characterized by phrases such as no effect, no relationship, and so on. In contrast, the alternative hypothesis acts as the opposite of the null hypothesis. If the null hypothesis cannot be proven, then the alternative hypothesis can be accepted. However, if the null hypothesis can be proven true, then the alternative hypothesis cannot be accepted.

Ho : There is no significant difference in students' vocabulary mastery before and after being taught the quartet game at SMP Islam Terpadu Al-Wahidiyah.

H1 : There is a significant difference in students' vocabulary mastery before and after being taught the quartet game at SMP Islam Terpadu AI- Wahidiyah.

Based on these problems, the problem formulation given by students using the quartet card game is more mastered than not using quartet cards. game at SMP Islam Terpadu Al-Wahidiyah.

3. METHODE

A. Research Design

This research employed a quantitative approach due to the numerical nature of the data . According to Sahir (2022:13), quantitative research utilizes statistical tools for data analysis, yielding numerical results. Rasinger (2023:16) notes that this method addresses queries related to quantity and extent. A pre-experimental design was adopted, featuring a single experimental class without a control group The one-group pretest-posttest design involved an initial pretest to assess baseline abilities, followed by treatment using quartet card media, and a posttest to determine final scores. Effectiveness was evaluated by comparing pretest and posttest means using the dependent T-test to test the hypothesis.

B. Population and Sample

Population

Sugiyono (2013:80) states that "Population is the area of generalization that consists of: objects/subjects that have certain qualities and characteristics determined by the researcher to be studied and then conclusions drawn." The population of this study is 13 students in the VIII grade.

Sample

Suriani, et al. (2023:277) "A sample is part of the number and characteristics possessed by a population. A sample is a number of individuals selected from a population and is a part that represents all members of the population". The sampling technique used by researchers is Saturation Sampling, according to Amin, et al. (2023:23) "Saturation sampling is a sampling determination technique, where all members of the population are used as a sample." the research sample this consists of all VIII grade students, totaling 13 people.

C. Research Instruments

In this study, the research instrument has a very important role in the research. "According to Rahman et al. (2023:14), research instruments are a very important part of research. Research instruments are the tools used by researchers to collect research data". The research instrument used in this study is the Multiple Choice Test. This test consists of questions about vocabulary designed to measure students' ability to understand vocabulary. The pretest consists of 16 questions with answer choices A, B, C, and D. Meanwhile, the posttest also consists of 16 questions with a level of difficulty that is equal to the pretest, but with different questions. The posttest is designed to measure students' abilities after treatment in the form of using quartet card media.the scores obtained are calculated and analyzed in the form of data analysis.

Validity refers to the accuracy and precision of a measuring instrument (test) in fulfilling its purpose. An instrument is considered highly valid if it accurately performs its measurement function or yields data aligned with the measurement objectives (Ramadhan et al., 2024:10969. The type of validity that the researcher uses is content validity. According to Budiastuti and Bandur and Budiastuti (2018:147), "Content validity relates to whether the statements of the items arranged in the questionnaire or test cover all the material that is intended to be measured". can conclude from the Pretest that there are several invalid questions where the calculated R value is less than the table R value, which is 0.3610. The valid questions are questions 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15,16,18 and 27. The invalid questions consist of questions 1, 17, 19, 20, 21, 22, 23, 24, 25, 26, and 28, where the calculated R value is less than the table R value. It can be concluded , there are several valid posttest questions in which questions number 9, 11, 12, 13, 14, 15, 16, 17, 18, 17, 20, 22, 23, 24, 25, 26 and 27 have a calculated R value greater than the R table, where the R table itself is 0.3610, which states that the question is valid. For questions 1, 2, 3, 4, 5, 6, 7, 8, 10, 21 and 28, where the calculated R is smaller than the R table, the conclusion is that the question is invalid.

Reliability comes from the term reliability, which indicates the extent to which measurement results can be trusted. A measurement result is considered reliable if, in several repetitions of measurement on a similar group of subjects, a sufficiently consistent measurement result is obtained, as long as the aspects being measured in the subjects remain unchanged (Matondang, 2009:93). The type of rehabilitation used by the researcher is the Internal Consistency Method, according to Azwar (2001:44), "who states that this method only utilizes one tool, so the testing is conducted only once. The internal consistency test requires the tool to be broken down into parts or elements that contain a certain number of items. In breaking down the tool, if possible, it is always prioritized to form equivalent parts, so that the estimated reliability coefficient produced will be accurate". This study applies a rehabilitation technique in the form of the Kuder-Richardson (KR) Method 21, The reliability value of the pretest is 0.97. The reliability value of the posttest is 0.98. It can be concluded that the reliability scores of the pretest and posttest are greater than 0.6, which means high reliability.

D. Data analysis

This research utilized SPSS 27 for data analysis. Descriptive statistics, as defined by Aziza (2023:165), is a technique for describing collected data. The normality test assesses whether the data follows a normal distribution. A significance value > 0.05 indicates normal data, whereas a value < 0.05 suggests non-normality . Ismail (2022:264) supports this criterion . Upon confirming data normality, The homogeneity test is a statistical method used to determine whether two or

more data groups have the same variance, or are homogeneous. the analysis proceeds with the dependent sample t-test. This test, according to Ulum and Hasyim (2016:84), compares the means of paired groups The pre-test and post-test data, collected before and after the implementation of quartet card media, are used to address research questions and test hypotheses . The hypothesis test evaluates the impact of quartet card media on students' vocabulary acquisition , with a significance level of 0.05.

4. RESULTS AND DISCUSSION

A. Descriptive Statistics

Table 1. Descriptive Statistics.

	N	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
pretes	13	31	31	62	639	49.15	8.697
postest	13	38	37	75	733	56.38	10.054
Valid N (listwise)	13						

Based on the Descriptive Statistics table above, it can be explained that the number of respondents who took the pretest and posttest was 13 people (N = 13). The range of scores in the pretest was 31, while in the posttest it increased to 38, indicating a wider distribution of scores after the treatment. The minimum score in the pretest 31 for posttest was 37, but the maximum score in the pretest was 62, while in the posttest it increased to 75. This indicates an increase in the highest score achieved after the learning. The total number of scores sum of all participants in the pretest was 639, while in the posttest it increased to 773, indicating an increase in overall learning outcomes. The average pretest score was 49.15, while the average posttest increased to 56.38. , which means that there was generally an improvement in students' vocabulary mastery after using quartet card media. The standard deviation in the pretest was 8.697 and increased to 10.054 in the posttest, indicating that the scores in the posttest were more varied compared to the pretest.

B. Tests of Normality

Table 2. Tests of Normality.

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
pretes	.163	13	.200*	.930	13	.340
postest	.177	13	.200*	.969	13	.877

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction.

The normality test, as presented in the Tests of Normality table, utilized the Shapiro-Wilk method, which is particularly appropriate for small sample sizes (under 50) . The results indicate significance values Sig. of 0.340 for the pretest and 0.877 for the posttest . Given that both values exceed 0.05, it is concluded that the pretest and posttest data exhibit normal distributions.

C. Tests of Homogeneity of Variances

Table 3. Tests of Homogeneity.

		Levene Statistic	df1	df2	Sig.
pretest	Based on Mean	1.970	2	6	.220
	Based on Median	.591	2	6	.583
	Based on Median and with adjusted df	.591	2	3.575	.600
	Based on trimmed mean	1.716	2	6	.257

The Table Tests of Homogeneity of Variances shows the Levene test results on the pretest data with four approaches. All significance values (0.220; 0.583; 0.600; 0.257) > 0.05, which means the variances between groups are homogeneous.

D. Paired Samples Test

Table 4. Paired Samples Test.

				Paired Differences				
				95% Confidence Interval of the Difference				Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	
Pair 1 pretes - postest	-7.231	9.094	2.522	-12.726	-1.736	-2.867	12	.014

The results of the Paired Samples Test show that the mean difference in scores between the pretest and posttest is -7.231, indicating an improvement after the treatment. The standard deviation of 9.094 reflects the score distribution among participants, while the standard error mean of 2.522 indicates the precision level of the average difference. The 95% confidence interval ranges from -12.726 to -1.736, which is entirely negative, reinforcing the evidence that there is a significant difference. The t value of -2.867 with 12 degrees of freedom (df) and a significance value of 0.014 < 0.05 indicates that the increase in scores after the treatment is statistically significant.

E. Discussion

This research aims to determine the effectiveness of using quartet card media on the mastery of English vocabulary among eighth-grade students at SMP Islam Terpadu Al Wahidiyah. Based on the results of descriptive statistical analysis, it is known that the average score of students before the treatment pretest is 49.15 while after the treatment posttest it increased to 56.38 The increase of 7.231 points indicates a change in learning outcomes after students participated in learning using quartet card media. The normality test using Shapiro-Wilk resulted in a significance value of 0.340 for the pretest and 0.877 for the posttest, both of which are greater than 0.05. This indicates that the data is normally distributed and suitable for analysis using parametric tests. For tests of Homogeneity of Variances shows the Levene test results on the pretest data with four approaches. All significance values (0.220; 0.583; 0.600;

0.257) > 0.05, which means the variances between groups are homogeneous. The results of the paired sample t-test show a significance value of 0.014 < 0.05.

The effectiveness of using this quartet card media aligns with the constructivism and contextual theories proposed by Sudirman (2024). According to Sudirman, "constructivism theory is a learning approach that emphasizes that students actively construct their own knowledge through direct engagement with the learning environment, both individually and in groups." Meanwhile, "contextual learning is a learning approach that emphasizes the relationship between the subject matter and students real-life situations, so that learning becomes more meaningful and relevant." The quartet card media combines elements of play, visual images, and social interaction, thus creating an effective active and contextual learning experience to help students understand and remember vocabulary.

These results are also consistent with previous studies, such as Syamsiah et al. (2021) who found that quartet card media significantly improved vocabulary learning outcomes for MTs students, as well as Arvianti & Ningsih, (2025) which showed that quartet cards can enhance students interest in learning and critical thinking skills in elementary school. The consistency of these findings indicates that quartet card media can indeed be considered an alternative and effective learning medium, especially in enhancing the vocabulary mastery of eighth-grade students totaling 13 people.

5. CONCLUSION AND SUGGESTION

A. Conclusion

The research findings indicate that the quartet game significantly impacts vocabulary mastery among students at SMP Islam Terpadu Al - Wahidiyah . The average score increased from 49.15 pretest to 56.38 posttest. A Paired Sample t-Test significance value of 0.014 < 0.05 confirms a significant pretest-posttest difference Consequently, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_1) is accepted . This establishes the quartet game as an effective teaching method for enhancing vocabulary mastery.

A. Suggestion

Teacher: Teachers can try using quartet games as one way to teach English vocabulary. This game has proven to make students more interested, more enthusiastic, and less quickly bored while learning. In addition, the quartet game can also help students learn while playing and collaborating with their friends. It is advisable for teachers to adjust the content of the game to fit the material being taught for it to be more purposeful.

Suggestions for Future Researchers: This study only involved 13 students, so future researchers are advised to use a larger sample size to make the results more representative and widely applicable. Additionally, researchers could also attempt to develop other learning media or combine the quartet method with other learning approaches to determine which is more effective. Further research could also be conducted over a longer duration to assess whether the impact of this game persists over a longer period.

DAFTAR REFERENSI

Abunawas, N. (2023). General concept of population and sample in research. *Contemporary Islamic Studies Journal, 14*(1), 15–31. https://doi.org/10.21070/2017/978-979

Aristiani, L., & Nabila, U. (2021). Quartet cards as an educational card game to introduce cultural diversity from 34 provinces in Indonesia to elementary school students. *Proceeding National Conference PKM Center Sebelas Maret University*, 445–449.

Arvianti, & Mingsih. (2025). Effectiveness of utilizing quartet card media on student participation in elementary school English learning. *Educational Journal, 14*(1), 51–62.

Aziza, N. (2023). Research methodology 1. Quantitative descriptive. *ResearchGate*, 166178. https://www.researchgate.net/publication/371988490

Azwar, S. (2001). *Fundamentals of psychometrics*. Yogyakarta: Student Library.

Budiastuti, D., & Bandur, A. (2018). *Methods of educational mathematics research*. Mitra Wacana Media Publisher.

Haptanti, F. S., Hikmah, M., & Basuki, I. A. (2024). The role of learning media in Indonesian language education. *JoLLA Journal of Language Literature and Arts, 4*(9), 972–980. https://doi.org/10.17977/um064v4i92024p972-980

Ismail, S. (2022). The effect of using project-based learning model on physics learning outcomes of class X IPA students at SMA Negeri 35 Halmahera Selatan on the concept of linear motion. *Scientific Journal of Educational Wahana, 8*(5), 256–269. https://doi.org/10.5281/zenodo.6466594

Jamjam. (2022). The role of teachers in improving the mastery of Indonesian vocabulary among students. *An-Nur Journal: Studies in Education and Islamic Sciences, 8*, 393–406.

Jim Hoy Yam, R. T. (2021). Quantitative research hypotheses. *Journal of Administrative Science, 3*(2), 96–103. https://doi.org/10.33592/perspektif.v3i2.1540

Lolang, E. (2014). Null hypothesis and alternative hypothesis. *Kip Journal, 3*(3), 685–696.

Nurjannah. (2019). Improvement of vocabulary mastery through illustrated letter cards for second grade students of SDN 5 Soni. *Jurnal Kreatif Tadulako Online, 4*(8), 292–313. https://media.neliti.com/media/publications

Nurrita, T. (2018). Development of learning media to improve student learning outcomes. *MISYKAT: Journal of Al-Quran, Hadith, Sharia and Tarbiyah Sciences, 3*(1), 171–182. https://doi.org/10.33511/misykat.v3n1.171

Rahayuningsih, P., Hidayah, W., & Primar, C. N. (2013). Functions and roles of learning media as an effort to improve students' learning abilities. *Kwangsan Journal, 1*(2), 95–104. https://doi.org/10.31800/jurnalkwangsan.v1i2.7

Rahman, A. (2023). Writing research instruments for junior high school teachers in North Toraja Regency. *Arrus Journal of Community Service, 2*(1). https://doi.org/10.35877/454RI.abdiku1745

Ramadhan, M. F., Siroj, R. A., & Afgani, M. W. (2024). Validitas and reliabilitas. *Journal on Education, 6*(2), 10967–10975. https://doi.org/10.31004/joe.v6i2.4885

Sahir, S. H. (2022). *Research methodology*. KBM Indonesia.

Samsiyah, S., Hermansyah, H., & Kuswidyanarko, A. (2021). The effectiveness of quartet cards on students' comprehension ability in social studies subjects for grade IV. *Jurnal Holistika, 5*(2), 119–126. https://doi.org/10.24853/holistika.5.2.119-126

Sudirman, B., & F. (2024). *Theories of learning and teaching neuroscience and multiple intelligence*. PT Pena.

Suriani, N., Risnita, & Jailani, M. S. (2023). Population and sampling concepts and participant selection reviewed from scientific educational research. *IHSAN Journal of Islamic Education, 1*(2), 24–36. https://doi.org/10.61104/ihsan.v1i2.55

Thornbury, S. (2002). *How to teach vocabulary*. London: Longman.

Titin, T. (2023). Understanding media for learning effectiveness. *Jutech: Journal Education and Technology, 4*(2), 111–123. https://doi.org/10.31932/jutech.v4i2.2907

Uswar, Y., Harahap, D. I., & Lubis, I. M. (2021). Improving English vocabulary mastery based on corpus through Sketch Engine media. *Community Service Journal, 2*, 14–22. https://ejournal.upi.edu/index.php/IJPE/article/view/15096/8556

Wulandari, A. P. (2023). The importance of learning media in the teaching and learning process. *Journal on Education, 5*(2), 3928–3936. https://doi.org/10.31004/joe.v5i2.1074

Ÿ, N., Nizarrahmadi, & Yassin, M. (2024). The effectiveness of using flash cards to teach students. *Educational Journal, 6181*(3), 348–354.

Yassin, M., & Sood, M. (2024). Implementing a genre-based approach to improve students' writing skills at the EFL level in Indonesia. *Journal of English Language Education, 6*(1), 101–111. https://doi.org/10.33650/ijoeel.v6i1.8660