

The Effect of Word Square Model on Improving Vocabulary Mastery of Class VIII Students

Sri Sumandari¹, Mahyudin Ritonga²

Universitas Islam Negeri Imam Bonjol Padang^{1,2}

*E-mail: sri.sumandari@uinib.ac.id

Abstract

This research is based on the researcher's findings regarding the low ability of students in mastering vocabulary. Vocabulary is the most important foundational element in learning the Arabic language. This study aims to analyze the effect of the Word Square model on the vocabulary Mastery of Class VIII Students at MTS Nurul Haq Semurup. The research is designed as a quantitative study using a quasi-experimental method, which is conducted by comparing the experimental group before receiving the treatment and after receiving the treatment. The instrument used to obtain the data consisted of a pre-test and a post-test. The population in this study was all students of class VIIIB at MTS Nurul Haq Semurup in the 2024/2025 academic year, with a sample of 24 students. Based on the data analysis, the results of the t-test show that the significance value (Sig. 2-tailed) is 0.000, which is less than 0.05. Thus, it can be concluded that H₀ is rejected and H_a is accepted, indicating that there is a significant effect of using the Word Square model in improving students' vocabulary mastery.

Keywords: Word Square Model, Vocabulary Mastery, Arabic Language Learning



Licensees may copy, distribute, display and perform the work and make derivative works and remixes based on it only if they give the author or licensor the credits ([attribution](#)) in the manner specified by these. Licensees may copy, distribute, display, and perform the work and make derivative works and remixes based on it only for [non-commercial](#) purposes.

Introduction

Vocabulary is one of the most important elements of language, as it functions as the building block for sentences and texts (Syuhada' & Ubaid, 2025). Vocabulary is the main foundation in learning Arabic, as mastery of vocabulary is closely related to the mastery of the four language skills, namely maharah al-istima' (listening skills), maharah al-kalam (speaking skills), maharah al-qira'ah (reading skills), and maharah al-kitabah (writing skills) (Bakhtiar et al., 2024).

Vocabulary is an essential component in the structure of language that must be mastered by foreign language learners, including Arabic, because mastery of vocabulary forms the foundation for developing both receptive and productive language skills (Zaenuri & Maemonah, 2021). Optimal vocabulary mastery will help students express their thoughts and ideas effectively (Nurhayani & Eliza, 2020).

However, in practice, mastering vocabulary often becomes a challenge for students. Many students find it difficult to remember vocabulary due to a lack of motivation, strategies, and varied learning models, as well as limited contextual practice (Fauziddin & Fikriya, 2020). Rote learning-oriented teaching causes students to forget quickly and makes it difficult for them to use vocabulary communicatively (Muliatio, 2023).

Based on the observations conducted in class VIIIB at MTs Nurul Haq Semurup, it was found that the learning process is still conventional. There is minimal active participation and involvement of students in the learning process, which results in low student motivation. In addition, the suboptimal

use of spoken Arabic causes students to have difficulty practicing the language, which affects their fluency and vocabulary mastery.

In this case, teachers play an important role in the success of students' vocabulary teaching; therefore, there is a need for new innovations in employing various approaches. One of them is choosing an effective and efficient model that can stimulate students' learning motivation. A learning model serves as the foundation or main framework in the learning process (Khoerunnisa & Aqwal, 2020), Word squares are considered an effective learning model (Nurliza et al., 2024). Word Square is a cooperative learning model developed to improve vocabulary comprehension and language skills through engaging and meaningful activities (Rachma et al., 2023). Teachers usually use word squares as a learning model to enhance student learning effectiveness (Rinjani et al., 2021).

The Word Square learning model is a learning model carried out through learning by games, but still emphasizes the learning process (Berta & Swarniti, 2020). Word Square consists of a number of words arranged in square boxes with sentences going in all directions (M et al., 2019), requiring students to be focused, meticulous, and active in finding the answers.

In previous research conducted by (Fauzi & Zaenuri, 2024), the Word Square model was stated to be effective in improving vocabulary mastery. This can be seen from the increase in students' learning outcomes before and after using the Word Square model, with an average score before using Word Square of 70 and an average score after using Word Square of 88. Based on the hypothesis test using a paired sample t-test, the significance value obtained was $0.00 < 0.05$. Therefore, H_0 is accepted and H_1 is rejected. H_0 here indicates that there is an improvement in vocabulary mastery among students of class VIII B at MTs Negeri 2 Surakarta. Furthermore, the research conducted by (Nelda et al., 2019) showed that the score before using the Word Square Model was 47.24, which was categorized as "Fail". Meanwhile, the average vocabulary mastery score after using the Word Square Model was 73.72, categorized as "Good". The t-test result was 4.80 and the t-table value was 2.04. This indicates that there is a significant effect of using the Word Square Model on vocabulary mastery in eleventh-grade students at SMA Negeri 1 Saipar Dolok Hole.

Based on a literature review on the Word Square model in vocabulary learning, there are still conceptual and contextual limitations. Previous studies by Fauzi & Zaenuri (2024), Nelda et al. (2019) have indeed proven that the Word Square model can improve learning outcomes, but they only focused on the final grades without examining the implementation process of the model in depth, such as the stages of application, student involvement, and the development of contextual vocabulary understanding. Additionally, the research is still limited to public schools and has not yet been applied in pesantren environments, which have different pedagogical characteristics and Arabic language learning cultures. This model has never been studied on eighth-grade students at MTS Nurul Haq Semurup. Therefore, this study comprehensively analyzes the Word Square model process in improving vocabulary mastery in the pesantren context, thereby expanding the theoretical and practical scope of using the Word Square model in Arabic language learning. This research is expected to serve as a foundation for innovative and enjoyable learning, encourage the development of educational digital media, and improve students' Arabic language skills in the global era.

This study aims to analyze the effect of implementing the Word Square model on the vocabulary Mastery of Class VIII Students at MTS Nurul Haq Semurup.

Methods

This study uses a quantitative approach with a quasi-experimental research method. The research design used is a one-group pre-test and post-test design, which involves a single group of subjects aimed at determining the effect of a treatment before and after the implementation of the Word Square model. The population and sample in this study are all students of class VIIIB, totaling 24 students. The sampling technique used is saturated sampling, meaning the entire population is used as the research sample. The data collection technique used a written test in the form of multiple-choice questions

consisting of 10 questions. Observation was conducted to identify problems in the teaching and learning activities in the Arabic language lesson process, and documentation was carried out to obtain secondary data in the form of school profiles, student data, syllabi, lesson plans (RPP), and photos of learning activities. The research instruments consisted of test questions that had been validated by a validator and tested for validity and reliability. The data analysis technique used prerequisite tests, including normality tests, homogeneity tests, hypothesis tests, and N-Gain.

Results and Discussions

1. Results

a. Descriptive Statistical Analysis

Descriptive statistics can be defined as a method used to collect or present data until the data can provide clear information. By using descriptive statistics, researchers can easily understand the data because it is presented concisely and neatly (Leni, 2017). In this study, the researcher analyzed the calculation of the mean using the SPSS application.

Table 1.
Results of Descriptive Statistical Tests

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Pretest	24	30	90	53.33	15.788
Posttest	24	50	100	78.75	12.619
Valid N (listwise)	24				

From the results of the experimental class group, it can be seen that the average post-test score of 78.75 is higher compared to the pre-test score of 53.33, which implies that there is an effect of using the Word Square model applied in the experimental class.

2. Discussions

a. Implementation of Word Square in Learning

This study was conducted at MTS Nurul Haq Semurup by selecting one class as the research sample, namely class VIIIB consisting of 24 students as the experimental class using the Word Square model. The implementation of this method was carried out through several stages, starting from preparation, implementation, to evaluation.

Before implementing the Word Square model in learning, there are several things that teachers need to prepare, such as determining learning objectives, preparing learning materials, designing the word square, preparing instructions and questions, preparing learning tools and media, creating a lesson plan, making evaluations and assessments, and arranging the learning space and environment (Syahid & Bachri, 2020).

This study has two variables that are the focus of the research, namely the independent variable in the form of the Word Square model and the dependent variable, which is vocabulary mastery. The Word Square learning model can train students' accuracy and ability when matching letters provided in the answer box to form a correct word. The answer box contains many letters that are disguised with the intention of being misleading.

To find out the increase in students' mastery of vocabulary using the Word Square model, a pretest was first conducted in the form of multiple-choice questions related to hobbies. The aim was to see the students' initial conceptual ability, with the average score indicating that their understanding of vocabulary related to hobbies was still low.

After conducting the pretest, the researcher will implement the learning process using the Word Square model. Before that, the researcher will provide the material to be taught, namely vocabulary and several example sentences related to vocabulary associated with hobbies.

The implementation of the Word Square model begins with the division of groups, consisting of 5 groups, of which 4 groups have 5 students each and 1 group has 4 students. The researcher provides a Word Square worksheet containing several vocabulary words arranged randomly related to the material being taught to each group. Then, the students are instructed to find the vocabulary words in the Word Square, and afterwards, to develop their skills, they are instructed to make sentences using the words found in the Word Square.

In the final stage of evaluation, the teacher asks spontaneous questions that must be answered immediately by the students, so they get used to responding quickly in Arabic.

b. The Effect of Implementing Word Square in Improving Vocabulary students of class VIII at MTS Nurul Haq Semurup

1) Normality Test

After the research is conducted, the next step is to test the research data. In this case, a normality test is performed using the Kolmogorov-Smirnov Test to determine how normal the data is (Agustian et al., 2025). The criteria used for making decisions in the normality test follow the guidelines for significance values of the normality test: if the significance value (Sig.) > 0.05 , the data has a normal distribution, whereas if the significance value (Sig.) < 0.05 , the data has a non-normal distribution, as can be seen in the following table:

Table 2.
Normality Test Results

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest	.170	24	.072	.932	24	.109
Posttest	.164	24	.092	.941	24	.174

a. Lilliefors Significance Correction

Based on the provisions of the normality test criteria in accordance with the guidelines for the normality test significance value, if the significance value > 0.05 , the data are normally distributed. The results of the normality test in this study, calculated using SPSS, showed a value of 0.072 for the pretest and 0.092 for the posttest, which means the values are > 0.05 , indicating that the data are normally distributed.

2) Homogeneity Test

The homogeneity test is a test used to assess the differences in variance between two or more groups. Therefore, this homogeneity test only exists as a prerequisite test that functions to examine the differences between two or more groups with different data (Sianturi, 2022). In this study, the

homogeneity test was used to determine whether the variance of the experimental post-test data is homogeneous or not. The results of the homogeneity test are as follows:

Table 3.
Results of Homogeneity of Variances Test

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
PRETEST	Based on Mean	1.022	4	18	.422
	Based on Median	.934	4	18	.466
	Based on Median and with adjusted df	.934	4	13.314	.474
	Based on trimmed mean	1.078	4	18	.397

The result of the homogeneity test shows that the Sig. value in the Based on Mean section is 0.422, which according to the decision-making criteria for the homogeneity test, $0.422 > 0.05$, meaning the data is considered homogeneous or comes from a population with similar variance. Therefore, it can be concluded that the homogeneity test has been fulfilled.

3) Hypothesis

Hypothesis testing is used to examine the validity of a formulated hypothesis, to identify the relationship between independent and dependent variables, to measure significance, to estimate population parameters, and to make predictions based on the results. The type of hypothesis used is a one-tailed test.

Table 4.
T-Test Results

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	43.683	4.913		8.892	.000
PRE	.645	.086	.849	7.525	.000

a. Dependent Variable: POS

Based on the t-test results, it can be seen in the table above that the Sig. value is $0.000 < 0.05$, so it can be concluded that there is a significant effect.

4) N-Gain

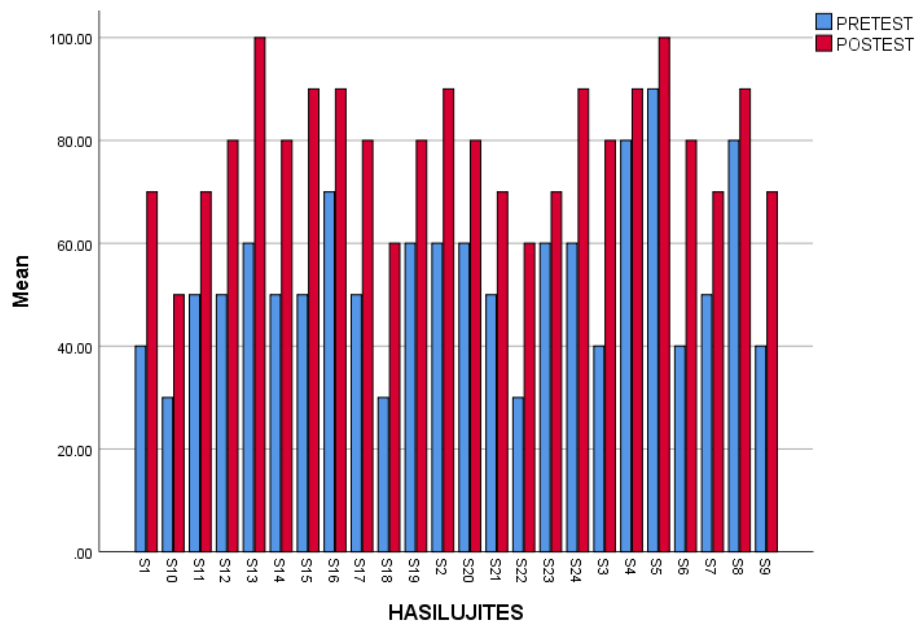
The purpose of the N-Gain test is to measure the improvement in students' abilities after receiving treatment. The N-Gain test is used to assess the effectiveness of an educational program and to identify significant changes in students' abilities. The N-Gain test is carried out by calculating the difference between pre-test and post-test scores and then dividing by the maximum score. This can be seen in the following Table 5.

Table 5.
N-Gain Test Results

Kelas	N-Gain	Interpretasi
Eksperimen	0,57	Sedang

Based on the table above, it is known that the average N-gain in the experimental class is 0.57, indicating moderate effectiveness.

Based on the research results obtained by the researcher from the data analysis conducted as a basis for the findings or answers to the formulated research problems, the results of using the word square model as teaching material for the topic of hobbies in the Arabic language subject for eighth-grade students at MTs Nurul Haq Semurup show that there is an effect of using the word square model on the mastery of Arabic vocabulary. It can be stated that during learning, a teacher plays an important role, especially in choosing the right learning model, which means it would be best if a teacher could facilitate students so that they can achieve the predetermined competencies. This research was conducted using an experimental class design with a pretest and posttest.



Conclusion

Based on the research results and data analysis conducted on the influence of using the word square model on Arabic vocabulary mastery of eighth-grade students at Mts Nurul Haq Semurup, the researcher concluded that: There is a difference in the average pretest score, which is 53.33, while the posttest score is 78.75. This indicates that the posttest scores have a higher average compared to the average pretest scores. This difference in scores occurs due to differences in treatment during the learning process, where the posttest data is obtained after treatment using the word square model, whereas the pretest data is obtained before treatment.

It can be seen that there is an effect on the experimental class before receiving treatment and after receiving treatment in learning using the word square model. Based on the t-test results that have

been conducted, the significance value (Sig. 2-tailed) is 0.000 or can be said to be less than < 0.05 . Therefore, the conclusion obtained is that H_0 is rejected or H_a is accepted, meaning that there is a significant effect of using the word square learning model in improving Arabic vocabulary mastery in class VIIIB at Mts Nurul Haq Semurup.

References

- Agustian, A., Lisdiana, K., Suryana, A., & Nursalman, M. (2025). Analisis Statistik Uji Normalitas dan Homogenitas Data Nilai Mata Pelajaran dengan Menggunakan Python. *Al-Ibanah*, 10(1), 51–56. <https://doi.org/10.54801/b2726673>
- Bakhtiar, T., Isti'anah, & Fitrihani, C. (2024). Analisis Pengembangan Bi'ah Lughowiyah Untuk Meningkatkan Keterampilan Berbicara (Maharah Kalam) Siswa di SMP IT Abu Bakar Ash-Shiddiq Rahapolah. *Pesan-Trend: Jurnal Pesantren Dan Madrasah*, 3(2), 123–130. <https://jurnal.pustakaturats.com/index.php/pesan-trend/article/view/26%0Ahttps://jurnal.pustakaturats.com/index.php/pesan-trend/article/download/26/14>
- Berta, M. O., & Swarniti, N. W. (2020). *Improving The Students' Vocabulary Mastery Through Word Square Game At The Eighth Grade Of SMP Dwijendra Denpasar In The Academic Year 2019/2020*. 0852, 18–25.
- Fauzi, P. A., & Zaenuri, M. (2024). *Effectiveness of The Word Square Model in Improving Arabic Vocabulary*. 5(1), 1–15. <https://doi.org/https://doi.org/%2010.22515/athla.v4i1.6842>
- Fauziddin, M., & Fikriya, M. (2020). Mengenal Kosakata Bahasa Arab melalui Permainan Kartu Huruf Hijaiyah yang Dilengkapi Kosakata. *Journal on Early Childhood Education Research (JOECHER)*, 1(2), 90–99. <https://doi.org/10.37985/joecher.v1i2.13>
- Khoerunnisa, P., & Aqwal, S. M. (2020). Analisis Model-Model Pembelajaran. *Fondatia*, 4(1), 1–27.
- Leni, N. M. (2017). Statistik Deskriptif. *Journal of the American Chemical Society*, 77(21), 5472–5476. <https://doi.org/10.1021/ja01626a006>
- M, L. P., Wahyuningsih, E. D., & Utami, W. B. (2019). *Efektivitas Model NHT Tipe Kepala Bernomor Terstruktur Berbantuan Word Square*. 10(2), 155–161.
- Muliatno. (2023). Problematika Pembelajaran Bahasa Arab. *Jurnal Sathar*, 1(1), 34–41. <https://doi.org/10.59548/js.v1i1.41>
- Nelda, Hasibuan, A., & Simbolon, Y. K. (2019). The Effect of Word Square Model on Students' Vocabulary Mastery (A Study at The Eleventh Grade Students of SMA Negeri 1 Saipar Dolok Hole). *Liner, Institute Pendidikan Tapanuli Selatan*, 2(1), 28–43. <https://doi.org/https://doi.org/10.37081/liner.v2i1.725>
- Nurhayani, & Eliza, D. (2020). *Upaya Pengembangan Kosakata dengan Metode Dialog Iman Asma'ul Husna di Kuttah Al Huffazh Payakumbuh*. 6(3), 3(2), 524–532. <https://doi.org/https://doi.org/10.31004/basicedu.v6i3.2825>
- Nurliza, M., Lubis, A. H., & Lubis, S. S. W. (2024). Word Square Model Used by Poster Media to Improve Primary School Student Learning Outcomes. *Journal of Indonesian Primary School*, 1(1), 19–28. <https://doi.org/10.62945/jips.v1i1.3>
- Rachma, A. M., Maufur, S., & Ummah, I. (2023). Pengaruh Penggunaan Model Pembelajaran Word Square Terhadap Penguasaan Kosakata Bahasa Inggris Siswa Kelas IV Madrasah Ibtidaiyah. *Jurnalijeepgmi*, 5(2), 10–21.
- Rinjani, C., Wahdini, F. I., Mulia, E., Zakir, S., & Amelia, S. (2021). Kajian Konseptual Model Pembelajaran Word Square untuk Meningkatkan Hasil Belajar Siswa. *Jurnal Inovasi, Evaluasi Dan Pengembangan Pembelajaran (JIEPP)*, 1(2), 52–59. <https://doi.org/10.54371/jiepp.v1i2.102>
- Sianturi, R. (2022). Uji homogenitas sebagai syarat pengujian analisis. *Jurnal Pendidikan, Sains Sosial, Dan Agama*, 8(1), 386–397. <https://doi.org/10.53565/pssa.v8i1.507>
- Syahid, A., & Bachri, S. (2020). Penerapan Model Pembelajaran Kooperatif Tipe Word Square untuk Meningkatkan Hasil Belajar. *Education and Learning Journal*, 1(1), 1.

<https://doi.org/10.33096/eljour.v1i1.32>

Syuhada', M. R. A., & Ubaid, R. (2025). Penelitian Linguistik Modern Tentang Mufradat. *Jurnal Pendidikan Bahasa Arab*, 3(1), 21–31. <https://doi.org/10.59829/9w4ysq04>

Zaenuri, & Maemonah. (2021). Strategi Mnemonic Sebagai Solusi Untuk Pengayaan Kosa Kata Pada Anak Tunarungu Di Sekolah Dasar. *Jurnal Basicedu*, 5(4), 1825–1833. <https://doi.org/10.31004/basicedu.v5i4.1038>

Acknowledgment

The author is deeply grateful to Allah SWT for His mercy and blessings that facilitated the completion of this study. Sincere appreciation is extended to the research advisor for their expert supervision, continuous guidance, and valuable insights throughout this research endeavor. The author also acknowledges the dedication and perseverance essential to completing this academic work. It is hoped that this research will provide meaningful contributions to the field and serve as a stepping stone for further academic pursuits