

ISSN-P : 2616-955X | ISSN-E : 2663-7030

DOI(Journal): 10.31703/grr

DOI(Volume): 10.31703/grr/.2024(IX)

DOI(Issue): 10.31703/grr.2024(IX.III)



GRR

GLOBAL REGIONAL REVIEW

VOL. IX, ISSUE III, SUMMER (SEPTEMBER-2024)



Double-blind Peer-review Research Journal

www.grrjournal.com

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Article title

Analyzing the Impact of Mnemonics on Teaching English Vocabulary to Undergraduates in District Swat

Global Regional Review

p-ISSN: 2616-955X e-ISSN: 2663-7030

DOI(journal): 10.31703/grr

Volume: IX (2024)

DOI (volume): 10.31703/grr.2024(IX)

Issue: III Summer (September-2024)

DOI(Issue): 10.31703/grr.2024(IX-III)

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Volume: IX (2024)

<https://www.grrjournal.com/Current-issues>

Issue: III-Summer (September -2024)

<https://www.grrjournal.com/Current-issues/9/3/2024>

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Abstract

The present study is concerned with the impact of mnemonic techniques on learning English vocabulary for undergraduates. The data was collected from a sample of eighty eleventh-grade undergraduates having equal numbers in the control and experimental groups from two colleges in Swat. A vocabulary knowledge scale created by Wesche and Paribakht was utilized for the pre-and post-tests. A quasi-experimental design was utilized to collect and analyze the data of proficiency tests quantitatively. Both the groups were pre-tested before treatment. The experimental group was taught English vocabulary through the mnemonic technique for a period of six weeks and the control group through the traditional way. The proficiency of both groups was tested in a post-test. The statistical analysis of data shows that the mnemonic technique had an impact on English vocabulary acquisition. The findings suggest that this method is an effective technique for improving vocabulary retention and acquisition in a variety of linguistic situations.

Key Words: Mnemonic Technique, English Vocabulary, Undergraduates, Words, Meaning, Use, Context

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Pages: 232-241

DOI: 10.31703/grr.2024(IX-III).23

DOI link: [https://dx.doi.org/10.31703/grr.2024\(IX-III\).23](https://dx.doi.org/10.31703/grr.2024(IX-III).23)

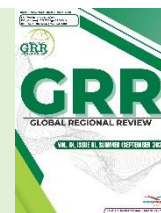
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Pdf link: <https://www.grrjournal.com/jadmin/Author/31rvIolA2.pdf>

Citing this Article

23	Analyzing the Impact of Mnemonics on Teaching English Vocabulary to Undergraduates in District Swat						
	Author	Muhammad Aslam Khan Asad Ullah Jalil Ur Rab		DOI	10.31703/grr.2024(IX-III).23		
Pages	232-241	Year	2024	Volume	IX	Issue	III
Referencing & Citing Styles	APA	Khan, M. A., Ullah, A., & Rab, J. U. (2024). Analyzing the Impact of Mnemonics on Teaching English Vocabulary to Undergraduates in District Swat. <i>Global Regional Review</i> , IX(III), 232-241. https://doi.org/10.31703/grr.2024(IX-III).23					
	CHICAGO	Khan, Muhammad Aslam, Asad Ullah, and Jalil Ur Rab. 2024. "Analyzing the Impact of Mnemonics on Teaching English Vocabulary to Undergraduates in District Swat." <i>Global Regional Review</i> IX (III):232-241. doi: 10.31703/grr.2024(IX-III).23.					
	HARVARD	KHAN, M. A., ULLAH, A. & RAB, J. U. 2024. Analyzing the Impact of Mnemonics on Teaching English Vocabulary to Undergraduates in District Swat. <i>Global Regional Review</i> , IX, 232-241.					
	MHRA	Khan, Muhammad Aslam, Asad Ullah, and Jalil Ur Rab. 2024. 'Analyzing the Impact of Mnemonics on Teaching English Vocabulary to Undergraduates in District Swat', <i>Global Regional Review</i> , IX: 232-41.					
	MLA	Khan, Muhammad Aslam, Asad Ullah, and Jalil Ur Rab. "Analyzing the Impact of Mnemonics on Teaching English Vocabulary to Undergraduates in District Swat." <i>Global Regional Review</i> IX.III (2024): 232-41. Print.					
	OXFORD	Khan, Muhammad Aslam, Ullah, Asad, and Rab, Jalil Ur (2024), 'Analyzing the Impact of Mnemonics on Teaching English Vocabulary to Undergraduates in District Swat', <i>Global Regional Review</i> , IX (III), 232-41.					
	TURABIAN	Khan, Muhammad Aslam, Asad Ullah, and Jalil Ur Rab. "Analyzing the Impact of Mnemonics on Teaching English Vocabulary to Undergraduates in District Swat." <i>Global Regional Review</i> IX, no. III (2024): 232-41. https://dx.doi.org/10.31703/grr.2024(IX-III).23 .					



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Abstract

The present study is concerned with the impact of mnemonic techniques on learning English vocabulary for undergraduates. The data was collected from a sample of eighty eleventh-grade undergraduates having equal numbers in the control and experimental groups from two colleges in Swat. A vocabulary knowledge scale created by Wesche and Paribakht was utilized for the pre-and post-tests. A quasi-experimental design was utilized to collect and analyze the data of proficiency tests quantitatively. Both the groups were pre-tested before treatment. The experimental group was taught English vocabulary through the mnemonic technique for a period of six weeks and the control group through the traditional way. The proficiency of both groups was tested in a post-test. The statistical analysis of data shows that the mnemonic technique had an impact on English vocabulary acquisition. The findings suggest that this method is an effective technique for improving vocabulary retention and acquisition in a variety of linguistic situations.

Keywords: [Mnemonic Technique](#), [English Vocabulary](#), [Undergraduates](#), [Words](#), [Meaning](#), [Use](#), [Context](#)

Introduction

The present research analyzed the impact of mnemonics in English language vocabulary teaching of undergraduate students in district Swat. Effective speaking and writing require a large amount of vocabulary, which can be acquired by using a wide range of strategies. Although mnemonics contribute significantly in teaching

English as a second language (Wang, 2021), it is important to know how teachers use it in the classroom, and how students are benefited from it. Vocabulary remains vital and important in the English language. Being capable of reading and speaking in a second language requires a vast vocabulary. The importance of vocabulary in teaching is generally recognized by English



teachers. The acquisition of vocabulary has been ignored in second language acquisition (Nunan, [1991](#); Meara, [1996](#)). This situation will continue until such interest is reawakened in the last decade (Chan, [2000](#)). Hence, researchers have an interest in vocabulary improvement, which leads them to review possible learning strategies aimed at identifying beneficial language strategies (Wenden & Rubin, [1987](#); O'Malley & Chamot, [1990](#); Oxford, [1990](#); Brown & Perry, [1991](#); Gu & Johnson, [1996](#); Hatch & Brown, [1995](#)). The concept of vocabulary has long been associated with word lists, and methods for memorizing these lists have been referred to as vocabulary learning procedures. Hence, the majority of studies on vocabulary acquisition strategies have examined different methods of vocabulary presentation and their associated effectiveness in retention (Akbarova, [2024](#); Sofeny & Muamanah, [2021](#); Meara, [1980](#)). Hence, one of the numerous components of vocabulary learning that has been extensively studied is mnemonic methods. On the premise the techniques that help students remember vocabulary also help them learn languages more generally. Limited vocabulary will make it difficult for the students to comprehend a specific piece of text. Poor readers frequently read less since they find reading difficult due to an arduous text. They find reading difficult and boring because they do not understand the meaning of complex words. Consequently, it will be simpler for the students to acquire terms at the college level if they receive clear and concise vocabulary education at the undergraduate level. According to Susanto ([2017](#)), it is essential to have an advanced vocabulary when teaching or learning English as a foreign language. Mnemonics are a truly laborious art form that demands hard work, creativity, and a sharp mind but improves vocabulary (Amiryousefi & Ketabi, [2011](#)). These are strategies or techniques, such as a rhyme or an image, that help users remember information easily (Qizi, [2023](#)). They can be verbal or visual in nature (Solso, [1995](#)) being part of the creative art of increasing memory by using a variety of artificial aids to help recall names, dates, vocabulary, sentences, facts, and figures and one the most important topics of discussion in teaching and learning (Mokhtar et al., [2017](#)). Mnemonics have been shown to be a very effective memory aid (Siagian, Maida, Irianto & Sukardi, [2023](#); Mastropieri & Scruggs, [1989](#); Bulgren, Schumaker

& Deshler, [1994](#)). A mnemonic could be any of the following: a word, letter, symbol, sentence, rhyme, catchphrase, acronym, image, song, pattern, action, narrative, color, association, or any combination of these. Rhymes, songs, and physical actions are more suited for younger children, but older students prefer words, sentences, stories, and mnemonic combinations (Conderman, 2018). Mnemonics' use was also found to have a positive effect (Shivolo, [2024](#)).

The difference between mnemonics that are used only once and those that are used often is a crucial distinction to make (Bellezza, [1981](#)). Single-use mnemonic aid in recalling a specific fact (for example, the acronym HOMES to recall the Great Lakes: Huron, Ontario, Michigan, Erie, and Superior), However, a frequent-use mnemonic is a cognitive cuing framework that can be used to repeatedly store different pieces of information once they have been learned (for example, the method of loci: learning a mental map of your home and then putting your grocery list on that map each week). Another distinction is made between encoding mnemonics and organizational mnemonics. Organizational mnemonics structure unorganized materials, such as the loci example above, and provide the user with a retrieval strategy to remember everything that needs to be remembered. Encoding mnemonics is the process of recording information into a more meaningful or easily remembered form. For instance, using the phonetic technique, the number 74125 corresponds to the word CARDINAL. Some mnemonic devices rely solely on organization or encoding, while others combine the two.

Purpose of the Study

Mnemonics have been demonstrated to improve memory in previous studies but can they do the same in the classroom, where learners are expected to remember information for extended periods of time and the topic is complex? Unfortunately, the majority of EFL students in Pakistan are uncomfortable in communicating the English language. Their limited vocabulary has an impact on both their speech and writing. A lack of vocabulary is a metaphor for being perceived negatively by others. Past analyses of mnemonics have not examined how frequently learners really use them or whether their use is associated with their career

and academic success. This could be a result of the lack of direct research on the topic. Survey research has revealed that although students from the eighth grade through college are generally aware of mnemonic techniques, they are not using these techniques (McCabe et al., [2013](#); Soler & Ruiz, [1996](#); Stalder, [2005](#)). The present study therefore tries to find out the impact of these techniques on improving English vocabulary at the undergraduate level. The study further tries to investigate the variation in the use of these techniques by male and female students.

Literature Review

Learning and teaching vocabulary is one of the most significant hurdles that language teachers and learners will face (Asgari & Mustapha, [2011](#)). The use of mnemonics in the classroom to improve vocabulary has been the subject of a number of previous studies, which have all come to different conclusions. According to Marzban and Firoozjahanigh ([2018](#)), numerous researchers have made an effort to identify the most effective teaching strategies that promote vocabulary development and success in a second or foreign language (Bugti & Iqbal, [2024](#)). Students can create their own unique mnemonic devices to aid in remembering information for a test or quiz and so, add to their repertoire of useful study techniques that they may employ in any subject, area, and in any grade (Conderman, [2019](#)). The findings in some of the previous studies have been supportive in favor of using mnemonics (Manalo, [2002](#)), others have been mixed (Worthen & Hunt, [2011](#)), and some have been critical (Dunlosky, Rawson, Marsh, Nathan, & Willingham, [2013](#)). The retention of vocabulary is crucial while learning a foreign language (Hayati & Fattahzadeh, [2006](#)) positively impacted by mnemonic technique (Balbuena & Buayan, [2015](#); de Graaff, Verhoeven, Bosmam, & Hasselman, [2007](#); Maghy, [2015](#)). Mnemonic techniques specifically enhance vocabulary retention at the EFL elementary level (Sarcoban & Basibek, [2012](#)) though the majority of participants have little to no awareness of them (Mathison, [2017](#)).

According to Bakken and Simpson ([2011](#)), there is a better way to increase word consciousness and word analysis with alternative vocabulary acquisition methodologies than with traditional

instructions. The use of mnemonics is a variety of research-based teaching strategies that help students' learning of vocabulary (Conderman, [2020](#)). Azizi and Zamaniyan ([2013](#)), investigated that the expansion of one's vocabulary is a crucial component of improvement. The students realized that mnemonic strategies could help them better recall information after being introduced to them, and improve student brain function (Lu & Young, [2015](#)). Pillai ([2017](#)), explained how to utilize physical mnemonics, visual mnemonics, and other mnemonic techniques in the EFL classroom to boost vocabulary, memory, and creativity and make learners autonomous (Freihat & Al-Makhzoomi, [2012](#)) and help them perform better in comprehension tests (Spackman, [2009](#)) having a role in communication (Seyyedrezaie & Barani, [2013](#)).

Azmi, Najmi, and Rouyan ([2016](#)) showed the efficacy of utilizing mnemonic devices to acquire English vocabulary and students' perceptions and points of view about the mnemonic techniques; suggesting useful educational outcomes for teachers and learners while using mnemonics (Parima et al., [2018](#)). Friedt ([2012](#)) discovered the effectiveness of mnemonics by improving the memory of the factual knowledge required to respond to comprehension questions, which leads to higher comprehension scores (Scruggs & Mastropieri, [2000](#)) and production performance (Zarei & Keysan, [2016](#)). The use of helping tools like images helps in enhancing vocabulary learning (Amiryousefi & Ketabi, [2011](#)) later on practiced by students themselves (Knott & Thaut, [2018](#)) in the EFL context even (Marzban & Firoozjahanigh, [2018](#); Karami, [2014](#); Ejaz, & Oyibo, [2024](#)). Different mnemonic techniques were suggested for the undergraduate level (Hill, [2022](#); Anjomafrouzi & Tajalli, [2012](#)) affecting their short and long-term memories function (Taheri & Davoudi, [2016](#); Fung, & Oyibo, [2024](#)). The researchers have evaluated numerous studies on the subject from a variety of angles; however, because of the varied circumstances, this study differs from earlier investigations. The fact that none of these studies have looked into the impact of utilizing mnemonic techniques to enhance vocabulary learning. This study seeks to fill the gap by focusing on the impact of using mnemonics techniques to content vocabulary teaching and learning in the classroom.

Research Methodology

The present study explored the impact of mnemonics on teaching English vocabulary to undergraduates in district Swat. The target population of this study was all undergraduates studying in different colleges in the district of Swat. The data for the present study was selected from two colleges, namely Government Afzal Khan Lala Degree College Matta and Government Girls Degree College Mingora. A sample of eighty participants was selected through a non-probability convenient sampling technique having an equal number of male and female students with ages ranging from eighteen to twenty. These participants were divided into two groups (experimental and control) with twenty male and twenty female undergraduates in each group. The research study used a quasi-experimental design. This method was most appropriate for the current study since it allowed the researchers to investigate the impact of mnemonics on teaching English vocabulary to undergraduates. The material for the study was collected from English textbooks for the intermediate level. Six lessons from these textbooks were selected. A pamphlet including mnemonic techniques was designed and used for the experimental and control groups. Sixty words were selected from these textbooks including ten words from each lesson. A pretest about vocabulary was conducted for both groups in order to measure the homogeneity of these groups. After the pre-test, the experimental group received treatment in the form of teaching vocabulary through the mnemonics technique while the control group was taught through the traditional method. The treatment for six weeks contained three classes per week and each session was for sixty minutes. The control group was taught the same words through the traditional method of vocabulary teaching, applying the same time and sessions as the experimental group. After six weeks, both the control and experimental groups were tested in the form of a post-test on vocabulary to examine the impact of the two different ways of teaching vocabulary. The data collected from the

pre-test and post-test was analyzed statistically. The results of both tests were compared for statistical significance. The data was analyzed through the vocabulary knowledge scale (VKS) proposed by Wesche and Paribaht in order to determine the impact of mnemonics in teaching vocabulary in English. This theoretical framework was used for words that were recognized or known when seen or heard and considered to be part of receptive knowledge, while words that were appropriately utilized when writing or speaking were considered to be part of productive knowledge. The data was collected through proficiency tests. Each question in these vocabulary tests had three options and participants were therefore required to circle an option between 1 and 3 and were required to add details based on their word knowledge. For every question, the participants submitted the information requested and chose just one response. The three options available to participants were:

1. I can't recall ever seeing this word before.
2. I have seen it before but don't know what it means.
3. I have seen it before and I am familiar with its meaning.

After selecting option 3 in the post-test, the participants were asked to use the selected words in their own sentences. The collected tests were then marked for correct and incorrect use of these words suggesting the impact of mnemonic technique on vocabulary acquisition.

Results

The vocabulary of both the experimental and control groups was pre-tested using a curriculum-based measurement test before the treatment. Each student responded to sixty vocabulary words from their curriculum-based English book during the pre-test. The participants chose one of three answers for each of the sixty questions based on their knowledge. The vocabulary of the pre-test results of all the eighty participants are summarized in the following table.

Table 1*Responses of both groups to the options about selected words*

Option selected	Control group Responses' percentage	Experimental group Responses' percentage
I don't remember having seen this word before	14.1%	14.2%
I have seen this word before but I don't know what it means	13.6%	13.5%
I have seen this word before and I know its meaning	30.4%	30.6%

The results of both groups indicate that the participants had the same proficiency and familiarity with the vocabulary before the intervention. Almost the same number of students claimed that they had not seen some of the selected words (14.1% control group and 14.2% and the experimental groups). If these students had not seen these words, they definitely did not know the meaning of these words (13.6% control group and 13.5% experimental group). The majority of the words were known to these students and they knew the meaning of these words (30.4% for the control group and 30.6% for the experimental group). The students who knew the meaning of these selected words could use them in their own sentences (41.9% for the control group and 41.7% for the experimental group). The results as a whole showed that the groups were homogenous in terms of having the same level of English vocabulary acquisition. This suggested that there was room for

improvement of language competency by pointing out possible areas for improvement in vocabulary acquisition highlighting the necessity of using efficient vocabulary teaching strategies.

The same groups were also tested in the form of proficiency tests for learning and retaining the meaning of these words when they were asked to use the selected words in their own sentences. After the pre-test, the control group was instructed to use the traditional approach to assess how much the students retained and understood the vocabulary that had been covered in the pre-test. The experimental group, on the other hand, was taught these words through a mnemonic technique. After the treatment, both groups were tested for the same words in the form of a post-test. The following table shows the results of both the pre and post-test of the control and experimental groups.

Table 2*Pre and Post-test Results of both groups*

Pre-Test Results		Percentage of correct Use
Control Group		41.9%
Experimental Group Results		41.7%
Post-Test Results		Percentage of correct Use
Control Group		47.9%
Experimental Group Results		66.3%

Almost the same results were found when the students were asked to use the selected words in their own sentences in the pre-test. The correct use of these words for the control group was in the pre-test 41.9% which had increased to 47.9% showing improvement but this improvement was less than the improvement for the experimental group whose score increased from 41.7% to 66.3% suggesting the significance of the use of mnemonic technique for English vocabulary teaching. The values show the significance of this technique for English vocabulary

acquisition. The experimental group performed better in the post-test than the control group suggesting the significance of the mnemonic technique. The results suggest that the average score of the experimental group was greater than the control group in the post-test. In the light of findings, we may suggest that mnemonics are a more effective way to learn language than other conventional techniques of teaching vocabulary. As a result of having a large number of vocabulary, academic writing becomes easy. The results of this

study show that students could readily learn new words through the mnemonic technique, remember them for extended periods of time, and use them effectively in sentences. The mnemonic approach is also a useful technique for improving a person's language skills by enhancing words and their significance. Consequently, this study validates that.

Conclusion

The purpose of this study was to find out how undergraduate students in Swat, Khyber Pakhtunkhwa, enhance their vocabulary. In order to acquire a second language, students must have a large vocabulary. The researcher believed that mnemonics may be used to create strong neural connections in semantic memory as well as in semantic and mental memory. Learning words can increase the connections between semantic and mental memories. The efficacy of the conventional approach was used as a benchmark to assess the validity of this hypothesis. The impoverished students have a restricted L2 vocabulary. The data collected from undergraduate students was analyzed suggesting that mnemonics technique significantly increased the vocabulary of the students in the experimental group, as indicated by

the results of the post-test. The outcomes of the study demonstrated that the experimental group's pre-and post-test scores had changed significantly and effectively. Through the use of mnemonics in vocabulary instruction and an understanding of the connections between words, students can get a deeper and more natural understanding of the English language. In addition to helping students recall foreign words, mnemonics also foster a sense of curiosity about language. It promotes a sense of language growth and connection by acting as a link to the past and a key to the larger linguistic world. Mnemonics can be strategically integrated into teaching in order to benefit both teachers and students in the unique setting of undergraduate students in District Swat, Khyber Pakhtunkhwa, Pakistan, where English instruction faces many challenges. Teachers can better prepare students to handle the complexity of the English language by customizing their instruction with mnemonics. Undergraduate students must be given the resources they need to succeed in their English language acquisition as we advance in the rapidly changing field of education by embracing cutting-edge techniques like mnemonics.

References

- Akbarova, S. K. (2024). The application of mnemonics in language acquisition and methods to retain presentation content. *Oriental Renaissance: Innovative, Educational, Natural and Social Sciences*, 4(5), 704-707. https://oriens.uz/media/journalarticles/107_Akbarova_Shakhnoza_Khikmatullaevna_704-707.pdf
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Amiryousefi, M., & Ketabi, S. (2011). Mnemonic instruction: A way to boost vocabulary learning and recall. *Journal of Language Teaching and Research*, 2(1), 1788-4769. <http://dx.doi.org/10.4304/jltr.2.1.178-182>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Anjomafrouz, F., & Tajalli, G. (2012). Effects of using mnemonic associations on vocabulary recall of Iranian EFL learners over time. *International Journal of English Linguistics*, 2(4), 101-115. <http://dx.doi.org/10.5539/ijel.v2n4p101>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Asgari, A., & Mustapha, G. B. (2011). The type of vocabulary learning strategies used by ESL students in University Putra Malaysia. *English Language Teaching*, 4(2), 84. <http://dx.doi.org/10.5539/elt.v4n2p84>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Azizi, M., & Zamaniyan, M. (2013). The relationship between spiritual intelligence and vocabulary learning strategies in EFL learners. *Theory & Practice in Language Studies*, 3(5), 852-858. <http://dx.doi.org/10.4304/tpls.3.5.852-858>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Azmi, M. N. L., Najmi, M. H. S. M., & Rouyan, N. M. (2016). A case study on the effects of mnemonics on English vocabulary. *International Journal of Applied Linguistics and English Literature*, 5(7), 178-185. <http://dx.doi.org/10.7575/aiac.ijalel.v.5n.7p.178>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Bakken, J.P., & Simpson, C. G. (2011). Mnemonic strategies: Success for the young-adult learner. *The Journal of Human Resource and Adult Learning*, 17(2), 79-85. [Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Balbuena, S. E., & Buayan, M. C. (2015). Mnemonics and gaming: Scaffolding learning of integers. *Asia Pacific Journal of Education, Arts, and Sciences*, 2(1), 14-18. [Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Bellezza, F. S. (1981). Mnemonic devices: Classification, characteristics, and criteria. *Review of Educational Research*, 51(2), 247-275. <https://doi.org/10.3102/00346543051002247>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Brown, T. S., & Perry, F. L. (1991). A Comparison of Three Learning Strategies for ESL Vocabulary Acquisition. *TESOL Quarterly*, 25(4), 655-670. <https://doi.org/10.2307/3587081>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Bugti, M. K., & Iqbal, M. Z. (2024). Effects of acronyms mnemonics on students English vocabulary development at elementary school level in Balochistan. *International Research Journal of Management and Social Sciences*, 5(1), 918-926. <https://irjmss.com/index.php/irjmss/article/view/399>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Bulgren, J. A., Schumaker, J. B., & Deshler, D. D. (1994). The effects of a recall enhancement routine on the test performance of secondary students with and without learning disabilities. *Learning Disabilities Research Practice*, 9(3), 2-11. <https://simvilledev.ku.edu/sites/default/files/Articles/Library/BU17Bulgren.Effects%20of%20Recall%20Enhancement%20Routine.1994.pdf>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Chan, L. P. (2000). *An investigation of the effectiveness of the mnemonic technique in the acquisition and retrieval of vocabulary by Chinese-speaking Form One students* [Doctoral thesis, The University of Hong Kong]. HKU Thesis Online. [Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Conderman, G. (2019). Mnemonics for the middle grades. *The Clearing House a Journal of Educational Strategies Issues and Ideas*, 92(3), 71-77. <https://doi.org/10.1080/00098655.2019.1579695>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Conderman, G. (2020). Mnemonics: a fun and effective way to remember. *Kappa Delta Pi Record*, 56(3), 139-142. <http://dx.doi.org/10.1080/00228958.2020.1770008>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- de Graaff, S., Verhoeven, L., Bosman, A. M., & Hasselman, F. (2007). Integrated pictorial mnemonics and stimulus fading: Teaching kindergartners letter sounds. *The British journal of educational psychology*, 77(Pt 3), 519-539. <https://doi.org/10.1348/000709906X160011>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)

- Dunlosky, J., Rawson, K. A., Marsh, E. J., Nathan, M. J., & Willingham, D. T. (2013). Improving students' learning with effective learning techniques: Promising directions from cognitive and educational psychology. *Psychological Science in the Public Interest*, 14(1), 4-58. <https://doi.org/10.1177/1529100612453266>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Ejaz, S., & Oyibo, K. (2024). INTERACTIVE TOOLS FOR MNEMONICS CREATION AND KNOWLEDGE RETENTION: a SCOPING REVIEW. *ICERI Proceedings*, 1, 10329-10339. <https://doi.org/10.21125/iceri.2024.2643>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Freihat, S., & Al-Makhzoomi, K. (2012). An English for specific purposes (ESP) course for nursing students in Jordan and the role a needs analysis played. *International Journal of Humanities and Social Science*, 2(7), 129-145.
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Friedt, B. (2012). *Identifying evidence-based practices in special education through high quality meta-analysis* [Doctoral dissertation, Kent State University].
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Fung, K., & Oyibo, K. (2024). Examining the effectiveness of mnemonics serious games in enhancing memory and learning: A scoping review. *Applied Sciences*, 14(23), 11379. <http://dx.doi.org/10.3390/app142311379>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Gu, Y., & Johnson, R. K. (1996). Vocabulary learning strategies and language learning outcomes. *Language Learning*, 46(4), 643-679. <https://doi.org/10.1111/j.1467-1770.1996.tb01355.x>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Hatch, E., & Brown, C. (1995). *Vocabulary, Semantics, and Language Education*. Cambridge University Press.
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Hayati, M., & Fattahzadeh, A. (2006). The effect of monolingual and bilingual dictionaries on vocabulary recall and retention of EFL learners. *The Reading Matrix*, 6(2), 125-134.
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Hill, A. C. (2022). The Effectiveness of Mnemonic Devices for ESL Vocabulary Retention. *English Language Teaching*, 15(4):6,6. <http://dx.doi.org/10.5539/elt.v15n4p6>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Karami, M. (2014). *The effect of extended mnemonic keyword method on vocabulary achievement and expansion among Iranian EFL learners: A thesis in teaching English to speakers of other languages* [Master's thesis, Islamic Azad University, Bandar Abbas]. Iran.
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Knott, D., & Thaut, M. H. (2018). Musical mnemonics enhance verbal memory in typically developing children. *Frontiers in Education*, 3 (1), 31-40. <http://dx.doi.org/10.3389/feduc.2018.00031>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Lu, W., & Young, B. N. (2015). Exploration of mnemonics for ESL/EFL vocabulary: Employing the depth and elaboration of processing theory. *Online Submission*, 42(1), 30-33. <https://files.eric.ed.gov/fulltext/ED561173.pdf>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Maghy, S. J. (2015). Effectiveness of mnemonics on achievement of students in Mathematics at high school level. *International Journal of Modern Engineering Research* 5(4), 1-4.
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Manalo, E. (2002). Uses of mnemonics in educational settings: A brief review of selected research. *Psychologia: An International Journal of Psychology in the Orient*, 45(2), 69-79. <https://doi.org/10.2117/psysoc.2002.69>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Marzban, A., & Firoozjahantigh, M. (2018). The effect of mnemonic keyword techniques instruction on vocabulary achievement and vocabulary size of Iranian EFL learners. *International Journal of Applied Linguistics and English Literature*, 7(4), 222-227. <http://dx.doi.org/10.7575/aiac.ijalel.v.7n.4p.222>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Mastropieri, M. A., & Scruggs, T. E. (1989). Constructing more meaningful relationships: Mnemonic instruction for special populations. *Educational Psychology Review*, 1(2), 83-111. <https://doi.org/10.1007/BF01326638>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Mathison, L. (2017). Balancing direction and independence in second language vocabulary learning: A gesture pilot study. *Hispania*, 100(1), 289-301. <http://dx.doi.org/10.1353/hpn.2017.0041>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- McCabe, J. A., Osha, K. L., Roche, J. A., & Susser, J. A. (2013). Psychology students' knowledge and use of

- mnemonics. *Teaching of Psychology*, 40(3), 183–192. <https://doi.org/10.1177/0098628313487460>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Meara, P. (1980). Vocabulary acquisition: A neglected aspect of language learning. *Language Teaching*, 13(3-4), 221-246.
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Meara, P. (1996). The dimensions of lexical competence. *Performance and competence in second language acquisition*, 35(1), 33-55. <https://www.lognostics.co.uk/vlibrary/meara1996.a.pdf>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Mokhtar, A. A., Rawian, R. M., Yahaya, M. F., Abdullah, A., & Mohamed, A. R. (2017). Vocabulary learning strategies of adult ESL learners. *The English Teacher*, 38(12), 133-145. <http://dx.doi.org/10.5539/elt.v3n1p71>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Nunan, D. (1991). *Language teaching methodology*. Prentice-Hall.
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- O'Malley, J. M., & Chamot, A. (1990). Strategies used by second language learners. *Learning strategies in second language acquisition*, 6(3), 114-150. <https://doi.org/10.1017/CBO9781139524490>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Oxford, R. L. (1990). *Language learning strategies: What every teacher should know*. Heinle & Heinle.
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Parima, F., Siros, I., & Ali, S. (2018). The effects of mnemonic vocabulary instruction on content vocabulary learning of students. *Journal of Language and Education*, 4(1), 42-62. <http://dx.doi.org/10.17323/2411-7390-2018-4-1-42-62>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Pillai, N. R. (2017). Using mnemonics to improve vocabulary, boost memory and enhance creativity in the ESL classroom. *The English Teacher*, 23(2), 62-83.
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Qizi, S. R. N. Q. (2023). Mnemonics and its usage in teaching and learning English language. *International Journal of Literature and Languages*, 3(06), 17-30. <http://dx.doi.org/10.37547/ijll/Volume03Issue06-04>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Sarcoban, A., & Basibek, N. (2012). Mnemonics technique versus context method in teaching vocabulary at upper-intermediate level. *Education and Science*, 37(164), 251-266.
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Scruggs, T. E., & Mastropieri, M. A. (2000). The effectiveness of mnemonic instruction for students with learning and behavior problems: An update and research synthesis. *Journal of Behavioral Education*, 10(2-3), 163–173. <https://doi.org/10.1023/A:1016640214368>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Seyyedrezaie, S. H., & Barani, G. (2013). Constructivism and curriculum development. *International Journal of Basic & Applied Research*, 2(1), 62-67.
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Shivolo, T. (2024). A classroom intervention of enhancing Namibian preservice science teachers' conceptual understanding of properties of waves through mnemonics. *Journal of Research in Mathematics, Science, and Technology Education*, 1(2), 62-76. <http://dx.doi.org/10.70232/jrmste.v1i2.9>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Siagian, D. T., Maida, N., Irianto, D. M., & Sukardi, R. R. (2023). The effectiveness of mnemonic device techniques in improving long-term memory in learning in elementary schools: A literature review. *Equator Science Journal*, 1(1), 24-30. <http://dx.doi.org/10.61142/esj.v1i1.4>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Soler, M. J., & Ruiz, J. C. (1996). The spontaneous use of memory aids at different educational levels. *Applied Cognitive Psychology*, 10(1), 41–51. [https://doi.org/10.1002/\(SICI\)1099-0720\(199602\)10:1<41::AID-ACP361>3.0.CO;2-1](https://doi.org/10.1002/(SICI)1099-0720(199602)10:1<41::AID-ACP361>3.0.CO;2-1)
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Solso, R. L. (1995). *Cognitive psychology* (4th ed.). Allyn and Bacon.
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Sofeny, D., & Muamanah, S. (2021). Keyword mnemonic in boosting the students' vocabulary memorization for young learners' level. *Getsempena English Education Journal* 8(1):96-109. <http://dx.doi.org/10.46244/geej.v8i1.1281>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Spackman, C. L. (2009). *Mnemonics and research on using the keyword method in the classroom* [Master's thesis, Ohio Dominican University].
[Google Scholar](#) [Worldcat](#) [Fulltext](#)

- Stalder, D. R. (2005). Learning and motivational benefits of acronym use in introductory psychology. *Teaching of Psychology*, 32(4), 222-228.
http://dx.doi.org/10.1207/s15328023top3204_3
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Susanto, A. (2017). THE TEACHING OF VOCABULARY: a PERSPECTIVE. *Jurnal KATA*, 1(2), 182.
<https://doi.org/10.22216/jk.v1i2.2136>
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Taheri, A. A., & Davoudi, M. (2016). The effect of the keyword method on vocabulary learning and long-term retention. *International Journal of Language and Linguistics*, 3(1), 114-125.
https://ijllnet.com/journals/Vol_3_No_1_March_2016/10.pdf
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Wang, Y. (2021). The role of digital tools in enhancing mnemonic techniques among Eastern students. *Journal of Digital Learning in Teacher Education*, 37(2), 98-111).
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Wenden, A., & Rubin, J. (Eds.). (1987). *Learner strategies in language learning*. Prentice Hall.
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Worthen, J. B., & Hunt, R. R. (2011). *Mnemonology: Mnemonics for the 21st century*. Psychology Press.
[Google Scholar](#) [Worldcat](#) [Fulltext](#)
- Zarei, A. A., & Keysan, F. (2016). The effect of mnemonic and mapping techniques on L2 vocabulary learning. *Applied Research on English Language*, 5(1), 17-32.
[Google Scholar](#) [Worldcat](#) [Fulltext](#)