



IMPROVING STUDENTS' ARABIC VOCABULARY MEMORIZING WITH COGNITIVE RETROACTIVE TRANSFER (CRT)

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Abstract

Learning Arabic vocabulary often brings difficulties, especially in memorizing and remembering vocabulary. Interesting learning methods can be a solution to these problems. This study aims to describe the application of the Cognitive Retroactive Transfer (CRT) method in Arabic vocabulary learning, focusing on honing students' cognitive abilities and memory so that they can easily remember and memorize the vocabulary they have learned. This study uses a pre-experimental design research approach with a one-group pretest-posttest and saturated sampling with a sample of 30 students. The data analysis technique used is the normality test to find out if the data that is distributed is normally distributed. Furthermore, the researchers used the Paired Sample T-Test and Effectiveness Test to determine the effectiveness of the applied method. The Cognitive Retroactive Transfer (CRT) method is applied by giving a test which is then assessed directly by the teacher. The teacher provides an evaluation and the test is applied directly by the students in everyday life. With this method, students are expected to be able to remember and memorize the Arabic vocabulary they have learned. The trial application of the Cognitive Retroactive Transfer (CRT) method reaped positive results where approximately 70% of class IX students at SMP Muhammadiyah 1 Malang City were able to remember and apply the vocabulary they had learned when communicating in daily life.

Keywords: *Arabic Language, Cognitive Retroactive Transfer, Vocabulary, Learning Method*

Abstract

Pembelajaran kosakata bahasa Arab seringkali menuai kesulitan terutama dalam menghafal dan mengingat kosakata. Metode pembelajaran yang menarik dapat menjadi sebuah solusi dari permasalahan tersebut. Penelitian ini bertujuan untuk menggambarkan penerapan metode *Cognitive Retroactive Transfer (CRT)* pada pembelajaran kosakata bahasa Arab berfokus untuk mengasah kemampuan kognitif dan daya ingat siswa, sehingga siswa dapat dengan mudah mengingat dan menghafal kosakata yang telah dipelajari. Penelitian ini menggunakan jenis penelitian pre-eksperimental design dengan *One Grup Pre Test-Post Test* dan sampling jenuh dengan sampel sebanyak 30 siswa. Teknik analisis data yang digunakan adalah *Uji Normalitas* untuk mengetahui data yang disebarkan berdistribusi

normal. Selanjutnya peneliti menggunakan *Uji T Paired Sample T-Test* dan *Uji Efektivitas* untuk mengetahui efektivitas dari metode yang diterapkan. Metode *Cognitive Retroactive Transfer (CRT)* diterapkan dengan memberikan sebuah tes yang kemudian dinilai langsung oleh guru, guru memberikan evaluasi dan diterapkan secara langsung oleh siswa dalam kehidupan sehari-hari. Dengan adanya metode tersebut diharapkan siswa mampu mengingat dan menghafal kosakata bahasa Arab yang telah dipelajari. Uji coba penerapan metode *Cognitive Retroactive Transfer (CRT)* ini menuai hasil yang positif dimana kurang lebih sebanyak 70% siswa kelas IX SMP Muhammadiyah 1 Kota Malang dapat mengingat dan menerapkan kosakata yang telah mereka pelajari ketika berkomunikasi dalam kehidupan sehari-hari.

Kata Kunci: *bahasa Arab, cognitive retroactive transfer, kosakata, metode pembelajaran.*

INTRODUCTION

Arabic is one of the languages that must be studied in Islamic educational institutions in Indonesia. In learning Arabic, there are several components that must be considered, one of which is vocabulary. An adequate vocabulary will support a person's success in learning Arabic.¹ Vocabulary is one of the important aspects of learning both Arabic and non-Arabic languages, because without knowing vocabulary, a person will not be able to start learning the language. According to a linguist named Horn, who argues that vocabulary is a fragment of words that, when put together, form a sentence.²

Arabic vocabulary is also very influential on the ability of other language skills. If the vocabulary owned by the language learner is low, it is unlikely that someone can easily learn Arabic.³ Vocabulary mastery for Arabic learners is the main thing that must be improved, because the more vocabulary they have, the easier it will be for someone to learn Arabic.⁴

Nowadays, many Arabic students and learners have difficulty receiving lessons and improving their language skills. The main factor in the difficulties they face is the lack of vocabulary they have. Among the many difficulties that occur in students' learning vocabulary is the difficulty of remembering

¹ Jepri Nugrawiyati, "Pembelajaran Kosakata Bahasa Arab Di Madrasah Ibtidaiyah," *El-Wasathiya: Jurnal Studi Agama* (2015): 194–212, <http://ejournal.kopertais4.or.id/mataraman/index.php/wasathiya/article/view/2012>.

² Nuril Mufidah dan Intan Izha Rohimah, "Pengajaran Kosa Kata Untuk Mahasiswa Kelas Intensif Bahasa Arab," *Kaos GL Dergisi* 8, no. 75 (2020): 147–154, <https://doi.org/10.1016/j.jnc.2020.125798> <https://doi.org/10.1016/j.smr.2020.02.002> <http://www.ncbi.nlm.nih.gov/pubmed/810049> <http://doi.wiley.com/10.1002/anie.197505391> <http://www.sciencedirect.com/science/article/pii/B9780857090409500205>

³ Nurul Isnaini and Nurul Huda, "Pengembangan Media Pembelajaran Kosakata Bahasa Arab Berbasis Permainan My Happy Route Pada Siswa Kelas VIII MTsN 10 Sleman," *Al Mi'yar: Jurnal Ilmiah Pembelajaran Bahasa Arab dan Kebahasaaraban* 3, no. 1 (2020): 1.

⁴ Ihsan Ihsan and Syarifah Fatimah Al-Ilmul, "Problematika Mahasiswa Pendidikan Bahasa Jerman Yang Belum Pernah Mendapatkan Pelajaran Bahasa Jerman Di Jenjang Pendidikan Sebelumnya," *Interference: Journal of Language, Literature, and Linguistics* 2, no. 2 (2021): 137.

vocabulary that has been studied before because of the new vocabulary that sounds like the old vocabulary.⁵

The difficulty in learning Arabic vocabulary is also experienced by the class IX students of SMP Muhammadiyah 1 Malang City, where they find it difficult to remember the many words they have learned. From the results of interviews and observations made by researchers on Arabic language teachers and some students in class IX, SMP Muhammadiyah 1, Malang City, it is clear that the difficulty in learning Arabic vocabulary lies in the difficulty of students' ability to remember vocabulary and less effective learning methods. Not only that, Sulton Firdaus and Siti Hafida also explained in their writing that many language learners experience difficulties memorizing Arabic vocabulary, including students at MA Nurul Jadid Paiton Probolinggo, so the creativity of a teacher in teaching is needed to be a solution in overcoming this problem.⁶

According to several previous studies, it is understood that in order to overcome students' difficulties in learning Arabic vocabulary, interesting and interactive methods are needed so that they can improve mastery and make it easier for students to learn Arabic vocabulary.⁷ From the many difficulties faced by students learning Arabic vocabulary, various interesting and interactive vocabulary learning methods have emerged.

One of the vocabulary learning methods that has been applied is the singing method. The singing method is a vocabulary learning method that is carried out by making Arabic vocabulary into poetry so that in its application, the teacher provides the vocabulary in the form of poetry that is sung with the students in class. This singing method is considered effective and can provide benefits for students, including training gross motor skills, developing students' cognitive abilities, and forming self-confidence in students.⁸ In addition to the benefits that can be taken from the singing method, there are also weaknesses in the application of this method where this singing method is more suitable if used for early childhood.⁹

In addition, Moh. Faizin and Zulfah (2019) explained that the game would make it easier for students to memorize Arabic vocabulary, one of which was the domino card game. The application of

⁵ R A Murti and A J Antoro, "Meningkatkan Kosakata Siswa Menggunakan Lagu 'Hallo Song for Kids' Kelas Di 10a Smk Negeri 1 Pedan," *Buletin Pengembangan Perangkat ...* 1, no. 2 (2019): 25–27, <http://journals.ums.ac.id/index.php/bppp/article/view/11949>.

⁶ Sulton Firdaus and Siti Hafidah, "Mnemonik : Solusi Kreatif Untuk Meningkatkan Kemampuan Menghafal Kosa Kata Bahasa Arab Siswi Madrasah Aliyah Nurul Jadid," *Palapa* 8, no. 1 (2020): 81–96.

⁷ Widi Astuti, "Berbagai Strategi Pembelajaran Kosa Kata Bahasa Arab Widi Astuti," *Jurnal Komunikasi dan Pendidikan Islam* 5, no. 2 (2016): 178–190, <https://journal.staimsyk.ac.id/index.php/almanar/article/view/38>.

⁸ Ahmad Qomaruddin, "Implementasi Metode Bernyanyi Dalam Pembelajaran Mufradāt," *Jurnal Kependidikan* 5, no. 1 (2017): 25–36.

⁹ Ridwan Ridwan and 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.

this domino card game method is the same as the domino card game in general, where students are divided into several groups, each group consisting of 3 people. The application of this domino card game allows students to be more active and enjoy learning the main vocabulary while memorizing Arabic vocabulary. However, this domino card game that is applied is more difficult in determining how to play dominoes because, in general, this game is only played by four people, so apart from four people, the game will seem boring.¹⁰

Faiqoh and Huda (2018) also explain that the field trip method can also be used as a method of learning Arabic vocabulary where this method provides direct access for students to travel in the learning process in which the teacher provides vocabulary related to all objects and activities that they encounter during the trip.¹¹

Raissi et al. (2020) say that the phenomenon of the existence of new material being studied can affect the loss of old material that has been studied and is a common phenomenon that occurs in language learners that affects one's memory.¹² This phenomenon also occurs and is experienced by class IX students of SMP Muhammadiyah 1 Malang City. Therefore, in this case, the researcher offers a new memorization method that not only involves intellectual intelligence in students but also uses memory intelligence in memorizing Arabic vocabulary.

The *Cognitive Retroactive Transfer method* is an Arabic learning method that has been used by trilingual learners in Israel. As explained by Abu Rabia and Wael Shakkour in their scientific work entitled "*Cognitive Retroactive Transfer (CRT) of Language Skills Among Trilingual Arabic-Hebrew and English Learners*", the CRT method is a learning method used as a method to improve Arabic language skills. by using cognitive intelligence and student memory.¹³

In a study conducted by Abu Rabia, Wael Shakkour, and Linda Siegel (2013) about the *Cognitive Retroactive Transfer (CRT) method* in two-language learning where L1 is Arabic and L2 is English. The application of the CRT method focuses on improving Arabic language skills by learning English first. The results of the research conducted by Abu Rabia, Wael Shakkour, and Linda Siegel are outlined in their article entitled "*Cognitive Retroactive Transfer (CRT) Of Language Skills Among Bilingual Arabic-English Readers.*" The application of the CRT method is also based on the similarity

¹⁰ Moh. Faizin and M. Dzirkul Hakim Al-Ghozali Machnunah Ani Zulfah, "Penggunaan Permainan Kartu Domino Untuk Meningkatkan Kemampuan Hafalan Mufrodah Bahasa Arab Pada Siswa Kelas VII Di MTs Tarbiyatus Shibyan Surabaya" 1, no. 2 (2019): 119–127, <http://ejournal.kopertais4.or.id/tapalkuda/index.php/LAN/article/view/3755>.

¹¹ Naning Ma'rifatul Faiqoh and Nurul Huda, "Eksperimentasi Metode Karyawisata Dalam Meningkatkan Kemampuan Menghafal Kosa Kata Bahasa Arab," *al Mahāra: Jurnal Pendidikan Bahasa Arab* 4, no. 2 (2018): 219–238.

¹² Reyhaneh Raissi et al., "Retroactive Transfer Phenomena in Alternating User Interfaces To Cite This Version : HAL Id: Hal-02452719 Retroactive Transfer Phenomena in Alternating User Interfaces" (2020), <https://dl.acm.org/doi/abs/10.1145/3313831.3376538>.

¹³ Salim Abu-Rabia and Wael Shakkour, "Cognitive Retroactive Transfer (CRT) of Language Skills among Trilingual Arabic-Hebrew and English Learners," *Open Journal of Modern Linguistics* 04, no. 01 (2014): 1–20.

of the Arabic and English phonological systems. Abu Rabia et al. (2013) explained that in its application it was enforced by making Arabic teachers English or foreign language teachers. This is done so that in learning English, the teacher always provides Arabic conversation little by little so that students can easily understand and learn the main language skills in communicating and reading.¹⁴

Holston, an American psychologist, also believes that cognitive abilities also greatly influence the learning process of students, especially in memorizing activities. According to Holston, the cognitive ability possessed by students is the ability to think, remember, and also make sense of knowledge.¹⁵

Based on the above research, which has described the Cognitive Retroactive Transfer (CRT) method, in this study the researchers tried to apply the Cognitive Retroactive Transfer (CRT) method to learning two languages, where Indonesian is the first language and Arabic is the second language studied. In this study, researchers used the Cognitive Retroactive Transfer (CRT) method as an Arabic learning method that focuses on students' vocabulary memorization skills.

This study aims to describe the implementation of the Cognitive Retroactive Transfer (CRT) method in learning Arabic vocabulary and test its effectiveness. This research also contributes to increasing the variety of Arabic learning methods so that Arabic learning can be developed according to the needs of the students.

METHOD

This research is a type of pre-experimental design research that uses One Group Pre-Test-Post Test because in this study the researcher only uses one class as the object of research that acts as an experimental class without a control class and saturated sampling because the researcher uses the entire number of class IX students. SMP Muhammadiyah 1 Malang City, totaling 30 students as the research sample.

As for the data collection techniques, the researchers used interview and observation techniques as the first step to obtaining information, then the information was strengthened by the distribution of questionnaires, tests, and also viewing of certain documents as a form of documentation. To strengthen the data already owned by the researcher, several hypothesis tests will be carried out, such as the Normality Test, which measures the normality of the distribution of data, both questionnaires, and tests conducted by researchers. This normality test is conducted to determine whether the data provided by

¹⁴ Salim Abu-Rabia, Wael Shakkour, and Linda Siegel, "Cognitive Retroactive Transfer (CRT) of Language Skills Among Bilingual Arabic-English Readers," *Bilingual Research Journal* 36, no. 1 (2013): 61–81.

¹⁵ Yun Chang, Bingyu Li, and Junqing Lu, "English Vocabulary Teaching from a Cognitive Perspective," *OALib* 08, no. 09 (2021): 1–8.

the researcher is normally distributed or not¹⁶. The results of testing the distribution of research data are as follows :

Table 1. Test Of Normality Result

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre Test	.184	30	.011	.939	30	.086
Post Test	.160	30	.049	.943	30	.111

a. Lilliefors Significance Correction

Based on the table above, it shows that the distribution of the research data is 0.111%, which can be said to be 0.05 where the data is normally distributed. The determination of the data normality scale can be seen from the data normality scale criteria using SPSS. If sig 0.05, then the data is not normally distributed, but if sig 0.05, then the data is normally distributed.¹⁷

After testing the normality of the data and knowing that the data is normally distributed, then a T-test is carried out using the Paired Sample T-Test to find out whether there is a significant difference in the students' mean scores between before and after being treated, and the Effectiveness Test using the Ngain formula to find out the effectiveness of the methods that have been applied and provide assurance that the data obtained are on a normal scale or not. The classification of effectiveness test results using the Ngain formula refers to Meltezer's theory; 2002¹⁸ are as follows :

Table 2. Classification of Ngain Rumus Formula Effectiveness Test Results

Nilai (g)	Klasifikasi
$0,7 \leq (g)$	Tinggi
$0,3 < (g) < 0,7$	Sedang
$(g) < 0,3$	Rendah

¹⁶ Dody Fahmeyzan, Siti Soraya, and Desventri Etmy, "Uji Normalitas Data Omzet Bulanan Pelaku Ekonomi Mikro Desa Senggigi Dengan Menggunakan Skewness Dan Kurtosi," *Jurnal VARIAN* 2, no. 1 (2018): 31–36.

¹⁷ Pratik Hari Yuwono, Yudha Febrianta, and Universitas Muhammadiyah Purwokerto, "Efektivitas Media Pembelajaran Adobe Flash Terhadap," *JRPD (Jurnal Riset Pendidikan Dasar)* 1, no. 1 (2020): 83–92, <http://jurnalnasional.ump.ac.id/index.php/jrpd/article/view/7935>.

¹⁸ M Fayakun and P Joko, "Efektivitas Pembelajaran Fisika Menggunakan Model Kontekstual (Ctl) Dengan Metodepredict, Observe, Explain Terhadap Kemampuan Berpikir Tingkat Tinggi," *Jurnal Pendidikan Fisika Indonesia* 11, no. 1 (2015): 49–58.

RESULT AND DISCUSSION

Cognitive development in the world of education is needed because, with the cognitive development of students, learning will also develop. This is because the cognitive ability is the thinking ability of every human being, which is really needed in teaching and learning activities. In addition, considering the purpose of learning itself is to provide and develop one's abilities, which indirectly involves students' cognitive abilities.¹⁹

Recognizing *retroactive* words is a phenomenon that is faced by many language learners where students experience memory loss or "forget" the vocabulary that has been learned due to the presence of new vocabulary that has a sound that resembles the old vocabulary.²⁰ The importance of cognitive intelligence abilities for language learners has also been conveyed by Lei Wang in his writings. Cognitive intelligence also greatly influences the language transfer process because, cognitively, language learners will express their thoughts in spoken and written form.²¹

This phenomenon has also been faced by class IX students of SMP Muhammadiyah 1 Malang City, where the memory loss is related to the Arabic vocabulary they have learned. Therefore, the researchers tried to use the *Cognitive Retroactive Transfer (CRT)* method to deal with the problems being faced by class IX students at SMP Muhammadiyah 1 Malang City.

The application of the *Cognitive Retroactive Transfer (CRT)* method is also based on the similarity of the phonological systems between Indonesian and Arabic. The similarity of the phonological systems between Indonesian and Arabic has been proven by Lina Marlina (2019) in her research, which uses the synchronic method to show the similarities and differences between Indonesian and Arabic dialects.²² The similarities between the Indonesian and Arabic phonological systems can be seen in the following table:

Tabel 3. Phonological Similarities Between Arabic and Indonesian In Terms Of Makhraj And The Nature Of The Letters

No	Sound		Explanation
	Arabic	Indonesian	
1	ب	B	Bilabial, inhibit and voice
2	م	M	Bilabial, nasal, and voice
3	و	W	Bilabial, semi-vocal

¹⁹ Sutarto Sutarto, "Teori Kognitif Dan Implikasinya Dalam Pembelajaran," *Islamic Counseling: Jurnal Bimbingan Konseling Islam* 1, no. 2 (2017): 1.

²⁰ Minyan Ge et al., "Memory Susceptibility to Retroactive Interference Is Developmentally Regulated by NMDA Receptors," *Cell Reports* 26, no. 8 (2019): 2052-2063.e4, <https://doi.org/10.1016/j.celrep.2019.01.098>.

²¹ Lei Wang, "Cognitive Mechanism of Language Transfer: Brain Potential Data Analysis in English Comprehension," *NeuroQuantology* 16, no. 5 (2018): 369-374.

²² Lina Marlina, "Analisis Kontrasif Fonologi Bahasa Arab Dan Bahasa Indonesia Dalam Pembelajaran Pidato Bahasa Arab Pada Program Studi Pendidikan Bahasa Arab UIN Sunan Gunung Djati Bandung," *Metalingua* 18, no. 2 (2019): 125-134, <http://metalingua.kemdikbud.go.id/jurnal/index.php/metalingua/article/view/314/148>.

No	Sound		Explanation
	Arabic	Indonesian	
4	ف	F	Labio-dental, silent, and sliding
5	ج	J	Lamino-palatal, alloy, and voice
6	ك	K	Dorso-velar, obstacle, and silent
7	ر	R	Apiko-alveolar, vibrate and sound
8	ز	Z	Apiko-alveolar, silent and sliding
9	س	S	Apiko-alveolar, silent and sliding
10	هـ	H	Laringal, silent, and sliding

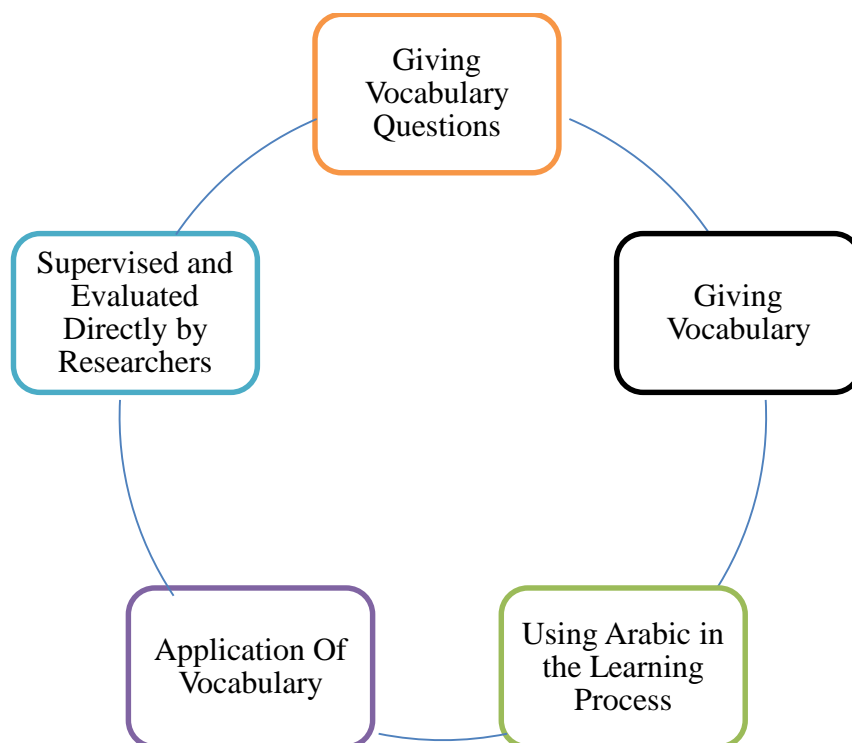
Phonological awareness is needed for every student applying the *Cognitive Retroactive Transfer (CRT)* method. Because phonology is a branch of sound science that discusses the sounds of language by considering their meaning and function.²³ The science of phonology in the field of phonemics also needs to be studied with the aim of distinguishing every sound of language produced by the human speech apparatus. Likewise, in recognizing Arabic vocabulary, by studying the field of phonemics, students can distinguish the function and meaning of each word they learn.²⁴

Abu Rabia, Wael Shakkour, and Linda Siegel applied the *Cognitive Retroactive Transfer (CRT)* method by providing various assignments and questions in the form of reading in English and Arabic. After students read the readings in English and Arabic individually, the results of their work on the questions are given to the teacher. After knowing the results of working on these questions, students are required to practice these readings by reading directly in front of the teacher.²⁵ In this study, researchers also applied the Cognitive Retroactive Transfer (CRT) method, as previously applied by previous researchers, by adding several other learning methods as supporting methods. The process of implementing the Cognitive Retroactive Transfer (CRT) method carried out by researchers can be seen in the diagram below :

²³ Asy'ari Hasyim, "Keistimewaan Bahasa Arab Sebagai Bahasa Al-Qur'an," *Nidhomul Haq: Jurnal Manajemen Pendidikan Islam* 1, no. 1 (2016): 1–28, <http://e-journal.ikhac.ac.id/index.php/nidhomulhaq/article/view/4>.

²⁴ Ahmad Suherman, "Perubahan Fonologis Kata-Kata Serapan Bahasa Sunda Dari Bahasa Arab: Studi Kasus Pada Masyarakat Sunda Di Jawa Barat, Indonesia," *Sosiohumanika* 5, no. 1 (2012): 21–38, <https://journals.mindamas.com/index.php/sosiohumanika/article/viewFile/456/454>.

²⁵ Abu-Rabia, Shakkour, and Siegel, "Cognitive Retroactive Transfer (CRT) of Language Skills Among Bilingual Arabic-English Readers."



The application of the CRT method carried out by researchers with class IX students at SMP Muhammadiyah 1 Malang City began with the researcher giving questions about vocabulary that students would learn to measure students' knowledge of vocabulary. After knowing the results of working on these questions, the researchers directly provided vocabulary related to students' daily lives. The researcher then required the students to use this vocabulary when communicating in their daily lives. The application of these vocabulary was supervised directly by the researcher so that students could continue to apply the vocabulary they had learned.

The application of Arabic vocabulary that is carried out aims to create a long-term memory, commonly referred to as a long-term memory, in students' memories, so that students are able to remember the vocabulary they have learned well and it can last a long time.²⁶ However, considering the current condition that Arabic is a foreign language being studied, it is necessary to introduce introductory methods as a form of introducing Arabic vocabulary to students. The introductory methods used are the drill method and the *tarjamah* method.

The drill method is used by researchers so that students learn and understand vocabulary first. Then this method is also used so that students can remember the sounds and forms of the newly taught Arabic vocabulary. In addition, according to Nugroho et al. (2014), this drill method also has the potential to improve students' thinking and remembering skills in identifying the different sounds of

²⁶ Aditya Dwitama, "Pengaruh Metode Praktek Terhadap Lay Up Shoot Dalam Pembelajaran Bola Basket," *Jurnal Ilmiah FKIP Universitas Subang ISSN (p) 2461-3961 (e) 2580-6335 Pengaruh* 4, no. 01 (2018), <http://ejournal.unsub.ac.id/index.php/FKIP/article/view/208>.

the vocabulary they have acquired.²⁷ Because, according to Mauludiyah (2020), the drill process is something that is repeated so that students can be more careful in their pronunciation and identify the sounds of the vocabulary they learn.²⁸

After the drill method was applied, the researcher used the tarjamah method, in which the researcher always used Arabic and provided translations to the Indonesian language directly to students, so that students could easily understand and understand how to communicate and increase their vocabulary in Arabic. According to Calis and Dikilitas (2012), the tarjamah method is also used to train students to express their thoughts both orally and in writing.²⁹

After the researchers applied the method to learning Arabic in class IX SMP Muhammadiyah 1 Malang City, the researchers conducted further interviews using questionnaires or questionnaires given to all students to obtain information and find out whether there was an increase in student learning outcomes in class IX SMP Muhammadiyah 1 Malang City.³⁰ The results of this interview are shown in the following table :

Table 4. Percentages of Questionnaire Results

No.	Statement	Total Answer Score	Approval Rate as a Percentage
1	The first time I saw Arabic, I was sure it was a difficult subject to understand.	105	70
2	I'm more enthusiastic about learning Arabic now that I know why I'm doing it.	113	75
3	I find it easier to learn Arabic once I know the Arabic vocabulary.	119	79
4	I find it easier to learn Arabic when the teacher uses Arabic in delivering lessons.	77	51
5	I find it easier to understand Arabic after I try to practice Arabic to communicate with teachers and friends.	93	62
6	After trying to practice and recognize Arabic vocabulary, it turns out that learning Arabic is not as difficult as I imagined.	98	65
7	I can remember all the Arabic vocabulary that I have learned.	85	57
8	I find it easier to use Arabic if I can remember the vocabulary I have learned.	117	78
9	I can easily remember Arabic vocabulary if the vocabulary is often spoken and used in everyday life.	113	75

²⁷ S. Nugroho, T. Redjeki, and S. Mulyani, "Penerapan Metode Drill and Practice Dilengkapi Modul Untuk Meningkatkan Keaktifan Dan Prestasi Belajar Pada Materi Pokok Hidrolisis Garam Kelas Xi Ipa 5 Sma Negeri 7 Surakarta Tahun Pelajaran 2012 / 2013," *Jurnal Pendidikan Kimia Universitas Sebelas Maret* 3, no. 4 (2014): 93–99, <https://jurnal.fkip.uns.ac.id/index.php/kimia/article/view/4539>.

²⁸ Lailatul Mauludiyah, "Oral Reading Fluency (ORF) Method to Improve Arabic Reading Comprehension," *LISANIA: Journal of Arabic Education and Literature* 4, no. 2 (2020): 127–139.

²⁹ Eda Calis and Kenan Dikilitas, "The Use of Translation in EFL Classes as L2 Learning Practice," *Procedia - Social and Behavioral Sciences* 46 (2012): 5079–5084, <http://dx.doi.org/10.1016/j.sbspro.2012.06.389>.

³⁰ Mufti Hasan Alfani, "Analisis Pengaruh Quality of Work Life (Qwl) Terhadap Kinerja Dan Kepuasan Kerja Karyawan Pt. Bank Bri Syariah Cabang Pekanbaru," *Jurnal Tabarru': Islamic Banking and Finance* 1, no. 1 (2018): 1–13.

No.	Statement	Total Answer Score	Approval Rate as a Percentage
10	Understanding and memorizing vocabulary is the first step in learning Arabic.	127	85

Based on the continuum value, the table above shows that statements number 4 to number 7 are on a doubtful scale, while statements numbered 1, 2, 3, 8 to 10 are on an agreeable scale. From the results of the percentage calculation of the questionnaire above, it can be concluded that grade IX students of SMP Muhammadiyah 1 Malang City can understand Arabic if they know and can remember the vocabulary they are learning. However, these students can only remember part of the vocabulary.

The data from the questionnaire was also corroborated by the data on the acquisition of student learning outcomes that had been calculated using a discriminatory test to measure students' abilities before and after the use of the *Cognitive Retroactive Transfer (CRT)* method. This differentiating test is used to see if there is a difference or effect from the application of the method with the criteria for obtaining the significance t scale as follows: if the significance $t < 0.05$ then there is no significant difference or change, and if the significance $t > 0.05$ then it can be said there is a significant difference.³¹ The data obtained from the differentiating test in this study is as follows :

Table 5. Calculating Test Calculation Results

Paired Samples Test										
Paired Differences										
95% Confidence										
Std. Interval of the										
Std. Error Difference										
Mean	Deviation	Mean	Lower	Upper	t	f	Sig. (2-tailed)			
Pair 1 Pre-Test - Post Test	-12.500	18.971	3.464	-19.584	-5.416	-3.609	29	.001		

Based on the table exposure on the results of the differentiation test above, it shows that there are significant differences in student learning outcomes before and after the implementation of this method.

³¹ Ade Kirana Aryani, Hadi Suwono, and Parno Parno, "Peningkatan Hasil Belajar Peserta Didik Melalui Pembelajaran Berbasis Proyek Dengan Peer Assesment Pada Konsep Klasifikasi Makhluk Hidup," *Jurnal Pendidikan: Teori, Penelitian, dan Pengembangan* 2, no. 8 (2017): 1141–1148, <http://journal.um.ac.id/index.php/jptpp/article/view/9908/4687>.

After knowing that there is a significant difference in the learning outcomes of class IX students of SMP Muhammadiyah 1 Malang City in Arabic subjects using the *Cognitive Retroactive Transfer (CRT)* method, the effectiveness of the learning method will be tested using the effectiveness test with the Ngain formula. The results of testing the data using the Ngain formula above are as follows :

Tabel 6. Ngain. Effectiveness Test Calculation Results

		Descriptives	
Kelas		Statistic	Std. Error
Kelas IX	Mean	16.9645	12.74656
	95% Confidence Interval for Mean	-9.1892	
	Lower Bound		
	Upper Bound	43.1183	
	5% Trimmed Mean	23.4791	
	Median	30.0000	
	Variance	4549.292	
	Std. Deviation	67.44844	
	Minimum	-166.67	
	Maximum	80.00	
	Range	246.67	
	Interquartile Range	66.67	
	Skewness	-1.841	.441
	Kurtosis	2.839	.858

Based on the table above, shows that the results of testing the data using the CRT method are 16.9645% which is included in the calculation index of the Ngain formula can be categorized on a scale of 0.7 (g) and can be said to be on a high scale. Seeing the results of calculating the effectiveness test using the Ngain formula above where the results are included in the high category, the application of the Cognitive Retroactive Transfer (CRT) method in learning Arabic in class IX SMP Muhammadiyah 1 Malang City can be said to be effective.

As the results of the research above show, the phenomenon of retroactive or forgetting is often experienced by many people as well as students. The phenomenon of forgetting or losing a memory that has been owned is a phenomenon related to memory in the human brain. According to Rika Purnamasari (2018), the relationship between memory and the learning process is very close because

memory is a tool for students to remember all the information provided.³² Differences in memory in each human brain will also affect their learning outcomes.³³ Therefore, in every learning situation, the right and interesting method is needed to provide a stimulus and increase students' learning motivation. This is because the use of the right method will greatly affect the students' ability to remember.³⁴

Talking about memory, or commonly referred to as memory, will not be separated from the cognitive abilities that exist in every human being. According to Lazim (2013), cognitive ability is the thinking ability of every human being, which, in this case, is also owned by students.³⁵ Cognitive ability is very closely related to memory ability or memory because the cognitive ability is also the ability to process information to become knowledge where the information is processed in memory.³⁶ Therefore, in designing learning methods, cognitive and memory aspects need to be considered in order to create effective learning.³⁷

Strong cognitive and memory skills are also needed for learning Arabic. To build cognitive abilities and strong memories, an interesting method is needed in the learning process, one of which is the *Cognitive Retroactive Transfer (CRT)* method, which aims to hone students' cognitive abilities and memory in the learning process.

The *Cognitive Retroactive Transfer (CRT)* method has been previously applied to Arabic and English learners to improve one language skill.³⁸ This CRT method aims to improve and hone students' abilities in learning Arabic in a way that does not only rely on intellectual intelligence but also uses students' cognitive abilities and memory so that students do not only remember language vocabulary in a short period of time. The activity of transferring knowledge from teachers to students using students'

³² Rika Purnamasari, "Strategi Pembelajaran Mnemonic Untuk Meningkatkan Memori Siswa," *Sipatahoenan: South-East Asian Journal for Youth, Sports & Health Education* 4, no. 2 (2018): 125–138, <https://journals.mindamas.com/index.php/sipatahoenan/article/view/1101>.

³³ Jacie R. McHaney et al., "Working Memory Relates to Individual Differences in Speech Category Learning: Insights from Computational Modeling and Pupillometry," *Brain and Language* 222 (2021): 105010, <https://doi.org/10.1016/j.bandl.2021.105010>.

³⁴ Mohammad S.E. Sendi et al., "Identifying the Neurophysiological Effects of Memory-Enhancing Amygdala Stimulation Using Interpretable Machine Learning," *Brain Stimulation* 14, no. 6 (2021): 1511–1519, <https://doi.org/10.1016/j.brs.2021.09.009>.

³⁵ Otang Kurniaman1 dan Lazim, "Pelaksanaan Pengukuran Ranah Kognitif, Afektif, Dan Psikomotor Pada Mata Pelajaran IPS Kelas III SD Muhammadiyah Palangkaraya," *Journal Tunas Bangsa* 13 (2013): 185–197, <http://journal.umpalangkaraya.ac.id/index.php/anterior/article/view/295>.

³⁶ Nilza Humaira Salsabila, "Proses Kognitif Dalam Pembelajaran Bermakna," *Konferensi Nasional Penelitian Matematika dan Pembelajarannya II*, no. Knpmp li (2017): 434–443, <https://publikasiilmiah.ums.ac.id/xmlui/handle/11617/8830>.

³⁷ Tuti Garnasih, "Kemampuan Siswa Dalam Mengelola Extraneous Cognitive Load Pada Pembelajaran Klasifikasi Tumbuhan Dengan Menggunakan Apersepsi Tayangan Video," *Jurnal Bioeduin : Program Studi Pendidikan Biologi* 8, no. 2 (2018): 29–33.

³⁸ Wael Shakkour, "Cognitive Skill Transfer in English Reading Acquisition: Alphabetic and Logographic Languages Compared," *Open Journal of Modern Linguistics* 04, no. 04 (2014): 544–562.

cognitive skills to deal with existing retroactive interference is called *Cognitive Retroactive Transfer (CRT)*.³⁹

The application of the *Cognitive Retroactive Transfer (CRT)* method in learning Arabic for class IX SMP Muhammadiyah 1 Malang City can give good results where class IX students can easily remember and memorize approximately 75% of the vocabulary that has been given. In addition, grade IX students can also communicate using the vocabulary they have learned with their teachers and peers.

CONCLUSION

The application of the Cognitive Retroactive Transfer (CRT) method in class IX SMP Muhammadiyah 1 Malang City is carried out in several stages. In the first stage, the researcher gave practice questions related to Arabic vocabulary to measure students' vocabulary knowledge. Then, after knowing the results of working on these questions, a direct evaluation is carried out between the teacher and each student. After evaluating, students are required to use Arabic vocabulary as a means of communication in their daily lives. Therefore, when learning takes place both inside and outside the classroom, students always use the Arabic vocabulary they have learned as a means of communication with both the teacher and their peers. The application of the vocabulary was monitored and evaluated directly by the researcher. Given that Arabic is the second language studied, the researchers need introductory methods as a form of vocabulary recognition and procedures for communicating using Arabic. The introductory method used is the drill and tarjamah method. The application of the vocabulary aims to improve students' cognitive abilities and memory of the vocabulary that has been studied so that they can remember the vocabulary for a long time. It is referred to as the "Cognitive Retroactive Transfer (CRT) method because of the knowledge transfer activities that involve students' cognitive abilities and memory to deal with existing retroactive interference. Therefore, in applying the Cognitive Retroactive Transfer (CRT) method, the researchers found an increase in students' cognitive skills and memory in learning Arabic vocabulary. This is evidenced by students being able to communicate using Arabic and by students being able to remember and memorize some of the vocabularies that has been given.

Research using the Cognitive Retroactive Transfer (CRT) method can be used as a reference and a reference for further similar research. The research conducted by this researcher has many shortcomings considering the limitations and insights of the researchers themselves and conditions that

³⁹ Abu-Rabia, Shakkour, and Siegel, "Cognitive Retroactive Transfer (CRT) of Language Skills Among Bilingual Arabic-English Readers."

are not possible. Therefore, the researcher hopes that further researchers can provide and improve this research so that this research can continue to develop and become better.

The findings of a study on the Cognitive Retroactive Transfer (CRT) method conducted by researchers at SMP Muhammadiyah 1 Malang City with a population and sample of class IX students were never published.

REFERENCES

- Abu-Rabia, Salim, and Wael Shakkour. "Cognitive Retroactive Transfer (CRT) of Language Skills among Trilingual Arabic-Hebrew and English Learners." *Open Journal of Modern Linguistics* 04, no. 01 (2014): 1–20.
- Abu-Rabia, Salim, Wael Shakkour, and Linda Siegel. "Cognitive Retroactive Transfer (CRT) of Language Skills Among Bilingual Arabic-English Readers." *Bilingual Research Journal* 36, no. 1 (2013): 61–81.
- Alfani, Mufti Hasan. "Analisis Pengaruh Quality of Work Life (Qwl) Terhadap Kinerja Dan Kepuasan Kerja Karyawan Pt. Bank Bri Syariah Cabang Pekanbaru." *Jurnal Tabarru': Islamic Banking and Finance* 1, no. 1 (2018): 1–13.
- Aryani, Ade Kirana, Hadi Suwono, and Parno Parno. "Peningkatan Hasil Belajar Peserta Didik Melalui Pembelajaran Berbasis Proyek Dengan Peer Assesment Pada Konsep Klasifikasi Makhluk Hidup." *Jurnal Pendidikan: Teori, Penelitian, dan Pengembangan* 2, no. 8 (2017): 1141–1148. <http://journal.um.ac.id/index.php/jptpp/article/view/9908/4687>.
- Astuti, Widi. "Berbagai Strategi Pembelajaran Kosakata Bahasa Arab Widi Astuti." *Jurnal Komunikasi dan Pendidikan Islam* 5, no. 2 (2016): 178–190. <https://journal.stainsyok.ac.id/index.php/almanar/article/view/38>.
- Calis, Eda, and Kenan Dikilitas. "The Use of Translation in EFL Classes as L2 Learning Practice." *Procedia - Social and Behavioral Sciences* 46 (2012): 5079–5084. <http://dx.doi.org/10.1016/j.sbspro.2012.06.389>.
- Chang, Yun, Bingyu Li, and Junqing Lu. "English Vocabulary Teaching from a Cognitive Perspective." *OALib* 08, no. 09 (2021): 1–8.
- Dwitama, Aditya. "Pengaruh Metode Praktek Terhadap Lay Up Shoot Dalam Pembelajaran Bola Basket." *Jurnal Ilmiah FKIP Universitas Subang ISSN (p) 2461-3961 (e) 2580-6335 Pengaruh* 4, no. 01 (2018). <http://ejournal.unsub.ac.id/index.php/FKIP/article/view/208>.
- Fahmeyzan, Dodi, Siti Soraya, and Desventri Etmy. "Uji Normalitas Data Omzet Bulanan Pelaku Ekonomi Mikro Desa Senggigi Dengan Menggunakan Skewness Dan Kurtosi." *Jurnal VARIAN* 2, no. 1 (2018): 31–36.
- Faiqoh, Naning Ma'rifatul, and Nurul Huda. "Eksperimentasi Metode Karyawisata Dalam Meningkatkan Kemampuan Menghafal Kosakata Bahasa Arab." *al Mahāra: Jurnal Pendidikan Bahasa Arab* 4, no. 2 (2018): 219–238.
- Fayakun, M, and P Joko. "Efektivitas Pembelajaran Fisika Menggunakan Model Kontekstual (Ctl) Improving Students' Arabic Vocabulary Memorizing with Cognitive Retroactive Transfer (CRT)

- Dengan Metode predict, Observe, Explain Terhadap Kemampuan Berpikir Tingkat Tinggi.” *Jurnal Pendidikan Fisika Indonesia* 11, no. 1 (2015): 49–58.
- Firdaus, Sulton, and Siti Hafidah. “Mnemonic : Solusi Kreatif Untuk Meningkatkan Kemampuan Menghafal Kosakata Bahasa Arab Siswi Madrasah Aliyah Nurul Jadid.” *Palapa* 8, no. 1 (2020): 81–96.
- Garnasih, Tuti. “Kemampuan Siswa Dalam Mengelola Extraneous Cognitive Load Pada Pembelajaran Klasifikasi Tumbuhan Dengan Menggunakan Apersepsi Tayangan Video.” *Jurnal Bioeduin : Program Studi Pendidikan Biologi* 8, no. 2 (2018): 29–33.
- Ge, Minyan, Huina Song, Hua Li, Ranran Li, Xiaoqing Tao, Xu Zhan, Nana Yu, Ning Sun, Youming Lu, and Yangling Mu. “Memory Susceptibility to Retroactive Interference Is Developmentally Regulated by NMDA Receptors.” *Cell Reports* 26, no. 8 (2019): 2052-2063.e4. <https://doi.org/10.1016/j.celrep.2019.01.098>.
- Hasyim, Asy’ari. “Keistimewaan Bahasa Arab Sebagai Bahasa Al-Qur’an.” *Nidhomul Haq: Jurnal Manajemen Pendidikan Islam* 1, no. 1 (2016): 1–28. <http://e-journal.ikhac.ac.id/index.php/nidhomulhaq/article/view/4>.
- Ihsan, Ihsan, and Syarifah Fatimah Al-Ilmul. “Problematika Mahasiswa Pendidikan Bahasa Jerman Yang Belum Pernah Mendapatkan Pelajaran Bahasa Jerman Di Jenjang Pendidikan Sebelumnya.” *Interference: Journal of Language, Literature, and Linguistics* 2, no. 2 (2021): 137.
- Isnaini, Nurul, and Nurul Huda. “Pengembangan Media Pembelajaran Kosakata Bahasa Arab Berbasis Permainan My Happy Route Pada Siswa Kelas VIII MTsN 10 Sleman.” *Al Mi’yar: Jurnal Ilmiah Pembelajaran Bahasa Arab dan Kebahasaaraban* 3, no. 1 (2020): 1.
- Lazim, Otang Kurniaman1 dan. “Pelaksanaan Pengukuran Ranah Kognitif, Afektif, Dan Psikomotor Pada Mata Pelajaran IPS Kelas III SD Muhammadiyah Palangkaraya.” *Journal Tunas Bangsa* 13 (2013): 185–197. <http://journal.umpalangkaraya.ac.id/index.php/anterior/article/view/295>.
- Marlina, Lina. “Analisis Kontrastif Fonologi Bahasa Arab Dan Bahasa Indonesia Dalam Pembelajaran Pidato Bahasa Arab Pada Program Studi Pendidikan Bahasa Arab UIN Sunan Gunung Djati Bandung.” *Metalingua* 18, no. 2 (2019): 125–134. <http://metalingua.kemdikbud.go.id/jurnal/index.php/metalingua/article/view/314/148>.
- Mauludiyah, Lailatul. “Oral Reading Fluency (ORF) Method to Improve Arabic Reading Comprehension.” *LISANIA: Journal of Arabic Education and Literature* 4, no. 2 (2020): 127–139.
- McHaney, Jacie R., Rachel Tessmer, Casey L. Roark, and Bharath Chandrasekaran. “Working Memory Relates to Individual Differences in Speech Category Learning: Insights from Computational Modeling and Pupillometry.” *Brain and Language* 222 (2021): 105010. <https://doi.org/10.1016/j.bandl.2021.105010>.
- Moh. Faizin, and M. Dzikrul Hakim Al-Ghozali Machnunah Ani Zulfah. “Penggunaan Permainan Kartu Domino Untuk Meningkatkan Kemampuan Hafalan Mufrodah Bahasa Arab Pada Siswa Kelas VII Di MTs Tarbiyatus Shiblyan Surabaya” 1, no. 2 (2019): 119–127. <http://ejournal.kopertais4.or.id/tapalkuda/index.php/LAN/article/view/3755>.
- Murti, R A, and A J Antoro. “Meningkatakan Kosakata Siswa Menggunakan Lagu ‘Hallo Song for Kids’ Kelas Di 10a Smk Negeri 1 Pedan.” *Buletin Pengembangan Perangkat ...* 1, no. 2 (2019):

- Sutarto, Sutarto. “Teori Kognitif Dan Implikasinya Dalam Pembelajaran.” *Islamic Counseling: Jurnal Bimbingan Konseling Islam* 1, no. 2 (2017): 1.
- Wang, Lei. “Cognitive Mechanism of Language Transfer: Brain Potential Data Analysis in English Comprehension.” *NeuroQuantology* 16, no. 5 (2018): 369–374.
- Yuwono, Pratik Hari, Yudha Febrianta, and Universitas Muhammadiyah Purwokerto. “Efektivitas Media Pembelajaran Adobe Flash Terhadap.” *JRPD (Jurnal Riset Pendidikan Dasar)* 1, no. 1 (2020): 83–92. <http://jurnalnasional.ump.ac.id/index.php/jrpd/article/view/7935>.