Mnemonic Technique - An Effective Vocabulary Teaching Method to Plurilingual Students-

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ARTICLE INFORMATION

ABSTRACT

A study was conducted with an aim of investigating the different approaches used by both EFL learners and educators to learn and teach vocabulary respectively. In the study, particularly two different techniques were focused on: The "Memorisation" technique which is one of the most applied methods in teaching vocabulary and the "Mnemonic" technique, which is thought to produce higher results in teaching vocabulary by most scholars. An experiment was carried out to compare the efficiency of these two methods. A group of students from Khoja Akhmet Yassawi University Preparatory Faculty in Kazakhstan were chosen to participate in the experiment. The factor that makes this study different from other studies in the scope of its field is that the training given at the time of the "mnemonic" education was not in the native language of the students, which is Kazakh. The students had been learning Turkish as a foreign language. The acquired findings after the experiments, throughout pre and post tests indicated that although the participants did not receive education in their native language during the experiment, the use of the mnemonic technique gave better results compared to the rote learning technique.

1. Introduction

Background of the studyKnowing words from a certain language is usually associated to knowing that language. In different encounters people have pretended to know a certain language simply basing on the fact that they could say a few words such as greetings, or a few polite expressions like thank you. From a general perspective, it would not be wrong to draw a conclusion that the vocabulary knowledge of a learner directly parallels to how competently he/she knows the language in question. Therefore, concluding that - vocabulary improvement of learners is a critically significant point in their language learning advancement (Linse, 2005).

It is an accepted fact by many scholars that vocabulary plays a more important role than the grammar knowledge in communication. Hence evidently proved by many students that choose to carry dictionaries instead of grammar books when travelling to other countries. (Krashen, as cited in Lewis, 1993:25). Schmitt (2000:55) also stresses the issue: ''Lexical knowledge is central to communicative competence and to the acquisition of a second language''. Wilkins (1972:97) reports that: ''While without grammar very little can be conveyed, without vocabulary nothing can be conveyed''. Sufficient vocabulary knowledge enables the learner to communicate more freely and effectively. That is why vocabulary has been steeped in the curriculums of EFL and ESL students.

As far as vocabulary is concerned, the method to gain required word knowledge carries value in English language teaching. Last researches on the field reveal that vocabulary teaching has numerous problems due to the lack of knowledge in introducing or teaching words to learners (Alqahtani, 2015). Although classical methods such as memorizing or rote learning are employed by many educators and students within the education mechanism, they are not fully fruitful in the process of internalization (Vadidya, 1996). Safdar (2013:62) states: ''Rote learning stays close to the cognitive structure of the learner but do not get integrated there. Hence as a result the learner exhibits a non-successful learning set''.

Purpose of the study

As mentioned in the previous section, rote learning employed frequently as a method by educators to teach new vocabularies to learners is known not to be effective within the objectives of a productive teaching course. Many students complain about rote learning because it does not help them keep words in their long term memories. Besides, it decreases the motivation to learn new items as rote learning is believed to be a dull activity. It has also no positive effect in producing creativity and problem-solving skill (Cheung, 2000).

From this point forth, this paper aims to show meaningful differences between the "rote" and the "mnemonic" learning techniques. Though mnemonic has some variants, this experimental research has been established on the "key word method" of mnemonic which is briefly described as product of mental imagery. Although the phrase is a new term in the field, the idea behind the term has been applied since past times (Atkinson and Rough, 1972). "With the aid of mnemonic, students are able to learn the required words in a short time, and minimum lack of retention and recognition will be obtained" (Başıbek, 2010:15).

Significance of the study

Inarguably each language teacher has been exposed to such questions by second language learners: "How can I learn vocabulary? What should I do to remember the meanings of the words that I learn?" Etc (Başıbek, 2010). In that case, as former chapters stated, the method to acquire required vocabulary comes to prominence more than vocabulary itself.

The key word method as a sub-title of mnemonic has been experimentally proven to be influential in improving vocabulary learning (Bruning at al., 1999). As observed in the experiment of this study, learners taught by the mnemonic method saved time and remained motivated to learn new entities. Moreover, the mnemonic technique aids learners to recall words when they need them at a later time unlike rote learning. Based on the given points, this study has been performed with the goal of convincing educators to believe that the mnemonic method is an efficient way of teaching vocabulary, which should be applied during the process of second language learning.

Research questions

1. Does employing mnemonic technique in the teaching process have advantages compared to rote learning in the short term retention?

2. Does employing mnemonic technique in the teaching process have advantages compared to rote learning in the long term retention?

2. Literature review

Presentation

Despite the fact that vocabulary has a unique importance in language learning, it has been taught through the other skills for a long time (Hadjadj, 2015). Advancements in the field of linguistics have played a role in vocabulary finding its place that it deserves. Upon the betterments, many scientists in the area have put forward some innovations about vocabulary learning and teaching. Based on the points mentioned in the previous

chapters, this part of the study will be based on vocabulary learning through rote learning and vocabulary teaching along with its sub-categories.

Vocabulary learning

There is a great deal of research in the area of vocabulary learning (Schmitt, 1997; Stoffer, 1995; Ahmed, 1989; Fan, 2003; Gu, 2003; Gu and Johnson, 1996; Lawson and Hogben, 1996; Kojic-Sabo and Lightbown, 1999; Sanaoui, 1995; Kudo, 1999). Although vocabulary learning and teaching may seem like different concepts from each other, there is not a certain distinction. ''Learning, teaching, and communication strategies are often interlaced in discussions of language learning and often applied in the same behaviour'' (O'Malley et.al., 1985:22). However, with a simplest differentiation, it can be stated that a learning strategy is triggered by a learner while teaching is teacher-triggered.

Vocabulary learning has been defined differently by scholars. Nation (2001:217) says: ''Vocabulary learning strategies are a part of language learning strategies which in turn are a part of general learning strategies''. Rubin states for the explanation of vocabulary learning: ''the process by which information is obtained, stored, retrieved, and used'' (1987: 29; cited in Saengpakdeejit, 2014:150).

Lastly, Catalan defines vocabulary learning as: ''Knowledge about the mechanisms (process, strategies) used in order to learn vocabulary as well as steps or actions taken by 15 students (a) to find out the meaning of unknown words, (b) to retain them in long-term memory, (c) to recall them at will, and (d) to use them in oral or written mode''. (2003, p: 56; cited in Saengpakdeejit, 2014, p: 147).

Memorisation strategy

From one aspect, memory is a kind of vehicle that integrates objects into symbolic values by using sensory-motor acts to be able to remember them even at very later times. So, this kind of strategy is employed to establish connection by means of imagery between target vocabulary and previous knowledge in learners' brains. Scholars state as: the kind of elaborative mental processing that the Depth of Processing Hypothesis (Craik & Lockhart 1972; Craik & Tulving 1975) suggests is necessary for long-term retention (Schmitt 1997: 213).

Vocabulary teaching

Communication breaks down when people fail to use the right words. As stated by Allen (1983:5), the importance of vocabulary acquisition: lexical problems frequently interfere with communication. From this point of view, it can be deduced straightforwardly that not only learning but also teaching vocabulary has a vital importance in order to teach the major language skills to learners.

Nevertheless, learning vocabulary is a challenging activity for most of the learners. They need to learn different types of words, from idioms to expressions. Therefore, a language teacher should apply all the ways to keep words in the long term memories of students. While there are many approaches to teaching vocabulary, the rest of this chapter will focus on the mnemonic technique and its key word method.

Mnemonic technique

The term "mnemonic" comes from a Greek word Mnemosyne meaning to memory of Greek Goddess (Amiryousefi, Ketabi, 2011). ''A mnemonic device can be defined as a strategy for organizing and/or encoding information through the creation and use of cognitive cuing structures'' (Bellezza, 1980:37). The first usage of mnemonics date back to 500B.C. (Yates, 1966). The following citation belongs to Ad Herennium (circa 86-82 B.C.) formed 2000 years ago:

Now nature herself teaches us what we should do. When we see in everyday life things that are petty, ordinary, and banal, we generally fail to remember them, because the mind is not being stirred by anything novel or marvellous. But if we see or hear something exceptionally base, dishonourable, unusual, great, unbelievable, or ridiculous, that we are likely to remember for a long time.... We ought, then to set up images of a kind that can

adhere longest in memory. And we shall do so if we establish similitudes as striking as possible; if we set up images that are not many or vague but active; if we assign to them exceptional beauty or singular ugliness; if we ornament some of them, as with crowns or purple cloaks, so that the similitude may be more distinct to use; or if we somehow disfigure them, as by introducing one stained with blood or soiled with mud or smeared with red paint, so that its form is more striking, or by assigning certain comic effects to our images, for that, too, will ensure our remembering them more readily. (Yates, 1966:9-10).

The main purpose of using mnemonics is to keep words in the long term memory that has unlimited capacity compared to short term memory. Amiryousefi and Ketabi (2011:179) say: ''mnemonics are techniques or devices, either verbal or visual in nature, that serve to improve the storage of new information, and the recall of information contained in memory'' (cited from Solso, 1995).

The key word method

As a combination of aural and visual imageries, the key word is one of the most effective techniques in vocabulary teaching. The basic theory of this technique is that remembering an L2 word can be facilitated by using auditory and visual links together, thus more strongly tying the new words to existing schemata. (Oxford, Crookall, 1990, p: 18-19). The key word method covers both aural and visual imageries. Atkinson states that the key word method has been formed in order to make language learning easier (1975). Oxford and Crookall (1990:19) define the using of the key word method as follows:

The first step is to identify a familiar word in one's own language that sounds like the new word; this is the auditory link. The second step is to generate a visual image of some relationship between the new word and a familiar one; this is the visual link. Both links must be meaningful to the learner. For example, to learn the new French word potage (soup), the English speaker associates it with a pot and then mentally pictures a pot full of potage.

Many researches signal that the key word method has been employed during the experimental language teaching environments (Levin, 1981; also Oxford & Crookall, 1989). Additionally, it has been proven to be superb over rote learning (Mastropieri, Scruggs, Levin, 1986; Scruggs, Mastropieri, McLoone, Levin, Morrison, 1987). Many scientists from all over the world - Spanish (Raugh, Atkinson, 1975), German (Ott, Butler, Blake, Ball, 1973), Italian (Lawson, Hogben, 1996, 1998), French (Wang, Thomas, Ouellette, 1992), Russian (Atkinson, Raugh, 1975), Old English (McDaniel, Pressley, 1989), Tagalog (Wang, Inzana, Primicerio, Thomas, 1993), and Greek (Touloumtzoglou, 1998) - have agreed on the key word method having a positive effect on vocabulary learning.

Method

In terms of research design, quasi experiment method with independent variables has been employed for this research.

Participants' remarks

First I would like to present brief information about me. I studied English Language and Literature at university. Although my field of education involves literary knowledge, I have been always interested in teaching concept of English. I gained my MA degree from English Language Teaching.

I have been teaching English language as a lecturer in Khoja Akhmet Yassawi University Preparatory Faculty in Kazakhstan. Therefore, I have decided to select attendees from my own faculty. For this study 80 participants have been picked up randomly; 60 females and 20 males. Their ages vary from 17 to 19; and English levels are pre-intermediate. As they are studying in an international university, they have been learning English and Turkish at the same time. Besides, they have a high command of Russian language knowledge. However, none of the students has primacy over another in terms of English knowledge because they are classified

according to an English placement test that is held at the beginning of the education year. The participants were informed beforehand about the study and they accepted to take part in the experiment willingly. Before I divided them into two equal groups, I had overviewed their exam and quiz results that they got during the previous two semesters. After examining their grades, two different groups – control and experiment – were formed in each of which had ten males and thirty females.

Materials

A range of materials have been employed during the experiment. First, twenty vocabularies from high and low frequency words have been chosen meticulously according to the level of students. To mention the significance of selection; those 20 words have been analysed in terms of etymologically origin in order not to detect words which have also similar contexts in Russian language as students may guess their meanings due to the similarity even though they do not know the exact meanings of them in English. Subsequently, one type vocabulary test consisting of these twenty words both for pre and post experiment stages; and additionally another variant of this test for delayed test phase has been prepared. The test form is oriented with multi-optional questions that require students to choose the best fit words for gaps in the questions. Another document prepared for experiment group students is the vocabulary sheet which consists of key words and visual aids with Turkish meanings of words for mnemonic training. The pictures in the sheet have been drown properly by a designer considering the mental imagery of attendees. During the training of the experiment group, a projector also has been used to display visuals on the wide screen. Meanwhile, one page of sheet showing 20 target words with their Turkish meanings (not explanations) has been given to the control group students for rote learning. All the data gained during the trainings of both groups has been analysed via Mann Whitney Module in SPPS (version no. 23) program.

3. Procedure

So as to establish a perfect setting, each student was asked about an appropriate time and place. Basing on the given feedback, one Saturday morning, one of the quietest rooms in the university buildings was organised accordingly to facilitate the experiment. Before training, a pre-test was given to the 80 participants in order to find out whether they have any previous knowledge concerning the targeted words that they were supposed to learn during the experiment. The test duration was 20 minutes. Afterwards, the group was divided into two classrooms namely: control and experiment.

Control group instruction

The responsibility of control group was given to my wife who is also a lecturer of the university. It was directly stated to the "control" group students that they had 60 minutes to memorise the words on the paper on their desks. Each individual had a right to leave the room if he/she felt that he/she had memorised their given words. However, it was forbidden to chat or swap materials.

Mnemonic group instruction

I was in charge of the "experiment" group. At the beginning of the training, in order to motivate my students, I declared to the students that everybody would be learning the given 20 words in a fun way, without any difficulty and would be able to remember the words for a lifetime. They all were excited to start the education. Before the experiment, we made sure that the students did not have any difficulty in their everyday lives while communicating in Turkish.

By the way, mnemonic technique is usually performed in one´s mother tongue. However, the reason why I

carried out this study in the Turkish language is that the Turkish language proficiency of the students is likely more advanced than their English. This creating a favourable situation leading me and my students to meet at a common ground - Turkish language – For that reason, I decided to facilitate the training in Turkish language in order to get more satisfactory results. For each word in the vocabulary sheet I spent about 1, 2 - 5 minutes. After each word, I turned back and asked the previous words to make recalling more effective. While teaching, I made use of pronunciation of the words as much as their visual images. For instance, for the word compel, I wanted participants to imagine an old broken car whose name was Opel (car brand), and a man tired of pushing Opel to start its engine. Along with this process, I spoke in my native language, Turkish.

After the trainings of both groups, all the students were ready to take a post-test. Before going to the test stage, some beverages were offered to the attendees for a short break. Then, a second test – exactly the same variant as the pre-test – was given to the learners. The reason behind handling the post-test so quickly was that students stayed at the same dormitory even some of them shared the same room which would lead to sharing of knowledge and eventually cause research to detract from an equal training. At the end of day, students were advised not to talk about the training and the words in order to attain an accurate result of the research.

After 15 days from the experiment, a surprise-test was given to the students without prior knowledge. This time the questions were different from pre and post-tests questions. Then, the obtained results were evaluated by means of the SPSS program.

4. Results

The overall result portrayed that the experiment group students had achieved superiority over the control group students, which means that the "mnemonic" technique worked relatively better than rote learning.

4.1. Data analysis

4.1.1. Pre-test stage

The pre-test has shown that there is not a significant difference between groups in terms of their target vocabulary knowledge.
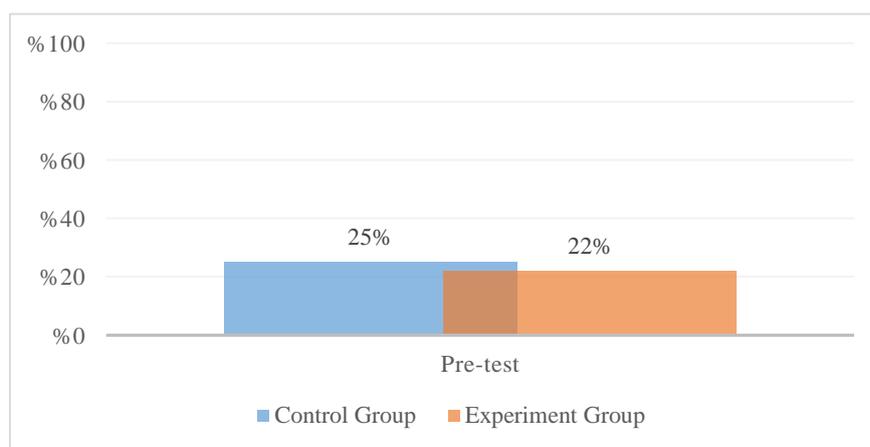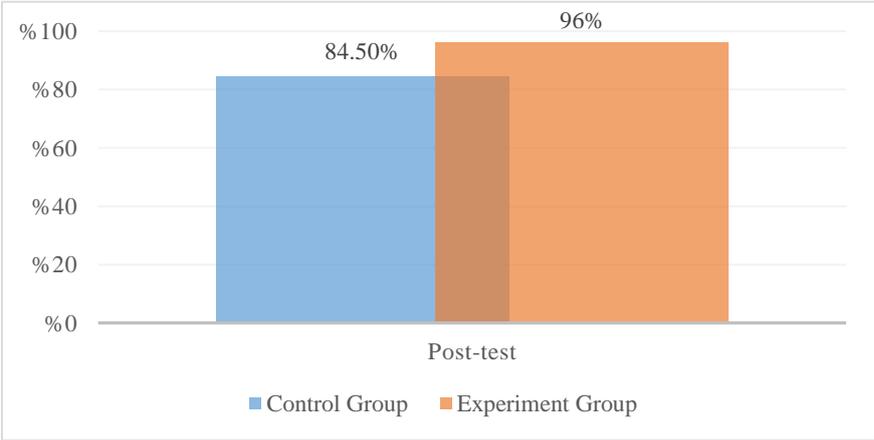

Graph 1. Comparison of the control and the experiment groups based on pre-test.

Both groups seemed to have little knowledge or totally no background information about the words which they would be learning during the trainings. However, it will be beneficial to state that students were asked to mark all the questions and not to leave any questions unanswered on the question papers. In this regard, the numbers show the possibility of their chance on giving correct answers. While they were filling their papers,

they could have guessed some correct answers out of luck. On this occasion we conclude that the research has a meaningful purpose as it was performed with unfamiliar words for participants.

4.1.2. Post-test stage

Graph 2. Comparison of the control and the experiment groups based on post-test.

The first test held immediately after the training, both groups had remarkable points which indicate trainings had been successful. Although there was not a much bigger difference between the two groups, we can induce that the mnemonic technique works a little bit better compared to the rote learning in the immediate recall of words. On the other side, rote learning is having impressive results in terms of retention of words in a brief time is an undeniable fact.

4.1.3 Variations of results based on pre and post tests
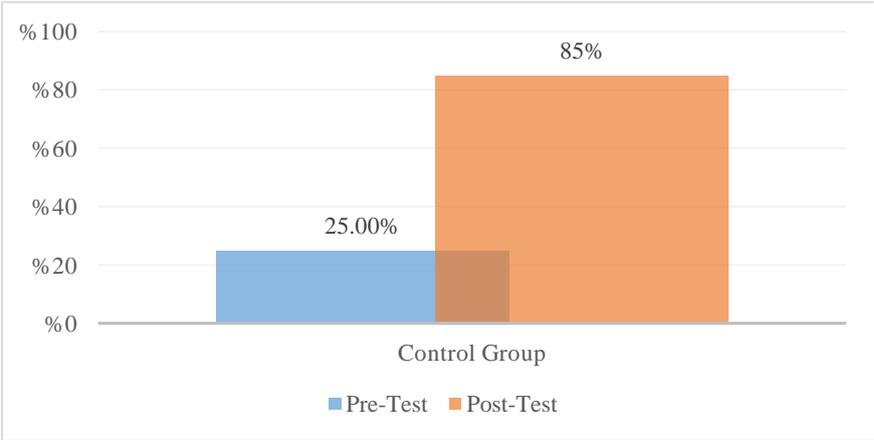
Graph 3. Comparison of pre and post-tests for Control Group
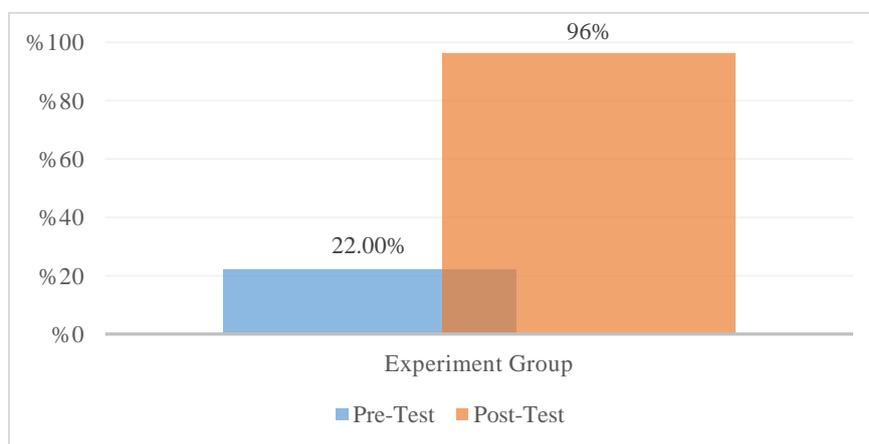
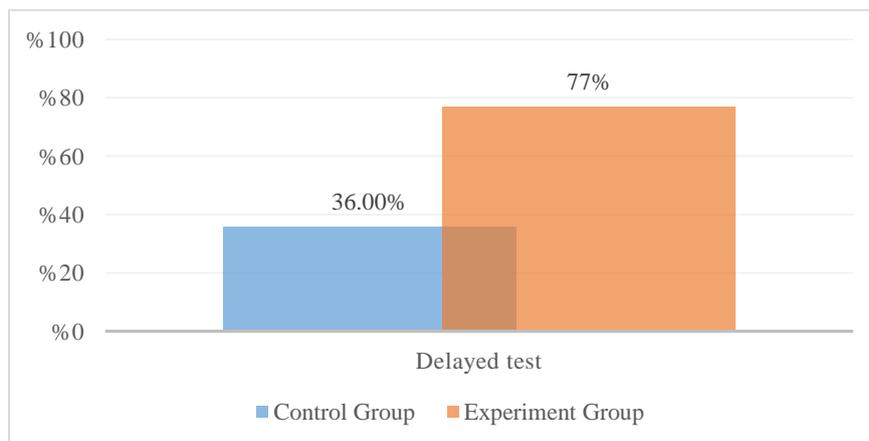Graph 4. Comparison of Experiment Group in pre and post-tests

4.1.4 Research question 1

Post-test findings clearly show mnemonic learning was well ahead of rote learning in short term retention. Both methods have given satisfactory results in the immediate recall of words.

4.1.5 Delayed test stage

After 15 days from the post-test date, a surprise-test was given to the students. The following graphic displays the results:

The last and the most important test of the research showed that there was a significant difference between the two groups meaning that mnemonic technique works better than rote learning as far as long term retention of words is concerned.

Graph 5. Comparison of the control and the experiment groups in delayed-test

4.1.6 Research question 2

What makes the considerable difference between the mnemonic and the rote learning strategies has been revealed by the surprise-test. Apparently, using mnemonic to teach vocabulary has an obvious primacy to rote learning in the long term retention which is more favourable when compared to short term retention.

5. Conclusion

Vocabulary is the inevitable part of language learning. Today, a great deal of students struggles to learn huge amount of vocabularies in order to pass their exams or have good communication skills with people. While some of them may be successful, most of them fail to use the acquired words in real world speaking environments. So, learning vocabulary does not only mean learning its meaning or form but also requires to gain

the ability to use the words (Başıbek, 2010) when need arises. As much as vocabulary is important, so is the ability to keep the new words in the students´ minds. Wenden (1987) reminds us of a Chinese proverb that says: ''Give a man a fish and he eats for a day, teach him how to fish and he eats for a lifetime''. For an effective and meaningful learning, teachers should apply equally effective and meaningful strategies which will not only expose the students to a temporary knowledge of crammed words but a lifetime permanent knowledge base that could be accessed and used forever.

In this study, we have observed that mnemonic technique is highly efficacious than rote learning for pre-intermediate level students for Kazakh learners who are studying the two languages simultaneously; Turkish and English. In addition to that, mnemonic technique does not only help in terms of long term retention, but it also provides motivation for future learning as much as creating a joyful classroom environment. Although it takes a little bit longer than the latter in the sense of time, mnemonic technique compensates that failing by not repeating words in the follow-up period as students can still recall words even after a long time.

The experiment in the study has been founded on the strong imagination of the teacher. So, participants in the experiment group learnt words from the imagery of the lecturer. As an alternative for the statement, students may be asked to activate their own imagery functions which can be more efficient for meaningful learning. In detail, making a connection is highly related to the past time experiences of learners. So, learners can accelerate their learning process if they associate key words with their former learnings in the mnemonic technique.

The other point is that the study has been performed with pre-intermediate learners. If we consider young learners whose attitudes to language learning sizeably differs as compared to adult learners, we can conclude that mnemonic strategies can work better for the latter. As a characteristic of young learners, their world consists of imagery like in the fairy tales. They do not care about the proficiency tests or effective communication concerns, I mean they do not have pre-determined aims in language learning (Philips, 1993). Therefore, if the mnemonic technique, which is a product of visual and audial imagery, is applied to young learners, the teacher can get considerably good results.

Lastly, after having stressed one more time that the mnemonic technique is far superior to the rote learning strategy, this paper intends to point out that in the situations which enable teachers to use mnemonic devices instead of direct memorisation, do not waste time with rote learning.

References

1. Ahmed, M.O. (1989). Vocabulary learning strategies. P. Meara (Ed.) Beyond Words, 3-14.

2. Allen, Virginia French. (1983). Techniques in Teaching Vocabulary. Oxford: Oxford University Press.

3. Amiryousefi A. and Saaed K. (2011). Mnemonic Instruction: A Way to Boost Vocabulary Learning and Recall. Journal of Language Teaching and Research. 1: 178-182.

4. Asher, J. J. (1966). The strategy of the total physical response: An application to learning Russian. International Review of Applied Linguistics, 3: 291-300.

5. Atkinson, R., and Raugh, M. (1975). An application of the mnemonic keyword method to the acquisition of a Russian vocabulary. Journal of Educational Psychology: Human Learning and Memory, 104, 2: 126–133.

6. Başıbek N. (2010). Using visual and audio visual mnemonics vs. context in teaching vocabulary of intermediate level. Master Thesis, Ankara.

7. Baxter, J. (1980). The dictionary and vocabulary behaviour: A single word or a handful? TESOL Quarterly, 114, 3: 325-336.

8. Bellezza, F. S. (1980). Mnemonic devices: Classification, characteristics, and criteria.

9.   Bower, C. H. (1970). Analysis of a mnemonic device. American Scientist, 58: 496-510.

10. Bruning, R., Schraw, G., and Ronning, R. (1999). Cognitive psychology and instruction (3rd ed.).

11. Carter, R. (1987). Vocabulary and second/foreign language teaching. Language Teaching, 20, 1: 3-16.

12. Cheung, M. (2000, August 14). Reading, writing, and rote learning: Drive students at western schools. Business Week.

13. Craik, F. and Lockhart, R. (1972). Levels of processing: a framework for memory research. Journal of Verbal Learning and Verbal Behaviour II, 671-684.

14. Craik, F. I. M. and Tulving, E. (1975). Depth of processing and the retention of words in episodic memory. Journal of Experimental Psychology, 104: 268-284.

15. Crookall, D., and R. Oxford. (1990). Language learning through simulation/gaming. New York: Newbury House/Harper & Row.

16. Fan, M.Y. (2003). Frequency of use, perceived usefulness, and actual usefulness of second language vocabulary strategies: A study of Hong Kong learners. The Modern Language Journal, 87, 2: 222-241.

17. Gu, P.Y. and Johnson, R.K. (1996). Vocabulary learning strategies and language learning outcomes. Language Learning, 46, 4: 643-679

18. Gu, P.Y. (2003). Vocabulary learning in a second language: Person, task, context, and strategies. TESL-EJ, 7, 2: 1-26.

19. Hadjadj. F. Z. (2015). Using discovery and consolidation vocabulary learning strategies to improve foreign language learners' writing skill. Algeria.

20. Hague, S. A. (1987). Vocabulary learning: The use of grids. English Language Teaching Journal, 37, 3: 243-246.

21. Higbee, K. L. (1979). Recent research on visual mnemonics: Historical roots and educational fruits. Review of Educational Research, 49, 4: 611-629.

22. Kojic-Sabo, I. and Lightbown, P.M. (1999). Students' approaches to vocabulary learning and their relationship to success. The Modern Language Journal, 83, 2: 176-192.

23. Kudo, Y. (1999). L2 vocabulary learning strategies. Honolulu: University of Hawai'i. Second Language Teaching and Curriculum Center.

24. Lawson, M.J. and Hogben, D. (1996). The vocabulary learning strategies of foreign language students. Language Learning, 46, 1: 101-135.

25. Lawson, M., and Hogben, K. (1998). Learning and recall of foreign-language vocabulary: effects of a keyword strategy for immediate and delayed recall. Learning and Instruction, 8, 2: 179–194.

26. Levin, J. R. (1981). The mnemonic 80's: Keywords in the classroom. Educational Psychologist, 16: 65-82.

27. Lewis, M. (1993). The Lexical Approach. Language Teaching publications.

28. Linse, C. T. and Nunan, D. (Ed). (2005). Practical English language teaching: Young learners. New York: McGraw-Hill ESL/ELT.

29. Mastropierj, M. A., Scruggs, T. E., & Levin, J. R. (1986). Direct vs. mnemonic instruction: Relative benefits for exceptional learners. Journal of Special Education, 20: 299-308.

30. McDaniel, M., & Pressley, M. (1989). Keyword and context instruction of new vocabulary meanings: effects on text comprehension and memory. Journal of Educational Psychology, 81, 2: 204–213.

31. Nation, I. S. (2001). Learning vocabulary in another language. Cambridge: Cambridge University Press.

32. Nyikos, M. (1987). The use of color and imagery as associative strategies for the retention of lexical items in German. Unpublished dissertation, Purdue University, West Lafayette, IN.

33. Omaggio, A. (1986). Teaching language in context: Proficiency-oriented instruction. Boston: Heinle & Heinle.

34. O'Malley, J.M., Chamot, A.U., Stewner-Manzanares, G., Kupper, L. and Russo, R.P. (1985). Learning strategies used by beginning and intermediate ESL students. Language Learning, 35, 1: 21-46.

35. Ott, C.E., Butler, D.C., Blake, R.S., and Ball, J.P. (1973). The effect of interactive-image elaboration on the acquisition of foreign language vocabulary. Language Learning, 23: 197–206.

36. Oxford, R., R. Lavine, & D. Crookall. (1989). Language learning strategies, the communicative approach, and their classroom implications. Foreign Language Annals, 22 (1), 29-39.

37. Oxford, R. and D. Crookall. (1989). Research on language learning strategies: Methods, findings, and instructional issues. Modern Language Journal, 71, 4.

38. Oxford, R. (1990). Language learning strategies and beyond: A look at strategies in the context of styles. Shifting the instructional focus to the learner. Ed. S. S. Magnan. Middlebury, VT: Northeast Conference.

39. Oxford, R. (1990). Language learning strategies: What every teacher should know. New York: Newbury House/Harper & Row.

40. Raugh, M., and Atkinson, R. (1975). A mnemonic method for learning a second-language vocabulary.

41. Journal of Educational Psychology, 67: 1–16.

42. Saengpakeejit, R. (2014). Strategies for Dealing with Vocabulary Learning Problems by Thai University Students. Faculty of Liberal Arts, Khon Kaen University, Nong Khai Campus, Nong Khai, Thailand.

43. Sanaoui, R. (1995). Adult learners' approaches to learning vocabulary in second languages. The Modern Language Journal, 79: 15-28.

44. Schmitt, N. (1997). Vocabulary learning strategies, Vocabulary: Description, Acquisition, and Pedagogy. Cambridge, Cambridge University Press, 199-227.

45. Schmitt, N. (2000). Vocabulary in language teaching. Cambridge, Cambridge University Press.

46. Shephard, R. (1967). Recognition memory for words, sentences, and pictures. Journal of Verbal Learning and Verbal Behavior. 6: 156-163.

47. Stoffer, I. (1995). University foreign language students' choice of vocabulary learning strategies as related to individual difference variables. Unpublished doctoral dissertation, University of Alabama.

48. Steiglitz, E. (1983). A practical approach to vocabulary reinforcement. English Language Teaching Journal, 37, 1: 71-76.

49. Swaffar, J. K. (1988). ''Readers, texts, and second languages: The interactive processes'' in Modern Language Journal, 72, 2: 123-149.

50. Touloumtzoglou, J. (1998). ''Effectiveness of the keyword mnemonic in modern Greek (second language) vocabulary acquisition''. Unpublished MA thesis. Flinders University of South Australia, Adelaide, South Australia, Australia.

51. Vadidya N. (1996). Science Teaching for the 21st Century. Deep and Deep publications.

52. Van Buren,P. (1975). Semantics and language teaching. Papers in applied linguistics, Ed. J. P. B. Allen and S. P. Corder. London: Oxford University Press.

53. Wang, A., Thomas, M., & Ouellette, J. (1992). Keyword mnemonic and retention of second-language vocabulary words. Journal of Educational Psychology, 84, 4: 520–528.

54. Wang, A., Thomas, M., Inzana, C., & Primicerio, L. (1993). Long-term retention under conditions of intentional learning and the keyword mnemonic. Psychonomic Society, 31, 6: 545–547.

55. Wenden, A. (1987). Conceptual background and utility. A. Wenden & J. Rubin (Eds.), Learner strategies in language learning, 3-13.