

**EFFECTIVENESS OF WORD SQUARE MEDIA ON ARABIC VOCABULARY:
AN EXPERIMENTAL STUDY OF SERI ABIM STUDENTS IN SELANGOR,
MALAYSIA**

Fikri Alhamdi¹, Hanomi²

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

[1fikrialhamdi09@gmail.com](mailto:fikrialhamdi09@gmail.com), [2hanomima@uinib.ac.id](mailto:hanomima@uinib.ac.id)

ABSTRACT

Arabic vocabulary instruction in elementary schools is still largely dominated by conventional approaches that emphasize memorization, resulting in limited student engagement. This condition contributes to low mufradāt mastery and weak learning motivation. This study aims to examine the effectiveness of Word Square media in improving students' Arabic vocabulary mastery. A quantitative approach was employed using a quasi-experimental one-group pre-test–post-test design, conducted with third-grade students at SERI ABIM Elementary School, Selangor, Malaysia. Data were collected through pre-test and post-test instruments and analyzed using statistical tests with SPSS. The findings indicate that the use of Word Square media has a significant effect on improving students' Arabic vocabulary mastery. This media enhances learning engagement, visual memory, and structured vocabulary comprehension in a more enjoyable learning environment. These findings are expected to provide empirical reference for the development of Arabic vocabulary instruction in Indonesia, particularly in promoting the use of Word Square media as an effective and contextual alternative for elementary school learning.

Keywords: *arabic vocabulary, effectiveness, seri abim students, word square media*

ABSTRAK

Pengajaran kosakata bahasa Arab di sekolah dasar masih didominasi oleh pendekatan konvensional yang menekankan hafalan, sehingga mengakibatkan keterlibatan siswa yang terbatas. Kondisi ini berkontribusi pada rendahnya penguasaan mufradāt dan lemahnya motivasi belajar. Penelitian ini bertujuan untuk menguji efektivitas media Word Square dalam meningkatkan penguasaan kosakata bahasa Arab siswa. Pendekatan kuantitatif digunakan dengan menggunakan desain pra-uji dan pasca-uji satu kelompok kuasi-eksperimental, yang dilakukan pada siswa kelas tiga di SD SERI ABIM, Selangor, Malaysia. Data dikumpulkan melalui instrumen pra-uji dan pasca-uji dan dianalisis menggunakan uji statistik dengan SPSS. Hasil penelitian menunjukkan bahwa penggunaan media Word Square memiliki pengaruh signifikan terhadap peningkatan penguasaan kosakata bahasa Arab siswa. Media ini meningkatkan keterlibatan belajar, memori visual, dan

pemahaman kosakata terstruktur dalam lingkungan belajar yang lebih menyenangkan. Temuan ini diharapkan dapat memberikan referensi empiris untuk pengembangan pengajaran kosakata bahasa Arab di Indonesia, khususnya dalam mempromosikan penggunaan media Word Square sebagai alternatif yang efektif dan kontekstual untuk pembelajaran di sekolah dasar.

Kata kunci: *efektivitas, kosakata bahasa arab, media word square, siswa seri abim*

A. Introduction

The low level of Arabic vocabulary mastery among elementary school students cannot be separated from learning practices that remain largely conventional and insufficiently engage students actively. Vocabulary instruction is often understood as the memorization of word lists without the support of media capable of stimulating students' cognitive and visual engagement (R. Zhang et al., 2023). This condition causes students to experience difficulties in recognizing, retaining, and using Arabic vocabulary contextually (Tseng et al., 2020). In classroom practice, vocabulary learning is generally dominated by lecturing methods and written exercises, resulting in limited student interaction and low learning motivation (Umroh et al., 2024). Students tend to be passive, quickly bored, and insufficiently challenged to explore new vocabulary due to the lack of varied and engaging instructional

media (Lin et al., 2022). Thus, limitations in instructional strategies and media constitute a key factor contributing to the low level of Arabic vocabulary mastery among elementary school students.

Learning effectiveness essentially refers to the degree to which an instructional process successfully achieves its predetermined objectives, as reflected in positive changes in students' abilities, particularly in the mastery of Arabic vocabulary as a fundamental foundation for language skills. This is attributable to the importance of alignment between learning objectives, instructional processes, and learning outcomes, as well as the role of instructional media that engage students' cognitive, visual, and active participation in meaningful vocabulary learning (Sowińska-Świerkosz & García, 2021; Conrad et al., 2024; Yilmaz et al., 2024; Mawardi et al., 2022; Mahyudin et al., 2025). A number of studies indicate that

learning effectiveness can be measured through improvements in students' learning outcomes before and after instructional interventions, and that the use of Word Square as a visual–interactive word game medium enhances student engagement, facilitates word pattern recognition, and strengthens vocabulary retention in language learning contexts (Conde-Izquierdo et al., 2025; Ali et al., 2025; Zikra & Z, 2021; Silviah et al., 2022; Rofi'ah et al., 2024; Sari, 2024). Therefore, the use of Word Square can be regarded as an effective instructional strategy for optimally and meaningfully improving elementary school students' mastery of Arabic vocabulary.

A number of studies emphasize that vocabulary learning should involve students' cognitive, affective, and visual aspects through the use of interactive learning media. Research on vocabulary acquisition remains dominated by linguistic–cognitive approaches that rely heavily on drills, repetition, and memorization, with minimal attention to the role of instructional media (Bisson & Van Heuven, 2019; Yan, 2023). Other studies associate successful vocabulary acquisition with learning

motivation and individual strategies in language processing (Cancino, 2023; Hu, 2016; Teng et al., 2024). Along with developments in pedagogy, word-based game media, including Word Square, have begun to be used to enhance student activeness and engagement across various subjects and in language learning more broadly (Dewi, 2024; Ikhsani et al., 2021; Kusumawati, 2023). However, existing studies on Word Square have predominantly examined non-Arabic language contexts. To date, there is little research that specifically investigates the effectiveness of Word Square as a learning medium for Arabic vocabulary mastery using a quantitative-experimental design, particularly at the elementary school level in Malaysia. Therefore, an empirical research gap exists regarding the pedagogical role of Word Square in improving Arabic vocabulary acquisition, which forms the primary rationale for conducting this study.

This study aims to present a new empirical perspective by positioning Word Square as a strategic variable in Arabic vocabulary instruction. Specifically, the study addresses the following questions: what is the initial

level of students' Arabic vocabulary mastery prior to the implementation of Word Square; to what extent does the use of Word Square improve students' Arabic vocabulary mastery; and whether such improvement is statistically significant when compared to conventional instruction. By examining differences between pre-test and post-test results in the experimental group, this study seeks to provide a comprehensive depiction of the effectiveness of Word Square in the context of Arabic language learning at the elementary school level.

This study is grounded in the argument that the use of Word Square media can create a more active, interactive, and structured learning environment, thereby significantly enhancing students' Arabic vocabulary mastery. Word Square functions not only as a game-based medium but also as a cognitive tool that assists students in recognizing word patterns, strengthening visual memory, and increasing learning engagement. The implementation of this medium is viewed as a pedagogical response to the limitations of conventional instruction, which offers limited opportunities for

student exploration. Consequently, the effectiveness of Word Square in Arabic vocabulary learning not only contributes to improved learning outcomes but also reconstructs the learning process into one that is more meaningful, participatory, and aligned with the learning characteristics of elementary school students.

B. Method

The unit of analysis in this study is Arabic vocabulary learning (mufradāt) among third-grade students at SERI ABIM Elementary School, Selangor, Malaysia. The material object of the research includes the research setting in the form of the classroom, the educational institution where the study was conducted, and the learning activities that occurred during the implementation of the Word Square media. In addition, the unit of analysis also encompasses students as learning subjects and learning outcomes in the form of Arabic vocabulary mastery test scores before and after the instructional treatment. Thus, the unit of analysis of this study focuses on both the process and outcomes of Arabic vocabulary

learning within a concrete institutional and pedagogical context.

his study employed a quantitative research design using a quasi-experimental one-group pre-test–post-test approach. The experimental group received Arabic vocabulary instruction using the Word Square media, and students' vocabulary mastery was measured before and after the instructional treatment. This design was selected to objectively examine the effectiveness of the Word Square media through test score comparisons and statistical analysis.

The sources of information in this study are focused on the experimental group, namely third-grade students who participated in Arabic vocabulary learning using the Word Square media at SERI ABIM Elementary School, Selangor, Malaysia. The research respondents consisted of all students in the experimental class who were directly involved in the learning process and research treatment. The primary data were obtained from students' Arabic vocabulary mastery test results (pre-test and post-test), as well as from observations conducted during the implementation of the Word Square media. In addition, supporting

information sources were derived from instructional documents, such as lesson plans and Arabic language teaching materials used throughout the research process.

Data collection techniques in this study consisted of observation and testing. Observation was employed to examine the Arabic language learning process, particularly students' engagement and activeness during the implementation of the Word Square media in the experimental class. The observation instrument took the form of a systematically designed observation checklist. The testing technique was used to measure students' Arabic vocabulary mastery and was administered in the form of a pre-test and post-test. The tests were developed in accordance with the learning objectives and the vocabulary (mufradāt) content taught, thereby accurately representing students' levels of vocabulary mastery.

The collected data were analyzed using statistical analysis techniques with the assistance of the SPSS program. The stages of data analysis included a normality test to examine data distribution and a paired-sample t-test to determine

differences in learning outcomes before and after the instructional treatment. The data analysis was conducted systematically to test the research hypotheses.

C. Result and Discussion

Use of Word Square media constitutes the primary focus of Arabic vocabulary instruction for students at SERI ABIM Selangor, Malaysia. This study concentrates on three main aspects: (1) initial levels of students' Arabic vocabulary mastery, reflecting baseline proficiency prior to the implementation of Word Square media; (2) implementation of Word Square media in Arabic vocabulary learning, emphasizing increased learning activeness, student engagement, and vocabulary acquisition through interactive and structured activities; and (3) impact and effectiveness of Word Square media, indicated by statistically significant improvement in students' Arabic vocabulary mastery based on test results and statistical analysis. Subsequent paragraphs present a comprehensive analysis of these three aspects, supported by quantitative data in the form of pre-test and post-

test scores and statistical test results that strengthen the study's findings.

Initial Condition of Students' Arabic Vocabulary Mastery

The initial condition of Arabic vocabulary mastery among students at SERI ABIM Selangor, Malaysia indicates that students' vocabulary ability remained at a basic level prior to the implementation of the Word Square media. Results from the pre-test reveal that most students had not yet achieved optimal vocabulary mastery, particularly in terms of meaning recognition, pronunciation, and the use of vocabulary in simple sentence contexts. These initial findings suggest that Arabic vocabulary instruction still requires more effective strategies and instructional media to enhance student engagement and systematically strengthen vocabulary understanding. This condition is illustrated in the following table:

Table 1. Frequency Distribution of Students' Pre-Test Scores

No.	Score Range	Number of Students	Category	Percentage
1	90-100	1	Very Good	3%
2	80-89	6	Excellent	20%
3	70-79	10	Good	33%
4	60-69	7	Fair	23%
5	40-59	6	Poor	20%
6	0-39	0	Very Poor	0%
	Total	30		100%

Based on the data presented in Table 1., Arabic vocabulary mastery at the initial stage shows a varied distribution across performance categories. Most students fall into the “good” category (33%), followed by “excellent” (20%) and “fair” (23%). Meanwhile, 20% of students remain in the “poor” category, and only a small proportion reach the “very good” category (3%). No students fall into the “very poor” category. This score distribution indicates that prior to the implementation of the Word Square media, students’ Arabic vocabulary ability was uneven and largely concentrated at a moderate level. Accordingly, the data in Table 1. confirm that the initial condition of students’ Arabic vocabulary mastery required more structured and effective instructional efforts as a foundation for improvement in subsequent learning stages.

Analysis of the pre-test data from the control class reveals several important tendencies. First, score distribution is dominated by moderate to good categories, as reflected in the proportions of students classified as “good” (33%) and “excellent” (20%), indicating that some students already possessed a sufficient foundation in

Arabic vocabulary. Second, the proportions of students in the “fair” and “poor” categories remain substantial, at 23% and 20% respectively, suggesting that nearly half of the students had not yet attained optimal vocabulary mastery. Third, the number of students achieving the “very good” category is relatively small (3%), while no students fall into the “very poor” category, indicating that initial abilities were generally within a middle range without extreme gaps. Finally, this uneven score distribution reflects variation in students’ Arabic vocabulary mastery at the initial stage of learning, highlighting the need for more effective and equitable instructional strategies to improve overall vocabulary acquisition.

Initial findings indicate that students’ Arabic vocabulary mastery was largely moderate and uneven, suggesting that pre-treatment instruction had not functioned optimally and failed to provide equal opportunities for comprehensive vocabulary acquisition. This situation points to the need for improved instructional strategies, as conventional vocabulary teaching often relies heavily on material transmission and rote memorization,

offering limited space for active and meaningful student engagement (Mohammadi et al., 2024; Tseng et al., 2020). Evidence from pre-test results further supports this claim, as most students clustered in the moderate category while a noticeable proportion remained at a low level, reflecting limited instructional effectiveness and weak internalization of vocabulary knowledge (Mediha & Enisa, 2014; H. Zhang et al., 2025). Taken together, these findings underscore the necessity of adopting more effective instructional strategies and learning media to support meaningful and sustainable improvement in Arabic vocabulary mastery.

Implementation of Word Square Media in Arabic Vocabulary Learning

Implementation of the Word Square media in Arabic vocabulary learning at SERI ABIM Selangor, Malaysia demonstrates positive changes in both the learning process and students' learning outcomes. Following the use of Word Square media, students became more active and engaged in learning activities, particularly in recognizing, matching, and memorizing Arabic vocabulary through interactive and structured

tasks. Results from the post-test indicate an improvement in students' Arabic vocabulary mastery compared to the initial condition, both in terms of meaning comprehension and accuracy of vocabulary use. These post-intervention learning outcomes suggest that interactive instructional media play a significant role in enhancing student engagement and systematically improving vocabulary acquisition. This condition is presented in the following table.

Table 2. Frequency Distribution of Students' Post-Test Scores

No.	Score Range	Number of Students	Category	Percentage
1	90-100	9	Very Good	30%
2	80-89	12	Excellent	40%
3	70-79	7	Good	23%
4	60-69	1	Fair	3%
5	40-59	0	Poor	0%
6	0-39	0	Very Poor	0%
	Total	30		100%

Based on the data presented in Table 2., students' Arabic vocabulary mastery after the implementation of Word Square media shows a significant improvement. Most students fall into the "excellent" category (40%), followed by "very good" (30%) and "good" (23%). Meanwhile, only 3% of students remain in the "fair" category, and no students are classified as "poor" or "very poor." This score distribution

indicates that after the implementation of Word Square media, students' Arabic vocabulary mastery is predominantly concentrated in high-performance categories. Accordingly, the data in Table 2. confirm that the implementation of Word Square media contributes positively to improving students' Arabic vocabulary mastery.

Analysis of the post-test data from the experimental class reveals several important trends. First, a dominant shift toward higher performance categories is evident, as reflected in the proportions of students classified as "excellent" (40%) and "very good" (30%), indicating a comprehensive improvement in Arabic vocabulary mastery. Second, the proportion of students in the moderate category is minimal (3%), suggesting that nearly all students have achieved adequate vocabulary mastery. Third, the absence of students in the "poor" and "very poor" categories indicates that the implementation of Word Square media effectively reduced disparities in Arabic vocabulary ability among students. Finally, the concentration of scores in higher categories reflects the effectiveness of Word Square media in creating more interactive, structured, and impactful

Arabic vocabulary learning experiences.

Implementation of Word Square media brings a significant improvement to Arabic vocabulary learning by increasing student engagement, participation, and learning involvement during instructional activities. This improvement is evident as Word Square encourages active learning through interactive word-search and pattern-solving tasks that stimulate student responsiveness and classroom participation (Nursyabani et al., 2025; R. Zhang et al., 2023). Its effectiveness is rooted in the integration of educational game elements that require students to think critically, recognize patterns, and connect vocabulary forms with their meanings, leading to deeper cognitive processing (Rachma et al., 2023). Increased student participation and readiness in post-test performance further indicate that active involvement facilitated by Word Square supports more meaningful vocabulary acquisition (Saqr et al., 2023). Consequently, Word Square serves as an effective learning medium that promotes an interactive, student-centered, and meaningful

environment for Arabic vocabulary development.

Impact and Effectiveness of Using Word Square Media

Results of implementing the Word Square media in Arabic vocabulary learning at SERI ABIM Selangor, Malaysia demonstrate a statistically significant improvement in students' vocabulary mastery. Measurement through the post-test indicates clear progress compared to the initial condition prior to the instructional treatment, particularly in terms of meaning recognition, pronunciation accuracy, and the use of vocabulary in simple sentence contexts. This improvement suggests that the Word Square media effectively enhances student activeness and engagement in a more structured vocabulary learning process. To confirm the statistical significance of this improvement, an analysis of pre-test and post-test results was conducted to examine the impact and effectiveness of Word Square media in improving students' Arabic vocabulary mastery, as presented in the following table and statistical test results.

Table 3. Paired Sample t-Test Results for Experimental Group

Variable	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference	t	df	Sig. (2-tailed)
Pre-Test Experimental - Post-Test Experimental (Word Square)	16.733	6.373	1.164	Lower: -19.113 Upper: -14.354	-14.381	29	0.000

Based on the data presented in Table 3., students' Arabic vocabulary mastery after the implementation of the Word Square media shows a significant improvement. Most students are classified in the "excellent" category (40%), followed by "very good" (30%) and "good" (23%). Meanwhile, only 3% of students remain in the "fair" category, and no students fall into the "poor" or "very poor" categories. This score distribution indicates that after the implementation of Word Square media, students' Arabic vocabulary mastery is predominantly concentrated in high-performance categories. Accordingly, the data in Table 3. confirm that the use of Word Square media contributes positively to improving students' Arabic vocabulary mastery in the experimental class.

Analysis of the post-test data from the experimental class reveals several important trends. First, a

dominant shift toward higher performance categories is evident, as reflected in the proportions of students categorized as “excellent” (40%) and “very good” (30%), indicating a comprehensive improvement in Arabic vocabulary mastery. Second, the proportion of students in the moderate category is minimal (3%), suggesting that nearly all students have achieved an adequate level of vocabulary mastery. Third, the absence of students in the “poor” and “very poor” categories indicates that the use of Word Square media effectively minimizes disparities in Arabic vocabulary ability among students. Finally, the concentration of scores in higher categories reflects the effectiveness of Word Square media in creating more interactive, structured, and impactful Arabic vocabulary learning experiences.

Word Square media shows a significant impact on students’ Arabic vocabulary mastery by improving learning outcomes and reducing achievement gaps among learners. Post-test results are dominated by high score categories and supported by statistically significant findings (Oktavia et al., 2023; Alhamdi & Ulinuha, 2025). This improvement

occurs because Word Square enables repeated and meaningful interaction with vocabulary in an enjoyable learning context, strengthening cognitive engagement and memory retention (Zarrati et al., 2024). Evidence from pre-test and post-test score differences, along with t-test results below the statistical significance threshold, confirms its effectiveness (Augustine et al., 2015). Consequently, Word Square functions as an effective strategy for supporting cognitive and affective vocabulary internalization.

D. Conclusion

This study indicates that low Arabic vocabulary mastery among elementary school students is not solely caused by limited linguistic ability, but also by instructional strategies and learning media that provide insufficient opportunities for active student engagement. The findings confirm that the use of Word Square media significantly improves students’ *mufradāt* mastery, particularly in terms of meaning comprehension, vocabulary retention, and the equal distribution of achievement among students. Through structured and visually

interactive word-search activities, Word Square shifts vocabulary learning from passive memorization toward a more active, enjoyable, and meaningful learning process. Accordingly, the effectiveness of Word Square is reflected not only in improved learning outcomes, but also in the enhanced quality of vocabulary instruction in the classroom.

This research contributes to the field by providing experimental-based empirical evidence on the effectiveness of Word Square media in Arabic vocabulary learning, especially within the context of elementary education in Malaysia, which remains relatively underexplored. Unlike previous studies that predominantly adopted descriptive approaches, this study applies a quantitative experimental design supported by systematic statistical analysis, allowing the learning impact of Word Square to be demonstrated in a clear and measurable manner. In addition, the study enriches research on Arabic language learning media by positioning Word Square not merely as a game-based activity, but as a pedagogical tool that functions cognitively to strengthen vocabulary

acquisition. These findings offer practical implications for Arabic language teachers in designing vocabulary instruction that is more contextual, interactive, and aligned with the learning characteristics of elementary school students.

Despite its significant findings, this study has several limitations that should be considered. First, the research sample was limited to a single experimental class at SERI ABIM Elementary School in Selangor, which restricts the generalizability of the results to other schools or educational levels. Second, the study focused on only one type of learning media, namely Word Square, without comparing it to other word-based instructional games that may yield different outcomes. Third, vocabulary mastery was measured primarily through written tests, emphasizing cognitive aspects, while affective dimensions and long-term retention of *mufradāt* were not examined in depth. Therefore, future research is recommended to involve larger samples, a wider range of learning media, and mixed-method approaches in order to obtain a more comprehensive understanding of the

effectiveness of Arabic vocabulary learning media.

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