

Enhancing Vocabulary Acquisition through Singing: A Cognitive Perspective Based on Roger W. Sperry's Theory

Yaziyah Della Puspita¹, Fitri Liza²

^{1,2} Universitas Muhammadiyah Prof. Dr. Hamka Jakarta, Indonesia

Article History:

Received : 07 January 2025

Revised : 12 June 2025

Published : 19 June 2025

Keywords:

Cognitive Abilities; Roger W. Sperry Theory; Student Emotions; Vocabulary Acquisition.

*Correspondence Address:

dellayaziyah@gmail.com

©authors 2025



This work is licensed under a [Creative Commons Attribution-ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-sa/4.0/).

DOI: 10.32332/ijalt.v7i01.10068

Abstract : In Arabic language learning, a pedagogically effective approach is required, one that not only incorporates technical proficiency but also engages students' emotional and cognitive domains to enhance vocabulary acquisition more optimally. This study examines the singing method based on Roger W. Sperry's theory that involves the functions of the right and left brain, potentially increasing vocabulary acquisition. The study used a one group pretest-posttest experimental design with two classes at SMP Muhammadiyah 35 Jakarta. Data were analyzed using normality tests, homogeneity tests, paired sample tests, independent sample tests, and N-Gain scores to measure the effectiveness of the singing method. The findings indicated that the implementation of the singing method led to a significant improvement in students' vocabulary mastery with the N-Gain score of the experimental class in the medium category (0.6034) and the control class in the low category (0.3073). This result shows that student emotions and cognitive abilities can both be stimulated by this strategy at the same time. In order to improve comfort, emotional involvement, and overall vocabulary acquisition effectiveness, teachers are advised to use song in language teaching.

INTRODUCTION

A child can easily remember the lyrics of a song. This phenomenon is not a coincidence but proof that music has extraordinary power in helping the brain to absorb information. According to Roger W. Sperry's theory, the human brain is divided into two hemispheres with different functions: the left brain which plays a role in logical and analytical processing, and the right brain which handles creativity.

Humans have a thinking style that is influenced by the hemisphere of the brain they use¹. Each hemisphere of the brain has different functions. The left brain functions in matters related to language, calculations, and working with logic. Such as analytical thinking, verbal and is the center of mathematics. Meanwhile, the right brain functions in emotional development. For example, communication, socialization, interaction with other humans, and expressing feelings and

¹ M. Abdurrahman Sunni and Baiq Yuni Wahyuningsih, "Efektifitas Penggunaan Otak Kanan Dan Otak Kiri Terhadap Pencapaian Hasil Belajar Mahasiswa (Studi Kasus Pada Mahasiswa Program Studi Sistem Informasi STMIK Mataram)," *Palapa: Jurnal Studi Keislaman Dan Ilmu Pendidikan* 8, no. 2 (2020): 351-68, <https://doi.org/10.36088/palapa.v8i2.885>.

emotions. In the right brain lies the Intuitive Ability, The Ability to feel, combine, and body expression, such as singing². Left brain intelligence is also known as the digital brain, where the left brain is more dominant in terms of verbal and more structured than the right brain. Although there are differences between the left and right brain, we can still use both hemispheres of the brain in a balanced way. The balance of the left brain is through linear thinking and the right brain with its creativity will work together to understand and solve problems holistically³.

According to Marsiah Zahratul Ulya and Nurul Wahdah, the main component in learning Arabic is vocabulary. If the student's vocabulary is sufficient, it will be very helpful in mastering Arabic learning⁴. Most students consider Arabic as a difficult subject, because many of them do not understand the meaning of the words or sentences themselves⁵. It can be concluded that students have not mastered the vocabulary of the material presented, which results in their low Arabic language scores⁶. The use of appropriate methods in learning can guarantee the effectiveness of learning⁷.

In learning Arabic, problems are found, namely low vocabulary mastery⁸. Many students have difficulty understanding Arabic readings and answering questions or assignments given by teachers due to the use of teaching methods that are too monotonous, so that students become less enthusiastic about learning⁹. To overcome this problem, researchers use the singing method in learning with the hope of knowing the impact of the treatment given to the method to be treated and being able to analyze students in remembering Arabic vocabulary. Thus, the role of the teacher is very important in determining the right learning strategies and methods so as not to make students bored and quickly fed

² Tri Budianingsih, "Peran Neurolinguistik Dalam Pengajaran Bahasa," *Jurnal Al-Azhar Seri Humaniora* 3, no. 2 (2015): 137-49, <https://doi.org/10.36722/sh.v3i2.203>.

³ Uu Ubaidillah, "Upaya Memaksimalkan Otak Kanan Dalam Proses Pembelajaran Mipa Menggunakan Strategi Pembelajaran Inquiry," *Jurnal Ilmiah Penelitian Dan Kependidikan* 6, no. 4 (2022): 65-72.

⁴ Marsiah Zahratul Ulya, Nurul Wahdah, "Penerapan Metode Bernyanyi Dalam Pembelajaran Mufrodat Pada Siswa Madrasah Ibtidaiyah Di Indonesia," *Al-Afidah: Jurnal Pendidikan Bahasa Arab Dan Pengajarannya* 8, no. 1 (2024): 318-32, <https://doi.org/https://doi.org/10.52266/al-afidah.v8i1>.

⁵ Syamsiar and Asyikin, "Peningkatan Mufradat Dalam Pembelajaran Bahasa Arab Dengan Metode Bernyanyi," *Jurnal Pendais* 3, no. 1 (2021): 46-62, <https://jurnal.uit.ac.id/JPAIs/article/view/1065/780>.

⁶ Nur Ulwiyah, Eka Nurjanah, and Nur Ilmas Hariadi, "Implementasi Metode Bernyanyi Dan Media Tongkat Gambar Untuk Meningkatkan Kemampuan Menghafal Kosakata Arab," *Jurnal Pendidikan Dasar Islam* 4, no. 2 (2022): 72-102, <https://journal.unipdu.ac.id/index.php/jpdi/article/view/3452>.

⁷ A. Fajar Awaluddin Ridwan, "Penerapan Metode Bernyanyi Dalam Meningkatkan Penguasaan Mufradat Dalam Pembelajaran Bahasa Arab Di Raodhatul Athfal," *Didaktika: Jurnal Kependidikan* 13, no. 1 (2019): 56-67, <https://doi.org/https://doi.org/10.30863/didaktika.v13i1.252>.

⁸ Alvira Pranata, Amanah Noor Pauseh, and Nanda Nurul Azmi, "Analisis Faktor-Faktor Kesulitan Belajar Bahasa Arab Serta Solusinya Untuk Meningkatkan Hasil Belajar," *Armala Jurnal Pendidikan Dan Sastra Arab* 3, no. 1 (2022): 47-56.

⁹ Amiruddin Z Nur, "Efektivitas Penggunaan Metode Pengajaran Dalam Proses Pembelajaran," *Jurnal Al-Ibrah* 6, no. 1 (2019): 60-68.

up during learning¹⁰. Teachers as instructors in carrying out their learning always make learning plans and prepare the learning tools needed and adapt them to the learning material¹¹.

Learning methods are very important in learning Arabic, which attracts a lot of attention from linguists¹². Interesting and enjoyable learning will be carried out with pleasure. The learning process will be effective if learning takes place in a pleasant atmosphere¹³. Enjoyable learning determines the success of delivering material, thus creating a conducive learning atmosphere¹⁴. The feeling of joy in learning makes students comfortable, enthusiastic, and happy, thus fostering a love of learning within them¹⁵. In addition, in the implementation of learning, it is necessary to pay attention to the aspect of students' ability to receive and master Arabic vocabulary, namely the memory of students who are able to remember learning. This ability shows that the brain's memory absorption capacity in storing information¹⁶.

So in this study, the problem that I raise is whether the singing method has an effect on the vocabulary acquisition of students of SMP Muhammadiyah 35 South Jakarta? And how the explanation of Roger W. Sperry's Hemispheric Theory and its relevance to the vocabulary acquisition? This understanding will help in identifying the mechanisms that make the singing method effective in improving students' vocabulary. By answering these questions, this study is expected to provide a significant contribution to the development of Arabic language learning strategies for junior high school students that are more interesting and effective.

In line with this, previous studies have shown the effectiveness of the singing method in learning Arabic. Referring to the research of Ahmad Hanafi and

¹⁰ Darsinah Siti Aminuriyah, Suyitno, and Murfiah Dewi Wulandari, "Upaya Guru Mengatasi Kejenuhan Belajar Siswa Full Day School Di SDIT Nur Hidayah Surakarta," *Jurnal Humaniora* 9, no. 3 (2024): 167-73, <https://doi.org/10.31316/gcouns.v8i3.5853>.

¹¹ Fitri Liza, "Analisis Metode Iqra Dalam Pembacaan Fawatihussuwar Mahasiswa FAI Uhamka," *Pendidikan Islam* 10, no. 1 (2019): 33-42. <http://journal.uhamka.ac.id/index.php/jpi>.

¹² Fitri Liza, Miatin Rachmawati, and Ayman Shahrour, "Fun Learning Arabic Speaking Skills Using Kinemaster Video," *Izdihar : Journal of Arabic Language Teaching, Linguistics, and Literature* 4, no. 3 (2021): 363-72, <https://doi.org/10.22219/jiz.v4i3.17851>.

¹³ Citra Resita, and Neng Titih, "Sosialisasi Permainan Playmat Sebagai Alternatif Media Pembelajaran Penjas," *Moroones Jurnal Pengabdian Universitas Singaperbangsa Karawang* 2, no. 2 (2022): 66-72. <http://journal.unsika.ac.id/index.php/maroones>

¹⁴ Anggraeni Liza, "Kajian Kepustakaan Sistematis (Systematic Literature Review) Tentang Kebahagiaan (Happiness) Dab Kesejahteraan Psikologis (Subjective Well-Being) Mahasiswa Perguruan Tinggi Di Ngarab Berkembang&Maju Dari Tahun 2020-2024" 26 (2024): 38-77. <https://doi.org/10.56861/jikkbh.v10i1.134>.

¹⁵ Munirul Abidin, and Nurmalia Hidayah, "Penerapan Metode Bernyanyi Dalam Meningkatkan Penguasaan Mufradat Bahasa Arab," *Jurnal Naskhi Jurnal Kajian Pendidikan Dan Bahasa Arab* 5, no. 2 (2023): 66-73, <https://doi.org/10.47435/naskhi.v5i2.2255>.

¹⁶ Ahmad Dardiri, Maman DZul Iman, and Tari Damayanti, "Pengaruh Penggunaan Metode Bernyanyi Terhadap Peningkatan Penguasaan Kosakata Bahasa Arab Siswa Madrasah Tsanawiyah," *Jurnal Of Islamic Studies Institut Agama Islam Al-Zaytun Indonesia* 1, no. 1 (2023): 48-56, <https://doi.org/https://doi.org/10.61341/jis/v1i1.005>.

Sholihah in their study entitled "Improving the Ability to Memorize Arabic Vocabulary by Applying the Singing Method". The results obtained found that the singing method can improve students' mastery of Arabic vocabulary as evidenced by a series of cycles 1 and 2 obtaining data that there is always an increase in mastery of vocabulary. The similarity with this study is the method used during learning. My research and previous research both use the singing method, but there are new differences in my research, namely in the theory and type of research used. Previous research used qualitative descriptive research and I used quantitative research with one group pretest and posttest¹⁷.

Based on the research results of Mamluatun Naimah and Muallim Wijaya entitled "Application of the Singing Method to Improve Arabic Vocabulary Memory in Mi Darussalam". The results of the study concluded that the singing method in finger recognition can improve students' memory. The difference lies in the type of research used by the researcher, namely quantitative and previous research using qualitative. The similarity with this study is that the singing method and the purpose of the study are both to improve students' memory¹⁸.

According to a study conducted by Amiroh Nubaila Hanum entitled "Application of Singing Methods to Improve Vocabulary Mastery in Learning Arabic Language at Madrasah Ibtida'iyah" the results of the study proved that applying the singing method to early childhood can improve vocabulary mastery in early childhood. because singing is an activity that is very much enjoyed by most children. The difference lies in the type of research. Previous researchers used literature study research that did not involve children, only with literature studies where the research was carried out online, namely by reviewing several journals related to the title created, while my type of research uses quantitative which can directly involve children. In addition, my research examines the singing method in vocabulary learning based on the right and left brain theory by Roger W. Sperry, who developed the theory of right and left brain dominance. In my research, it can be seen that the singing method can be associated with right brain activation where the brain is more dominant in music, rhythm, and creativity. This approach provides a new contribution to understanding how the method improves vocabulary in students¹⁹.

¹⁷ Binti Solihah Ahmad Hanafi, "Improving The Ability To Memorize Arabic Vocabulary With The Application Of The Singing Method," *MUHIBBUL ARABIYAH: Jurnal Pendidikan Bahasa Arab* 2, no. 1 (2022): 49–60, <https://doi.org/10.35719/pba.v2i1.22>.

¹⁸ Muallim Wijaya Mamluatun Naimah, "Application of the Singing Method To Improve Arabic Vocabulary Memory in Mi Darussalam," *Proceeding of 1st International Conference on Education, Society, and Humanity* 01, no. 01 (2023): 1253–1258. <https://ejournal.unuja.ac.id/index.php/icesh>.

¹⁹ Amiroh Nubaila Hanum, "Application of Singing Methods to Improve Vocabulary Mastery in Learning Arabic Language at Madrasah Ibtida'iyah," *Tanwir Arabiyyah: Arabic as Foreign Language Journal* 3, no. 2 (2023): 131–36, <https://doi.org/https://doi.org/10.31869/afl.v3i2.4885>.

The rationale for my object selection in SMP Muhammadiyah 35 Jakarta is the low vocabulary mastery of students caused by monotonous and uninteresting learning methods, thus reducing motivation and learning effectiveness. Based on Roger W. Sperry's theory about right and left brain dominance, learning methods that can activate both hemispheres of the brain in a balanced manner have the potential to improve students' memory and vocabulary mastery.

The singing method as a learning approach that combines elements of music, rhythm, and song lyrics is expected to be able to stimulate the right brain through creativity and emotion, and the left brain through language processing and analysis, so that it can improve the ability to memorize Arabic vocabulary more optimally. This study aims to test the effect of the singing method on students' vocabulary mastery and memorization abilities, as well as to create a conducive and enjoyable learning atmosphere that supports the Arabic language learning process effectively.

Roger W. Sperry explains that the human brain is divided into two hemispheres with different functions, namely the right brain plays a role in creativity, rhythm, music, while the left brain plays a role in logical, analytical, and language functions. In this context, the singing method activates the right brain through elements of music, melody, rhythm and emotion, while the left brain activates when students process song lyrics that contain vocabulary in language structures. The singing method works synergistically with both hemispheres of the brain. When both hemispheres of the brain are active simultaneously, the process of storing information (vocabulary) becomes stronger and more durable. This is in accordance with the principles studied by Sperry, where the use of both brains in a balanced manner can increase learning effectiveness. In my research, it can be seen that the singing method can be associated with right brain activation where the brain is more dominant in music, rhythm and creativity. This approach provides a new contribution to understanding how the method improves vocabulary in students.

METHOD

The study is being conducted at SMP Muhammadiyah 35 in Jakarta. A straightforward random sampling method that gives every member of the population an equal chance of being chosen was employed to choose the sample. Using this method, 17 students from class 8.1 were chosen as the control group, while 17 students from class 8.2 were chosen as the experimental group. All of the population consists of SMP Muhammadiyah 35 Jakarta class VIII students.

This type of study combines experimental research methods with a quantitative approach. The One Group Pretest and Posttest model is used in experimental research methods. Before the treatment is administered, the researcher administers a pretest to the item, followed by a posttest, according to

the one-group pretest-posttest design model.²⁰ The form of pretest and posttest used in SMP Muhammadiyah 35 Jakarta is by asking students to fill in each vocabulary on the test sheet that has been studied. After that, the test sheets are collected and checked by the teacher.

All eighth-grade students at SMP Muhammadiyah 35 in Jakarta participated in the study utilizing a test or question intended to gauge their memorization skills in Arabic both before and after employing the learning while singing approach (pretest and posttest).²¹ Data collection was conducted through a Pre-Test test at the beginning of learning and a Post-Test test at the end of learning. In the experimental group, the final test or post-test used the singing method and the control group used the lecture method. The data analysis techniques used are descriptive analysis, normality test, homogeneity test, paired sample test, independent test, n-gain score.

RESULT AND DISCUSSION

The Impact of the Singing Method on Vocabulary Acquisition

This study involved two groups: an experimental class using the singing method, and a control class using the lecture method. The comparison of the pretest and posttest results was the average pretest of the experimental class was 52.64 and the control class was 51.76. While the average posttest of the experimental class was 81.17 and the control class was 67.05, on the average N-Gain score of the experimental class: 0.6034 (medium category) and the control class: 0.3073 (low category). For the Normality and Homogeneity Tests, it showed that the data were normally distributed and had homogeneous variance, the Paired Sample t-Test showed a significant difference between the pretest and posttest in both groups ($p = 0.000$), indicating the influence of the applied learning method, the Independent Sample t-Test showed a significant difference ($p = 0.000$) between the posttest scores of the experimental class and the control class, confirming that the singing method is more effective than the lecture method in improving vocabulary mastery. Thus, the singing method is proven to have a significant and positive influence on improving students' vocabulary mastery.

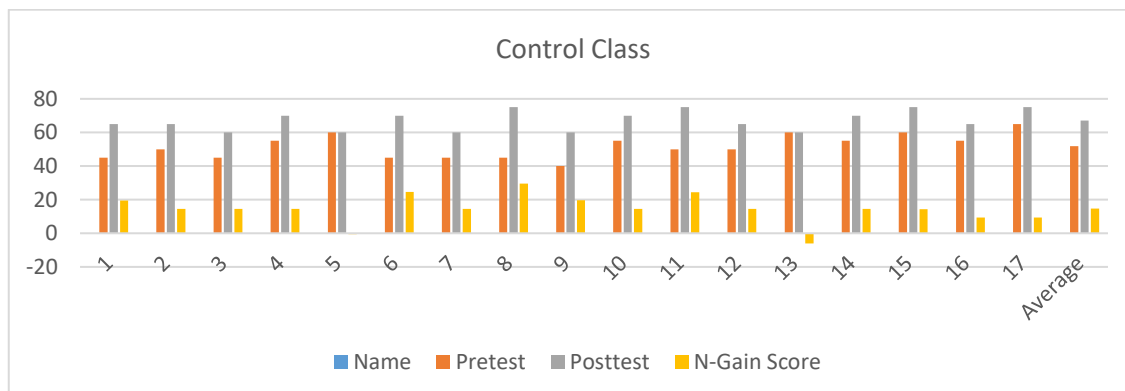
In this study, data collection was conducted to measure the influence of independent variables on related variables in control class students. The data obtained included the results of the pretest, posttest and N-Gain Score of each student. These results aim to provide an overview of the increase in

²⁰ Hawa Qolami and Ahmad Rizki Nugrahawan, "The Effectiveness of BARUSIDA Application on Arabic Learning Outcomes of Students at Junior High School," *Education and Social Sciences Review* 4, no. 2 (2023): 75, <https://doi.org/10.29210/07essr357600>.

²¹ Ardiansyah, Kairinnisa Ulya, Nelly Mujahidah, and Ardiansyah Ardiansyah, "Efektivitas Metode Bernyanyi Terhadap Kemampuan Menghafal Mufrodat Pada Mata Pelajaran Bahasa Arab Bagi Siswa Kelas IVa SD Muhammadiyah 01 Pontianak," *Armala* 4, no. 1 (2023): 57-77, <https://doi.org/10.24260/armala.v4i1.1749>.

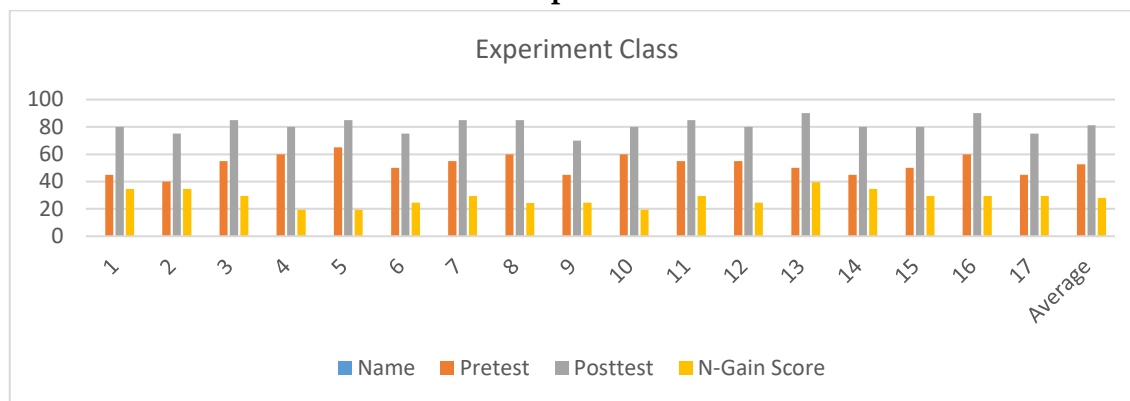
understanding. The following is a table of test results conducted on 17 students who are members of the control class, where the pretest and posttest scores are used to calculate, while the N-Gain Score is an indicator of learning effectiveness. The following is a table of the control class:

Table 1. Control Class



Based on table 1, the results of the pretest and post test in the control class were obtained, namely the average pretest in the control class was 51.76, the average post test in the control class was 67.05, while the average N-Gain Score in the control class was 14.77.

Table 2. Experiment Class



Based on table 2, the results of the pretest and posttest in the experimental class were obtained, namely the average pretest in the experimental class was 52.64, the average posttest in the experimental class was 81.17 and the average N-Gain Score in the experimental class was 28.00.

Descriptive Analysis

Descriptive analysis is useful for presenting and describing research data including the amount of data, maximum value, minimum value, average value and so on.

Table 3. Descriptive Analysis

	N	Minimum	Maximum	Mean	Std. Deviation
Pre-Test Experiment	17	40	65	52,65	7,097
Post-Test Experiment	17	70	90	81,18	5,457
Pre-Test Control	17	40	65	51,76	7,058
Post-Test Control	17	60	75	67,06	5,879
Valid N (listwise)	17				

The results of descriptive analysis using SPSS as shown in the table above, the minimum and maximum values of Pre-Ex (40 & 65), and Post-Ex (70 & 90), Pre-Con (40 & 65), Post-Con (60 & 75). Furthermore, the average value of Pre-Ex (52.65) and Post-Ex (81.18) and Pre-Con (51.76), and Post-Con (67.06). The results of the descriptive analysis showed that the average posttest score of the experimental class was higher than the control class, indicating an increase in vocabulary mastery after the singing method treatment. This is consistent with Sperry's theory which states that activating the right brain through music can strengthen the learning process.

Normality Test

This test is carried out to determine whether the data is normally distributed or not²². The test was conducted using the Kolmogorov Smirnov and Shapiro Wilk normality tests, both of which have significant values if they exceed 0.05. The table of normality test results is as follows:

Table 4. Normality Test

Tests of Normality

Class	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Student Learning Results	Pretest Experiment	,159	17	,200 [*]	17	,301
	Posttest Experiment	,179	17	,148	17	,219
Pretest Control	Pretest Control	,184	17	,129	17	,260
	Posttest Control	,179	17	,149	17	,014

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Based on the output table above, the value (sig) in the Pretest of the experimental class according to Kolmogorov-Smirnov is 0.200, while according to Shapiro-Wilk it is 0.301. The sig value in the Posttest of the experimental class according to Kolmogorov-Smirnov is 0.148, while according to Shapiro-Wilk it is 0.219. The sig value in the Pretest of the control class according to Kolmogorov-Smirnov is 0.129, while according to Shapiro-Wilk it is 0.260. The sig value in the Posttest of the control class according to Kolmogorov-Smirnov is 0.149, while according to Shapiro-Wilk it is 0.014 for all data groups that show a significance value > 0.05, meaning that all data is normally distributed²³. The results provide a real effect because of the method used.

Homogeneity Test

Data can be said to be significant if the value (sig) is greater than 0.05 and is said to be inhomogeneous if the value (sig) is less than 0.05. This test is conducted to determine whether the variation of several data from the population has the same variance or not. Here is the Homogeneity Test table:

²² Badrina Alfi and Lismawati, "Assessing Student Engagement in Qurdis Subject Using Wordwall," *Halaqa: Islamic Education Journal* 8, no. 1 (2024): 8-25, <https://doi.org/10.21070/halaqa.v8i1.1672>.

²³ Salimatul Fuadah, "Efektivitas Pembelajaran Al Tarjamah Al Fauriyah Dalam Meningkatkan Maharah Al Qira'ah Mahasiswa Semester 6 Pendidikan Bahasa Arab UIN Sunan Kalijaga Tahun Ajaran 2018/2019," *Maharaat: Jurnal Pendidikan Bahasa Arab* 3, no. 1 (2021): 71-92, <https://doi.org/10.18196/mht.v3i1.10125>.

Table 5. Homogeneity Test**Test of Homogeneity of Variance**

		Levene Statistic	df1	df2	Sig.
Student Learning Results	Based on Mean	,649	1	32	,426
	Based on Median	,514	1	32	,478
	Based on Median and with adjusted df	,514	1	31,974	,478
	Based on trimmed mean	,613	1	32	,439

Based on the output above, it is known that the significance value of the homogeneity test Sig 426 is greater than 0.05, so the results of the homogeneity test of the experimental class and control class shown in the table above are homogeneous.

Paired Sample Test

If the results of the normalization test are obtained, then a paired sample test is carried out. This test is based on the calculated value which is greater ($>$) t table and is not affected by the results before and after the test. However, there is an influence before and after the test if the calculated number is smaller ($<$) t table. The following is a Paired Sample Test:

Table 6. Paired Sample Test**Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre-Test Experiment - Post-Test Experiment	-28,529	5,800	1,407	-31,511	-25,547	-20,281	16	,000
Pair 2	Pre-Test Control - Post-Test Control	-15,294	7,800	1,892	-19,305	-11,284	-8,084	16	,000

Based on the output above, in pair 1, the significance value of the 2-tailed difference can be seen to be $0.000 < 0.05$, which indicates that the learning outcomes of students in the pretest and posttest experimental classes are different.

Based on the output in pair 2 above, it can be seen that the significance value of the 2-tailed difference is $0.000 < 0.05$ between student learning outcomes in the pretest of the control class and the posttest of the control class. This test showed a significant difference between the pretest and posttest in the experimental class, confirming that the singing method had a real positive effect on increasing vocabulary mastery.

Table 7. Paired Sample Statistics**Paired Samples Statistics**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-Test Experiment	52,65	17	7,097	1,721
	Post-Test Experiment	81,18	17	5,457	1,324
Pair 2	Pre-Test Control	51,76	17	7,058	1,712
	Post-Test Control	67,06	17	5,879	1,426

From the results of pair 1 in table 7 above, it can be concluded that the singing method has an effect on vocabulary mastery.

Independent Sample Test

This result was conducted to determine whether or not there was an effect of providing treatment in the form of a singing method in increasing vocabulary mastery²⁴. If the Sig. (2-tailed) value in the "Equal Variances Assumed" section is <0.05 , it can be concluded that there is a difference in the average between the experimental class and the control class. The following is the Independent Test table:

Table 8. Independent Sample Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Student Learning Results	Equal variances assumed	.649	.426	7,257	32	.000	14,118	1,945	10,155	18,080
	Equal variances not assumed			7,257	31,824	.000	14,118	1,945	10,154	18,081

Based on the output above, it can be seen that the significance value is $0.000 < 0.05$ so it can be concluded that there is a significant difference. The test results showed significant differences between the experimental and control classes, indicating that the singing method was more effective than the conventional lecture method in improving vocabulary mastery.

Table 9. Group Statistics

		N	Mean	Std. Deviation	Std. Error Mean
Student Learning Results	Posttest Experiment	17	81,18	5,457	1,324
	Posttest Control	17	67,06	5,879	1,426

The average above shows that the singing method provides superior student learning outcomes compared to without the singing/lecture method (81.18 and 67.06 respectively).

N-Gain Score

This test aims to determine the effectiveness of using a particular method or treatment in pre-test post-test model research, or research using control groups and experimental groups. This test is carried out by calculating the difference between the results of the experimental and control group classes in order to determine the use or application of the method in which class/group is effective. The following is a table and interpretation of the results of the N-Gain Score of the Experimental Class and the Control Class:

²⁴ Afif Kholisun Nashoih and Miftachul Janah, "Efektivitas Crossword Puzzle Dalam Pembelajaran Bahasa Arab Sebagai Inovasi Pembelajaran Daring Di Masa Pandemi Covid-19," *Al-Lahjah: Jurnal Pendidikan, Bahasa Arab, Dan Kajian Linguistik Arab* 5, no. 2 (2022): 2615-56, <https://doi.org/10.32764/al-lahjah.v5i2.2830>.

Descriptives

Class		Statistic	Std. Error			
NGain_Percent	Experiment	Mean	60,3414	2,23694		
		95% Confidence Interval for Mean	Lower Bound	55,5993		
			Upper Bound	65,0835		
		5% Trimmed Mean	60,0763			
		Median	60,0000			
		Variance	85,067			
		Std. Deviation	9,22315			
		Minimum	45,45			
		Maximum	80,00			
		Range	34,55			
		Interquartile Range	14,39			
		Skewness	,418	,550		
		Kurtosis	-,060	1,063		
		Control	Control	Mean	30,7374	3,45703
				95% Confidence Interval for Mean	Lower Bound	23,4088
Upper Bound	38,0660					
5% Trimmed Mean	31,1224					
Median	33,3333					
Variance	203,167					
Std. Deviation	14,25368					
Minimum	,00					
Maximum	54,55					
Range	54,55					
Interquartile Range	9,66					
Skewness	-,842			,550		
Kurtosis	1,417			1,063		

Based on the table of N-Gain Score calculation results in the output above, it can be seen that the average value of the experimental class N-Gain score is 0.6034 which is included in the moderate category and if viewed from the percentage of the n-gain score, a value of 60.34% is obtained which if interpreted based on the category table is included in the category in the range of 56-75, which is quite effective. The average value of the control class N-Gain score is 0.3073 and if viewed from the percentage of the n-gain score, a value of 30.73% is obtained which if interpreted based on the category table is included in the category in the range <40, which is not effective. The n-gain value in the experimental class showed moderate effectiveness, while in the control class it was included in the less effective category. This strengthens the argument that the singing method is a better learning method in the context of Arabic vocabulary mastery.

The significant increase in vocabulary acquisition in the experimental group (N-Gain = 0.6034) demonstrates the efficacy of this bilateral activation. The emotional arousal generated by music likely strengthens neural pathways associated with memory encoding in the right hemisphere, while linguistic processing in the left hemisphere conditions vocabulary acquisition. This synergistic effect explains the superior learning outcomes compared to the control group, which relied solely on the left hemisphere-dominated lecture method. Thus, the method used in learning is the main factor in the success of students' Arabic vocabulary mastery learning at SMP Muhammadiyah 35 Jakarta.

Explanation of Roger W. Sperry's Hemispheric Theory and its relevance to the vocabulary acquisition

Sperry's theory serves as the primary basis for this study, according to which the left brain processes linguistic structure and lexical meaning from song lyrics, while the right brain is stimulated by aspects of music, rhythm, and pleasurable emotional expression. Since language is really a means of expressing sentiments and emotions, learning a language is actually learning that needs to be supported by the right brain. Learning Arabic may be more beneficial for enhancing vocabulary mastery since it puts pupils in a joyful state, as the right brain is more dominant while learning language through singing. This is due to the fact that singing while learning makes learning fun, and the right brain works best when learning is fun.

However, when learning occurs, not only the right brain is used, but also the left brain, because when both hemispheres of the brain work synergistically, the memory encoding process becomes stronger and more durable, and the involvement of the left and right brains in linguistic and emotional processes accelerates students' absorption in language learning. In terms of psychology, the singing technique increases pupils' intrinsic motivation, which stems from a sense of contentment, engagement, and ease while learning. Songs and music make learning more fun, and learning can increase memory, concentration (or focus on learning), and reduce stress and boredom. When students study while singing, their view of Arabic classes shifts from tough and dull to enjoyable.

Data Analysis using the Theory of Roger W. Sperry Sperry asserts that when both hemispheres of the brain are active, cognitive ability is at its best. Through melody, rhythm, and emotional connection, the singing technique stimulates the right hemisphere, encouraging creativity and enjoyment while learning. Concurrently, the left hemisphere improves verbal and analytical abilities by processing linguistic elements included in song lyrics. The study's findings demonstrate how musical repetition of words and rhythmic patterns might improve memory. Lyrics from songs help people remember new terms. Usually, the teacher adapts the lyrics to the content that will be taught. Words that help children retain the language are frequently repeated in song lyrics.

It is crucial to describe in full the steps taken prior to the start of the main activities in order to give a thorough grasp of the learning process occurring in the classroom. By psychologically and emotionally preparing students, these phases serve as the cornerstone for establishing a supportive, organized, and joyful learning environment.

First, Initial Activities. Before the learning process begins, the teacher first checks whether the students are orderly and neat, after that it is continued by praying first, then the students greet the teacher and the teacher answers the

greeting, then before Arabic language learning begins, the students read 1 free short letter. After that the teacher checks the students' attendance. Then the teacher conditioned the students whether they are ready to learn or not. The teacher applies the singing method by choosing the right song, easy to remember, and relevant to the topic being studied.

Second, the teacher provides Arabic vocabulary material about hobbies and explains to the students with the teacher reading the material first, then followed by the students. After that the teacher invites the students to write the material, after finishing writing, finally the teacher will repeat reading the material and followed by the students then the teacher will give a pretest to the students whether the lecture method can improve students' vocabulary mastery.

Third, after being given the pretest the teacher's condition again so that the students are still orderly and the teacher will provide a singing method and ensure that the selected song has the vocabulary that the students want to learn. The tone commonly used in the singing method is a children's song, this song is the right song for learning. They will get used to the song and memorize the tune and lyrics. The teacher repeats the song several times to help students remember the vocabulary, and finally does a supporting activity, namely singing together while clapping to increase student involvement. One example is the use of the song "Potong Bebek Angsa" whose lyrics are changed to vocabulary about the hobbies theme. Here are the song lyrics:

Lyrics: Potong Bebek Angsa Song

Kurratul-qadami itu sepak bola
Kurratus-sallati itu bola basket
Kurratur-rīsyati itu bulutangkis
Kurratut-ṭā'irati bola volly
At-tashwīru memotret
Al-qirā'atu membaca
Ar-rasmu melukis
Al-khiyāṭatu menjahit
As-sibāḥatu berenang
Ṣaidu as-samaki memancing
Rukūbu ad-darrājati itu bersepeda

After the singing together activity, the teacher gives a post-test to students to test and compare which is more effective, the singing method or the lecture method in improving vocabulary mastery

Fourth, Final Activity. After the learning is finished, the teacher re-explains the material by memorizing Arabic vocabulary with the theme of hobbies, done together without singing. This process is then repeated while singing together to ensure that students understand what is being conveyed. After that, the teacher

ends the lesson with a prayer together, then the students say hello and the teacher answers the greeting.

The description above provides an overview of Arabic language learning using the singing method to boost students' vocabulary mastery, as well as its use in learning. As a result, the researcher implemented the singing approach and practiced its application in learning clearly. Its application is consistent with the concept and allows pupils to readily absorb and understand the content. When the researcher conducted observations, it was discovered that pupils could swiftly absorb and master the material that had been presented when learning occurred. They were quite thrilled about the task of remembering language using the singing approach.

The results of the study showed that the singing method had a positive impact on improving students' vocabulary mastery. This finding is in line with the theory that the use of rhythm and melody in songs can facilitate the process of remembering vocabulary. Simple and repetitive song lyrics make it easier for students to recognize and memorize new words²⁵. In addition, the melody of the song is also able to form positive emotional associations with the vocabulary being studied, thereby strengthening students' memory of the material being taught.

Emotionally, the singing method has also been shown to improve students' mood and motivation. Learning activities involving music create a pleasant atmosphere and reduce boredom in learning²⁶. This makes students more enthusiastic and focused in following the learning process. In fact, the expressions of students who look happy and excited when singing show that this method provides a more interesting learning experience. Singing together also builds a sense of togetherness and cooperation between students, thus creating a positive and supportive learning environment.

In terms of flexibility, the singing method allows teachers to adjust the song to the topic being studied. By selecting songs that are appropriate to the level of ability and interest of students, vocabulary material can be delivered more effectively. However, teachers still need to pay attention to the proportion of time used so that singing activities do not interfere with the allocation of time for other aspects of learning. Therefore, the balance between entertainment elements and learning objectives must be maintained.

²⁵ Awalludin Samsul Anam, Dewi Lestari, "Efektivitas Metode Bernyanyi Terhadap Kemampuan Fonasi Mahasiswa," *Jurnal Penelitian Pendidikan Bahasa Indonesia, Daerah Dan Asing*, 3, no. 2 (2020): 167–81, <https://doi.org/10.31540/silamparibisa.v3i2.1065>.

²⁶ Euis Siti Syaripah, Nunung Nursyamsiah, and Hikmah Maulani, "Combined Application of Singing Method and Flash Card Media for Students' Mastery of Arabic Vocabulary," *International Journal of Arabic Language Teaching* 6, no. 01 (2024): 19, <https://doi.org/10.32332/ijalt.v6i01.8785>.

The researcher's findings in this study were consistent with those of Ahmad Hanafi and Sholihah²⁷, Mamluatun Naimah and Muallim Wijaya²⁸, and Amiroh Nubaila Hanum²⁹ on the enhancement of the singing method for students to learn Arabic vocabulary. The results of this study differ from those of earlier research since the latter typically focused just on the singing method's general efficacy without going into great detail about how the left and right brains are involved. In order to enhance students' recollection of Arabic vocabulary and increase their interest and enthusiasm for learning, the researcher in this study employed the singing method, which activates both hemispheres of the brain in accordance with Roger W. Sperry's hypothesis. The benefit of this strategy is that it not only produces a more pleasurable and emotionally meaningful learning experience, but it also enhances students' cognitive outcomes objectively.

CONCLUSION

The singing method has a significant influence in improving vocabulary mastery, especially in learning Arabic. This method is able to stimulate the affective and cognitive aspects of students simultaneously. Through singing, students become more relaxed and emotionally involved. Which ultimately strengthens the connection between new words and pleasant experiences. In addition, this method helps reduce psychological barriers such as anxiety and boredom, so that students are more motivated to continue practicing.

Despite Roger W. Sperry's hypothesis that the left brain is more logical, linguistic, and mathematical, and the right brain is more creative, imaginative, and artistic, no one claims that the left and right brains function independently but rather in tandem. However, this study found that the right brain is more likely to be active when learning while singing since it may communicate emotions, such as the delight of learning while singing. Since learning involves not only the left brain but also the more creative right brain to avoid students from becoming disinterested, it is suggested that additional research be done on the singing approach if it is necessary to help children learn vocabulary.

References

Ardiansyah, Kairinnisa Ulya, and Nelly Mujahidah. "Efektivitas Metode Bernyanyi Terhadap Kemampuan Menghafal Mufrodat Pada Mata Pelajaran Bahasa Arab Bagi Siswa Kelas IVa SD Muhammadiyah 01 Pontianak." *Armala Jurnal Pendidikan dan Sastra Arab* 4, no. 1 (2023): 57-77. <https://doi.org/10.24260/armala.v4i1.1749>.

Ahmad Dardiri, Maman Dzul Iman, and Tari Damayanti. "Pengaruh Penggunaan

²⁷ Ahmad Hanafi, "Improving The Ability To Memorize Arabic Vocabulary With The Application Of The Singing Method."

²⁸ Mamluatun Naimah, "Application of the Singing Method To Improve Arabic Vocabulary Memory in Mi Darussalam."

²⁹ Hanum, "Application of Singing Methods to Improve Vocabulary Mastery in Learning Arabic Language at Madrasah Ibtida'iyah."

- Metode Bernyanyi Terhadap Peningkatan Penguasaan Kosakata Bahasa Arab Siswa Madrasah Tsanawiyah." *Jurnal Of Islamic Studies Institut Agama Islam Al-Zaytun Indonesia* 1, no. 1 (2023): 48-56. <https://doi.org/10.61341/jis/v1i1.005>.
- Ahmad Hanafi, and Binti Solihah. "Improving The Ability To Memorize Arabic Vocabulary With The Application Of The Singing Method." *MUHIBBUL ARABIYAH: Jurnal Pendidikan Bahasa Arab* 2, no. 1 (2022): 49-60. <https://doi.org/10.35719/pba.v2i1.22>.
- Afif Kholisun Nashoih, and Miftachul Janah. "Efektivitas Crossword Puzzle Dalam Pembelajaran Bahasa Arab Sebagai Inovasi Pembelajaran Daring Di Masa Pandemi Covid-19." *Al-Lahjah: Jurnal Pendidikan, Bahasa Arab, Dan Kajian Linguistik Arab* 5, no. 2 (2022): 2615-2656. <https://doi.org/10.32764/al-lahjah.v5i2.2830>.
- Amanah Noor Pauseh, Nanda Nurul Azmi, and Alvira Pranata. "Analisis Faktor-Faktor Kesulitan Belajar Bahasa Arab Serta Solusinya Untuk Meningkatkan Hasil Belajar." *Armala Jurnal Pendidikan dan Sastra Arab* 3, no. 1 (2022): 47-56.
- Amiroh Nubaila Hanum. "Application of Singing Methods to Improve Vocabulary Mastery in Learning Arabic Language at Madrasah Ibtida'iyah." *Tanwir Arabiyyah: Arabic as Foreign Language Journal* 3, no. 2 (2023): 131-136. <https://doi.org/10.31869/afl.v3i2.4885>.
- Amiruddin Z Nur. "Efektivitas Penggunaan Metode Pengajaran Dalam Proses Pembelajaran." *Jurnal Al-Ibrah* 6, no. 1 (2019): 60-68.
- Ahmad Hanafi, and Binti Solihah. "Improving The Ability To Memorize Arabic Vocabulary With The Application Of The Singing Method." *MUHIBBUL ARABIYAH: Jurnal Pendidikan Bahasa Arab* 2, no. 1 (2022): 49-60. <https://doi.org/10.35719/pba.v2i1.22>.
- Alfi, Badrina, and Lismawati Lismawati. "Assessing Student Engagement in Qurdis Subject Using Wordwall." *Halaqa: Islamic Education Journal* 8, no. 1 (2024): 8-25. <https://doi.org/10.21070/halaqa.v8i1.1672>.
- Amanah Noor Pauseh, Nanda Nurul Azmi, Alvira Pranata. "Analisis Faktor-Faktor Kesulitan Belajar Bahasa Arab Serta Solusinya Untuk Meningkatkan Hasil Belajar." *Armala Jurnal Pendidikan Dan Sastra Arab* 3, no. 1 (2022): 47-56.
- Anggraeni Liza. "Kajian Kepustakaan Sistematis (Systematic Literature Review) Tentang Kebahagiaan (Happiness) Dab Kesejahteraan Psikologis (Subjective Well-Being) Mahasiswa Perguruan Tinggi Di Ngarab Berkembang&Maju Dari Tahun 2020-2024" 26 (2024): 38-77.
- Baiq Yuni Wahyuningsih, M. Abdurrahman Sunni. "Efektifitas Penggunaan Otak Kanan Dan Otak Kiri Terhadap Pencapaian Hasil Belajar Mahasiswa (Studi Kasus Pada Mahasiswa Program Studi Sistem Informasi STMIK Mataram)." *Palapa: Jurnal Studi Keislaman Dan Ilmu Pendidikan* 8, no. 2 (2020): 351-68. <https://doi.org/10.36088/palapa.v8i2.885>.
- Budianingsih, Tri. "Peran Neurolinguistik Dalam Pengajaran Bahasa." *Jurnal Al-Azhar Seri Humaniora* 3, no. 2 (2015): 137-49. <https://doi.org/10.36722/sh.v3i2.203>.
- Fitri Liza. "Analisis Metode Iqra Dalam Pembacaan Fawatihussuwar Mahasiswa FAI Uhamka." *Pendidikan Islam* 10, no. 1 (2019): 33-42.
- Fuadah, Salimatul. "Efektivitas Pembelajaran Al Tarjamah Al Fauriyah Dalam Meningkatkan Maharah Al Qira'ah Mahasiswa Semester 6 Pendidikan Bahasa Arab

- UIN Sunan Kalijaga Tahun Ajaran 2018/2019." *Maharaat: Jurnal Pendidikan Bahasa Arab* 3, no. 1 (2021): 71-92. <https://doi.org/10.18196/mht.v3i1.10125>.
- Hanum, Amiroh Nubaila. "Application of Singing Methods to Improve Vocabulary Mastery in Learning Arabic Language at Madrasah Ibtida'iyah." *Tanwir Arabiyyah: Arabic as Foreign Language Journal* 3, no. 2 (2023): 131-36. <https://doi.org/https://doi.org/10.31869/afl.v3i2.4885>.
- Liza, Fitri, Miatin Rachmawati, and Ayman Shahrou. "Fun Learning Arabic Speaking Skills Using Kinemaster Video." *Izdihar: Journal of Arabic Language Teaching, Linguistics, and Literature* 4, no. 3 (2021): 363-72. <https://doi.org/10.22219/jiz.v4i3.17851>.
- Mamluatun Naimah, Muallim Wijaya. "Application of the Singing Method To Improve Arabic Vocabulary Memory in Mi Darussalam." *Proceeding of 1st International Conference on Education, Society, and Humanity* 01, no. 01 (2023): 1253-58.
- Nashoih, Afif Kholisun, and Miftachul Janah. "Efektivitas Crossword Puzzle Dalam Pembelajaran Bahasa Arab Sebagai Inovasi Pembelajaran Daring Di Masa Pandemi Covid-19." *Al-Lahjah: Jurnal Pendidikan, Bahasa Arab, Dan Kajian Linguistik Arab* 5, no. 2 (2022): 2615-56. <https://doi.org/10.32764/al-lahjah.v5i2.2830>.
- Neng Titih, and Citra Resita. "Sosialisasi Permainan Playmat Sebagai Alternatif Media Pembelajaran Penjas." *Moroones Jurnal Pengabdian Universitas Singaperbangsa Karawang* 2, no. 02 (2022): 66-72.
- Nur, Amiruddin Z. "Efektivitas Penggunaan Metode Pengajaran Dalam Proses Pembelajaran." *Jurnal Al-Ibrah* 6, no. 1 (2019): 60-68.
- Nurmalia Hidayah, and Munirul Abidin. "Penerapan Metode Bernyanyi Dalam Meningkatkan Penguasaan Mufradat Bahasa Arab." *Jurnal Naskhi Jurnal Kajian Pendidikan Dan Bahasa Arab* 5, no. 2 (2023): 66-73. <https://doi.org/10.47435/naskhi.v5i2.2255>.
- Qolami, Hawa, and Ahmad Rizki Nugrahawan. "The Effectiveness of BARUSIDA Application on Arabic Learning Outcomes of Students at Junior High School." *Education and Social Sciences Review* 4, no. 2 (2023): 75. <https://doi.org/10.29210/07essr357600>.
- Ridwan, A. Fajar Awaluddin. "Penerapan Metode Bernyanyi Dalam Meningkatkan Penguasaan Mufradat Dalam Pembelajaran Bahasa Arab Di Raodhatul Athfal." *Didaktika: Jurnal Kependidikan* 13, no. 1 (2019): 56-67. <https://doi.org/https://doi.org/10.30863/didaktika.v13i1.252>.
- Samsul Anam, Dewi Lestari, Awalludin. "Efektivitas Metode Bernyanyi Terhadap Kemampuan Fonasi Mahasiswa." *Jurnal Penelitian Pendidikan Bahasa Indonesia, Daerah Dan Asing*. 3, no. 2 (2020): 167-81. <https://doi.org/https://doi.org/10.31540/silamparibisa.v3i2.1065>.
- Siti Aminuriyah, Suyitno, Murfiah Dewi Wulandari, Darsinah. "Upaya Guru Mengatasi Kejenuhan Belajar Siswa Full Day School Di SDIT Nur Hidayah Surakarta." *Jurnal Humaniora* 9, no. 3 (2024): 167-73. <https://doi.org/10.31316/gcouns.v8i3.5853>.
- Syamsiar dan Asyikin. "Peningkatan Mufradat Dalam Pembelajaran Bahasa Arab Dengan Metode Bernyanyi." *Jurnal Pendais* 3, no. 1 (2021): 46-62. <https://jurnal.uit.ac.id/JPAIs/article/view/1065/780>.
- Syaripah, Euis Siti, Nunung Nursyamsiah, and Hikmah Maulani. "Combined

- Application of Singing Method and Flash Card Media for Students' Mastery of Arabic Vocabulary." *International Journal of Arabic Language Teaching* 6, no. 01 (2024): 19. <https://doi.org/10.32332/ijalt.v6i01.8785>.
- Tari Damayanti, Ahmad Dardiri, and Maman DZul Iman. "Pengaruh Penggunaan Metode Bernyanyi Terhadap Peningkatan Penguasaan Kosakata Bahasa Arab Siswa Madrasah Tsanawiyah." *Jurnal Of Islamic Studies Institut Agama Islam Al-Zaytun Indonesia* 1, no. 1 (2023): 48–56. <https://doi.org/https://doi.org/10.61341/jis/v1i1.005>.
- Ubaidillah, Uu. "Upaya Memaksimalkan Otak Kanan Dalam Proses Pembelajaran Mipa Menggunakan Strategi Pembelajaran Inquiry." *Jurnal Ilmiah Penelitian Dan Kependidikan* 6, no. 4 (2022): 65–72.
- Ulwiyah, Nur, Eka Nurjanah, and Nur Ilmas Hariadi. "Implementasi Metode Bernyanyi Dan Media Tongkat Gambar Untuk Meningkatkan Kemampuan Menghafal Kosakata Arab." *Jurnal Pendidikan Dasar Islam* 4, no. 2 (2022): 72–102. <https://journal.unipdu.ac.id/index.php/jpdi/article/view/3452>.
- Ulya, Kairinnisa, Nelly Mujahidah, and Ardiansyah Ardiansyah. "Efektivitas Metode Bernyanyi Terhadap Kemampuan Menghafal Mufrodat Pada Mata Pelajaran Bahasa Arab Bagi Siswa Kelas IVa SD Muhammadiyah 01 Pontianak." *Armala* 4, no. 1 (2023): 57–77. <https://doi.org/10.24260/armala.v4i1.1749>.
- Zahratul Ulya, Nurul Wahdah, Marsiah. "Penerapan Metode Bernyanyi Dalam Pembelajaran Mufrodat Pada Siswa Madrasah Ibtidaiyah Di Indonesia." *Al-Afidah: Jurnal Pendidikan Bahasa Arab Dan Pengajarannya* 8, no. 1 (2024): 318–32. <https://doi.org/https://doi.org/10.52266/al-afidah.v8i1>.