

THE EFFECTS OF THE MNEMONIC KEYWORD METHOD ON 8th GRADERS' L2 VOCABULARY LEARNING

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Abstract

The aim of this study is to investigate the effect of the mnemonic keyword method, which is one of the vocabulary learning strategies, plus the context method on L2 vocabulary learning of 8th graders in comparison with rote rehearsal plus the context method. Forty-five Turkish L1 learners of English as a foreign language with the same level of English proficiency in two intact classes at Konya Abidin Saniye Erçal secondary school were randomly assigned as the mnemonic keyword group and the L1 translation group. Before the instruction period a multiple choice vocabulary test, which was developed by the researchers, was given as the pre-test and after the instruction period, which lasted 3 week, the same test was given as the posttest. The results of the statistical analysis conducted using the t-test on the SPSS 18 revealed that the difference between the two groups' scores was statistically significant in favor of the experimental group, which employed the mnemonic keyword method combined with the context method.

Key words: L2 vocabulary learning, the mnemonic keyword method, 8th graders

1. INTRODUCTION

L2 vocabulary teaching and learning alike did not receive its long-deserved attention in EFL/ESL classes until recent decades. It was often considered that it would take care of itself and thus did not receive sufficient amount attention in ELT programs. As early as 1972, Wilkins indicated this lack of attention to L2 vocabulary in EFL with the much-cited statement: "without grammar very little can be conveyed, without vocabulary, nothing can be conveyed" (p.111). Since the 1980s, research into L2 vocabulary learning has amounted (Wang & Kelly, 2013). Meanwhile, over the past two decades ELT has witnessed shifts in technological, theoretical and pedagogical underpinnings. In this process, together with the shift of emphasis from language teaching to language learning and with communicative needs of learners emerging unprecedentedly as a result of new means of communication opportunities all over the globe, the role of vocabulary in EFL has raised in prominence. Therefore, a large vocabulary is now seen as an indispensable part of communicative competence in L2 and in line with this, endeavors to determine the most effective way to learn L2 vocabulary have increased.

L2 vocabulary learning with its semantic, morphological and pragmatic aspects is a multi-dimensional endeavor, which is also influenced by learners L1. Besides these aspects, L2 vocabulary learning requires a great deal of cognitive effort on the part of the learner for the commitment of foreign language vocabulary to the long term memory and for their retention and immediate retrieval during fluent speech. Therefore, researchers have long sought the most effective method for teaching and/or learning of L2 vocabulary with all its dimensions and for anchoring L2 vocabulary items to the long term memory and their automatic retrieval during fluent speech.

Besides seeking to find the most effective method for L2 vocabulary learning to achieve quality and long-term retention, recent research has also revealed that quantity of words necessary for proficiency in English cannot be achieved through reading alone. With the application of computer text analysis to questions in language learning, it has been indicated that it is extremely unlikely to develop an

adequate L2 reading vocabulary, even in highly favorable circumstances (Cobb, 2007, p.38). The difficulty in committing this number of words to the memory can cause learners to cease learning and get de-motivated. Therefore, we as language teachers should find easier, more effective ways for L2 vocabulary learning.

It is possible for teachers to help their learners to enhance vocabulary learning, not only by presenting learners materials, synonyms, translations and contexts, but also by showing them the alternative ways of vocabulary learning. In this way, teachers can help learners to acquire L2 vocabulary more efficiently, more effectively and more enjoyably than at present (Deconinck et al., 2010; Kelly & Li, 2005 cited in Wang & Kelly, 2013, p.75) The results of research on the mnemonic keyword method, which is one of the most extensively researched method used in L2 vocabulary learning are controversial (Dolean, 2014). This study was undertaken to investigate the effectiveness of the keyword method in comparison with providing L1 translation, which is one of the most commonly employed technique for teaching L2 vocabulary in English classes in state schools in Turkey. In this context, the mnemonic keyword method as a vocabulary can be regarded as an effective method for L2 vocabulary since it has a lot to offer EFL teachers and learners in that it can make L2 vocabulary learning more effective, long-lasting and fun to study, especially for young learners and adolescents.

1.1 The Keyword Method

Originally the Key Word Method as a mnemonic technique was developed by Atkinson (1975) as an alternative method for L2 vocabulary learning. Mnemonic refers to systematic procedures designed to improve one's memory. It is essentially a mnemonic technique. In this technique, a new word is associated to a similar sounding familiar word or keyword. After, a mental image is formed to link the unfamiliar word to the keyword. The learner generates or is provided pictorial association of the definition referent that interacts with the keyword.

Atkinson (1975) discussed the keyword method as a mnemonic aid for vocabulary learning. He argues that in this method a foreign word is connected to its English translation by a chain of 2 links-similarity in sound (acoustic link) and a mental image of the interaction between the 2 words (imagery link). Atkinson indicates that vocabulary learning is divided into two stages in the keyword method: an acoustic link stage and imagery link stage. Initially the teacher asks learners to form an association between the foreign word and the keyword. This association is based on acoustic similarity. Later in the second stage, the learners are required to create a mental image of the keyword in interaction with the L2 word to-be-learned (Atkinson, 1975). An example provided by Köksal (2013a) can show how the mnemonic keyword method is used: the French word *COEUR* meaning heart is used in a Turkish sentence including the Turkish heteronymy *KÖR* and its meaning heart and students are asked to repeat the example sentence with specific emphasis on the keyword and the meaning of the target word ("The eye of the heart is blind" an idiomatic expression in Turkish which can be an equivalent for the idiom "Love is blind" in English. In this example an idiomatic expression is used to build on learners' existing information but any sentence that includes acoustic and semantic relation can be used). After this acoustic link is established, the students are asked to repeat the sentence by looking at a picture which enables them to form a mental representation of the link between the keyword and the meaning of the target word. When encountered with the word *couer*, the student will "see" the heart, the keyword, and thus access the meaning and the pronunciation of the word via acoustic link. Another example provided by Pressley et al., (1982) for the Spanish word *carta* meaning letter. Using the keyword *cart*, a learner might generate an image of a shopping cart transporting a letter. Figure 1.1 illustrates how mnemonic devices, which are used to associate new knowledge with existing knowledge, can be used to commit new knowledge to the long term memory.

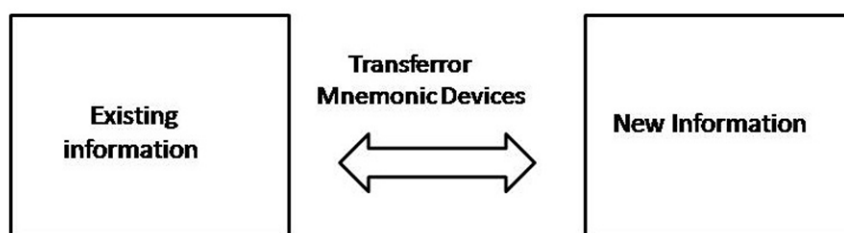


Figure 1.1 Transfer of Existing Knowledge (Köksal,2013a)

Mnemonic techniques, which rely on the principle of creating a link between what the learners already know and a new item, enhance learning for a number of reasons. The depth of processing, and the number of links that can be established with existing knowledge and a new item can ensure that new information is committed to long-term memory. Shapiro and Waters (2005) argue that creation of a visual image is one of the most important parts of a successful application of the keyword method. Furthermore, it is evidenced that with the mnemonic keyword method words with high imagery value are learnt and retained for longer period (Shapiro & Waters, 2005). In line with theory of dual coding, this finding indicates that the keyword method is effective because of the modality of input and with high-imagery words. Figure 1.2 shows how a foreign word is connected to its English translation by a chain of 2 links-similarity in sound (acoustic link) and a mental image of the interaction between the 2 words (imagery link).

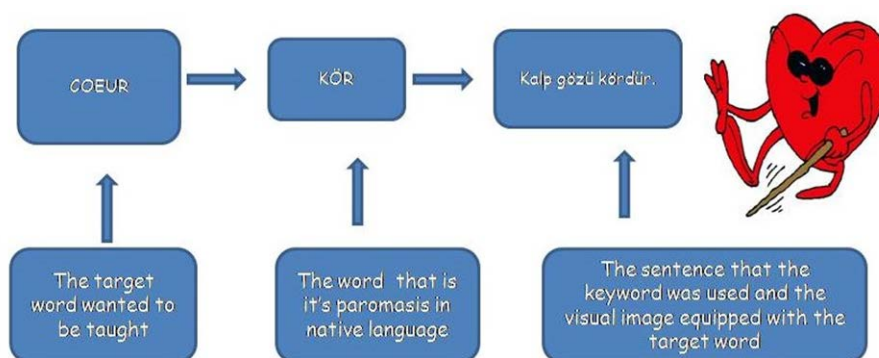


Figure 1.2 The process encoding of to-be-learned vocabulary item (Köksal,2013b)

2. LITERATURE REVIEW

Since the 1970s, there has been a remarkable increase in the amount of research in vocabulary learning strategies. Mnemonics, especially the keyword method, which is regarded as one of the vocabulary learning strategies, has been the topic of many studies (e.g. Soleimani, Saeedi and Mohajenia, 2012; Sarıçoban and Başibek, 2012; Ashoori Tootkaboni, 2012; Wang & Kelly, 2013; Köksal, 2013a; Yang and Liu, 2014). An overview of the literature reveals that the keyword method leads to better retention compared to no-strategy condition or rote rehearsal condition (Atkinson, 1975; Atkinson & Raugh, 1975; Avila & Sadoski, 1996; Baleghizadeh & Ashoori, 2010). Some studies compared the effectiveness of the keyword method with the context method (Sarıçoban and Başibek, 2012; Soleimani, Saeedi and Mohajenia, 2012), still others compared the keyword method with the semantic, keyword-semantic methods (Brown & Perry, 1991), or with using pictures and songs (Zarei and Salimi, 2012).

As early as 1975, Atkinson and Raugh evaluated the effectiveness of the keyword method in L2 vocabulary learning. In his study Atkinson compared the keyword method with an unconstrained

control procedure using Russian vocabulary. The participants were 52 undergraduates who were divided into two as the keyword method group and the control group. The results of the study indicated that the keyword method is highly effective compared to the control group.

Atkinson provided experiments using Russian and Spanish vocabularies to show that the keyword method yields significantly greater vocabulary recall than the rote-rehearsal method of L2 vocabulary learning. Furthermore, his results also indicated that (a) providing the keywords for learners is more effective than having them generate their own keywords, (b) if the keyword method is used, imagery instructions have a significant edge over sentence-generation teaching, (c) the keyword method does not make any difference in word retrieval times, and (d) the keyword method yields significantly superior backward associations than the rote-rehearsal method.

As a result of their study Hall, Wilson, and Patterson (1981) argued that with sophisticated learners, the usefulness of the mnemonic keyword method is restricted to circumstances when presentation of the items is paced by an external agent such as the teacher. On the other hand, in a study by Pressley et al. (1982), which included experiments varying whether subjects studied vocabulary list using the keyword method or their own strategies and whether items were experimenter paced or subject-paced during presentation, it was found that there is no pacing-by-treatment interaction and that positive effects of the keyword method was found when subjects were taught individually, but not when they were taught in groups. Besides, in their study Shapiro and Waters (2005) who compared given condition and self-generated condition also found that there was no significant main effect of processing strategy or interactions between imagery and processing.

Pressley, Michael; Levin, Joel R.; Hall, James W.; Miller, Gloria E.; Berry, Jill K. (1980) conducted five experiments with 220 6th graders and 35 university students to find the effects of the keyword method (KM) in foreign vocabulary learning. The results of the experiments indicated that the KM was better than control condition when the learners had to produce English responses. They indicated that no negative effects of the KM was seen when the students' cued acquisition of foreign words was assessed.

Pressly, Levin and Miller (1982) compared the effects of imagery and sentence versions of the keyword method of vocabulary learning with three non-keyword verbal-contextual alternatives. They reported that learners in the imagery keyword condition performed significantly higher compared to the participants who were presented the vocabulary in sentence contexts, and to those who produced sentence contexts for the words, and to those who made decisions about whether the words were used correctly in sentences, or those who were left to their own means to learn the words. The researchers concluded that the sentence keyword version yield better learning benefits compared to the imagery keyword condition. It was also maintained in their study that the learning benefits of the sentence keyword method were more obvious when answers are counted to be correct if any part of the definition was recalled correct compared to when recall of the entire definition was entailed. The researchers concluded that the keyword method is an effective alternative to vocabulary-learning techniques.

In study by Baleghizadeh and Ashoori (2010), they investigated the comparative effects of the word list and the keyword method on immediate retention of English words. The study group composed of two classes of 44 female Iranian learners of English at junior high school which were randomly assigned to the word list group and the keyword group. The results of the recall test revealed that the keyword method is more effective than the word list condition.

In another study carried out by Rodriguez and Sadoski (2000), the comparative effects of rote rehearsal, context, keyword, and context-keyword on immediate and long-term retention of L2 English vocabulary was investigated. The participants were 16 Venezuelan learners of EFL from 8 different 9th grade classes who had been studying for more than two years. The results of both immediate and delayed recall tests revealed that the combined context/keyword method was significantly better than all other method.

Yet another study by Chen and Hsiao (2010) examined the effect of the keyword method on L2 vocabulary retention in comparison with traditional method of L2 teaching which included

presentation with definitions or synonyms. Two classes of students including forty Taiwanese learners of English in an ESP course in a university were randomly assigned as the keyword and traditional groups. As a result of the study, it was found out that the students in the keyword group recalled more target vocabulary compared to the ones in traditional group.

Based on Craik & Lockhart's (1972) "depths of processing" theory for ESL vocabulary, Brown and Perry (1991) compared three L2 vocabulary learning strategies, namely; keyword, semantic, and keyword-semantic. They divided six classes of Arabic learners of ESL with 2 different proficiency levels into three treatment groups. At the end of the 4-day instruction period, immediate cued-recall measurement revealed that the keyword method assisted L2 vocabulary learning for lower-proficiency students. The delayed test results for both recognition and cued-recall tests indicated that combined keyword-semantic strategy led to better results.

In their study, Shapiro and Waters (2005) examined the cognition underlying the effectiveness of the keyword method. They investigated the degree of cognitive engagement and visual encoding as the source of the effectiveness. The subjects were given 15 high- and 15 low-level imagery level Latin words. The subjects were either given both the keyword and interactions or asked to generate their own keywords and interactions. The results of immediate and delayed post-test indicated the strong effect of imagery level of words. The researchers concluded that the keyword method was effective for that it provided learners a meaningful visual image upon which to base memory for a new word's meaning.

Chen (2006, cited in Chen and Hsiao, 2010, p.3) examined the effect of the keyword method on long-term vocabulary learning in EFL setting in Taiwan. The elementary school students were divided into two groups as the keyword-given and keyword-generated groups. The researcher does not report any statistical finding indicating superiority of any one of the either methods but reports that the students regarded the keyword method both an interesting tool for learning English vocabulary, and a skill facilitating their learning of English words. The researcher postulated that this attitude can increase retention of L2 words by the students.

In another study, Anjomafrouz and Tajalli (2012) examined the effects of using mnemonics on L2 vocabulary recall. The study group is composed of adolescent and adult Iranian EFL learners. In each experiment, the students were divided into two groups of experimental (mnemonic) and control (rote). The students in the mnemonic groups were asked to generate their own mnemonic associations for the new vocabulary items. The students in the rote groups were asked to study the words through memorization and repetition. The researchers concluded that the mnemonic method significantly affected the vocabulary recall of adult students for both receptive and productive learning.

Mastropieri, Scruggs and Fulk (1990) compared the effects of the keyword method and rehearsal condition on twenty-five adolescents with learning disabilities who were randomly assigned to one of the experimental groups. The participants were individually taught 16 difficult vocabulary words, including 8 concrete and 8 abstract words. The results of recall and comprehension tests revealed that mnemonically trained students outperformed control students on both abstract and concrete words.

In their study Avila and Sadoski (1996) used Spanish keywords to acquire English vocabulary. They had 63 fifth-graders with low English proficiency learn the definitions of 10 English words. The students divided into two groups as the keyword group and the control group learnt the word with respective method, with the control condition emphasizing direct translation and memory. They measured L2 vocabulary retention with cued-recall and sentence-completion tasks immediately and after one week delay. The results of the tests indicated that the keyword method yielded better recall and comprehension both immediate and delayed pos-tests.

In another study Sariçoban and Basibek (2012) investigated the comparative effects of using mnemonics technique and the context method. They had 84 upper-intermediate Turkish learners of ESP divided into two as the keyword group and the context method group. The results of the immediate and delayed tests revealed that mnemonics technique is more effective than the context method both on recall and recognition tests.

In another study, Siriganjanavong (2013) studied the effectiveness of the mnemonic key word method for low proficiency learners of English. The study group consisted of 44 first-year university students half of whom were taught 40 target words with MKM and the other half with mixed methods, that is contextual clues, word structure analysis, and opposite word-pairs. A 40-item-vocabulary test and two cued-recall sheets were used to measure students' retention of target word and the researcher concluded that both measurements indicated MKM to lead to better retention in both long-term and short-term compared to mixed methods.

Soleimani, Saeedi and Mohajenia (2012) compared the effectiveness of keyword and context method on immediate and delayed vocabulary retention of EFL learners. The study had two groups including 40 learners who were randomly assigned to the keyword and context group. While the keyword group had the keyword strategy training, the instruction in the context group emphasized learning vocabulary in their real context. The results of both immediate and delayed post-test revealed the keyword method is more effective than the context method.

Tavakoli and Gerami (2013) examined the effects of two different mnemonic non-verbal approaches the keyword method and pictorial method on L2 vocabulary learning and retention. With this aim in mind, the researchers randomly divided 60 adult female elementary students of Iranian origin into three equal groups. The students were given immediate recall tests at the end of the each session and a multiple-choice delayed post-test two weeks after the treatment. The researchers found that the participants in the keyword method retained target L2 vocabulary in their long-term memory better compared to in the pictorial method group.

In his study, Ashoori (2012) compared the effects of three L2 vocabulary learning strategies on long-term retention of English vocabulary items. The researcher randomly assigned 65 Iranian learners of English as a foreign language into three groups. The students were given a pre-test and were instructed with three different techniques; keyword, context and wordlist. After two sessions of treatment and a week after the treatment a post-test was administrated in two steps; cued-recall and word-recall. The results of the post-tests indicated that the keyword group was significantly better than the other groups in both cued-recall and word-recall tests. The study found no significant difference between the context and wordlist groups.

Zarei and Salimi (2012) examined the effects of three methods of vocabulary presentation, i.e., picture, song, and the keyword method. They gave a pre-test to 102 Iranian lower-intermediate EFL learners and divided them into three groups with each group being instructed with picture, song, and the keyword method during a whole semester. A multiple-choice test was given to test learners' receptive vocabulary knowledge and their productive vocabulary knowledge was measured via a fill-in-the blank test. The data comprised of the results of the tests were submitted to statistical analysis using two separate one-way ANOVA procedures. The results of both receptive and productive measurements revealed that the pictorial method yielded the best performance, which was closely followed the keyword method. On the other hand, the song method proved to yield significantly worse results compared to both the pictorial method and the keyword method.

Köksal (2013b) studied the impact of the keyword method on 24 Turkish learners of French as a foreign language at tertiary level in terms of L2 vocabulary learning, retention and perceptions of the method. Three weeks after the 6-week period of instruction, the retention test was administrated and the researchers used the reflective dairies students kept as a qualitative data collection tool to find out the learners' attitudes towards the instruction. The results of the study revealed that the keyword method increased vocabulary retention of the learners and analysis of reflective dairies indicated that the keyword method enhanced the participants' motivation and interest in the subject.

In line with the literature review above, this study sought answers for the sub-questions listed below:

1. Is there a significant difference between the pretest and posttest mean scores of the students in the experimental group where keyword method was used?
2. Is there a significant difference between pretest and posttest means of the students in the control group where the method suggested in the current program was used?

3. Is there a significant difference between the pretest means of the experimental group instructed with the keyword method and the control group where the method in the current program was used?

4. Is there a significant difference between the posttest means of the experimental group instructed with the keyword method and the control group where the method in the current program was used?

3. METHODOLOGY

This study aims to determine the effects of the mnemonic keyword method on the English vocabulary achievement of secondary school students in a Turkish L1 setting. In the study a pretest and posttest research design with a control group was used. Experimental methods are research methods in which observed data are collected under the control of the researcher in order to determine cause and effect relations .(Karasar, 2009). An English vocabulary test prepared by the researchers was administrated to both groups before and after the instruction period (See Table 1.1)

Groups	Pretest	Instruction Period	Post-test
Experimental	English Vocabulary Test	Instruction via the Keyword method (3 Weeks)*	English Vocabulary Test
Control	English Vocabulary Test	Instruction via the Method suggested in the program (3Weeks)	English Vocabulary Test

** Independent Variable*

Table-1.1. Research design of the study

Initially, the English vocabulary test developed for the study was administrated to the students in 5 different classes as a pretest and the vocabulary knowledge levels of the students in these classes were determined. According to the results, two classes with similar scores on the vocabulary test were determined as the study group. Then, among these five 8th grade classes section C was determined as the experimental group and Section A was determined as the control group and thus the research was carried out with two classes with similar achievement levels.

The students in both groups studied the same units during the instruction period. The teacher asked the students in both groups to underline the target words in the reading texts. The instruction was diversified during the presentation process. The students in the experimental group studied the words with the mnemonic keyword method while the students in the control group were given L1 equivalents of the target words which were written on the board. In order to control for the effect of repetition, the students in the control group were asked to repeat target vocabulary items with their L1 equivalents as many times as during the application of the mnemonic keyword method. After that, the students in both groups were asked to do the same matching and fill-in-blanks exercises and make their own sentences using the target words. Detailed process of the application of the mnemonic keyword method can be seen in Appendix

3.1 The Study Group

A total of 63 students with equal achievement levels attending Abidin Saniye Erçal Secondary School in Konya in 2013-2014 academic year participated in this study. The participants who volunteered to take part in the study were all Turkish L1 learners of English as a foreign language. They had been learning English for four years in English classes at school. 33 of the students were female and 30 of them were male.

3.2 Data Collection Tool

English Vocabulary Achievement Test (Pretest and Posttest)

In this study, an English vocabulary achievement test developed by the researchers to compare the effectiveness of the keyword method and L1 translation in EFL vocabulary learning was used as the pre-test and the post-test. The words included in test were chosen among the target words in the units to be studied and the following criteria were taken into consideration to select the words:

- a. Students should be seeing the target words for the first time,
- b. the number of the times target words occurred in the unit and during the instruction is to be equal
- c. the words must be eligible for the mnemonic keyword method.

Target vocabulary items from unit 6 and unit 8 which were to be studied in the 3 week period when the study would be conducted were examined and the ones that the researchers and an ELT expert taught would be suitable for the keyword method were chosen. The target words occurred and recycled for the same number of time as the students in both groups studied the same course book. Besides, the classes' English teachers were asked to eliminate some of the target words that they taught their students were already familiar with. Later on, based on the above-mentioned criteria a multiple choice test with four choices, where one of the choices is correct and the other three served as distractors, was prepared. When the context of the question is suitable, the distractors were also chosen among the target words so that the students, especially the ones in the experimental group, would not choose the correct answer solely based on their experience during the instructional period. Otherwise, the students could simply avoid the choices that they did not learn through the keyword method. Following the completion of the test questions, expert views were consulted and necessary adjustments were made before piloting the 25-item test.

The pilot test was administrated in a class of 160 9th graders who had taken the English course the previous year. It was decided that each correct answer would score 1 point and each wrong answer would score 0 points. The data obtained from the pilot test was submitted to item analysis. Item analysis which was performed for each question in the test revealed varying difficulty indexes. Items with the difficulty index (P_j) between 0,60 and 0, 40 and with the discrimination index (r_{jx}) above 0,30 were included in the test without any amendment. Items with the difficulty index of approximately 0,35-,70 were amended in line with expert opinion and distractor analysis, and then included in the test. Five items that are out of this index range were omitted. In this way, a 20-item English vocabulary test was developed. Then, the KR-20 reliability co-efficient of the test was calculated.

According to the analysis of the pilot-test results, KR-20 reliability coefficient was found to be 0,79, which indicates that the reliability of test is high (Tavşancıl, 2005). As a result, it was understood that the English vocabulary achievement test could be used to measure 8th graders' vocabulary knowledge level with regard to the target words chosen from the units to-be-studied.

3.3 Analysis of Data

The data analysis was performed in SPSS 18 on the computer using the dependent and independent t test.

4. RESULTS AND DISCUSSION

4.1 Findings

4.1.1 Findings regarding the First Sub Question

The first sub question of the research was "Is there a significant difference between the pretest and posttest mean scores of the students in the experimental group where keyword method was used?" In

order to find an answer this question, the pretest and posttest scores that the experimental group received from the English vocabulary achievement test and dependent sample t test were compared. The obtained results are shown in the table below (See Table 1.2).

	N	Mean+ Std. Deviation	t	Sig.(p)
Experimental group pre test	32	10,5909±0,777	-5,830	0,000
Experimental group post test	32	15,9545±0,544		

Table- 1. 2. Comparison of the Pre-test and Post-test scores of the Students in the Experimental Group on the Vocabulary Achievement test

As seen in Table 1.2., there is a significant difference between the pretest and posttest mean scores of the English vocabulary test the experimental group students received ($p < .05$). According to our findings, activities where the keyword method was used in the experimental group were effective in enhancing the students' vocabulary.

4.1.2 Findings regarding the Second Sub-Question

The second sub-question of the research was "Is there a significant difference between pretest and posttest means of the students in the control group where the method suggested in the current program was used?" In order to find an answer to this question, the pretest and posttest scores that the control group students received from the English vocabulary achievement test and dependent sample t test were compared. The results obtained are shown in the table below (See. Table 1.3).

	N	Mean+ Std. Deviation	t	Sig.(p)
Control group pre test	31	8,6818±0,712	-1,883	0,074
Control group posttest	31	10,7727±0,829		

Table- 1. 3. Comparison of the Pre-test and Post-test scores of the Students in the Control Group on the Vocabulary Achievement test

As seen in Table 1.3, there is not a significant difference between the control group students' pretest and post test scores ($p > .05$). According to this finding, it can be suggested that the activities in the control group did not have a positive effect in enhancing students' English vocabulary level.

4.1.3 Findings regarding the Third Sub Question

The third sub question of the research was "Is there a significant difference between the pretest means of the experimental group instructed with the keyword method and the control group where the method in the current program was used?" To answer this question, the pretest and posttest scores that the experimental and control group students received from the English vocabulary achievement test and dependent sample t test were compared. The results obtained are shown in the table below (See. Table 1.4).

Pre-test	N	Mean +Std. deviation	t	Sig.(p)
Experimental group	32	10,5909±0,777	1,810	0,077
Control group	31	8,6818±0,712		

Table- 1. 4. Comparison of the Pre-test scores of the Students in the Control Group and in the Experimental Group on the Vocabulary Achievement test

Upon analyzing the results of the independent sample t test, it was found that there is not a significant difference—($p>.05$)— between the English vocabulary achievement pretest scores of experimental and control group students. According to this result, it can be suggested that the English vocabulary knowledge levels of the groups chosen prior to the experimental process were equal.

4.1.4 Findings regarding the Fourth Sub Question

The fourth sub question of the research was “Is there a significant difference between the posttest means of the experimental group instructed with the keyword method and the control group where the method in the current program was used?” In order to find an answer to this question, the posttest scores that the experimental and control group students received from the English vocabulary achievement test and dependent sample t test were compared. The obtained results are shown in the table below (See. Table 1.5).

Post-test	N	Mean +Std. Deviation	t	Sig.(p)
Experimental group	32	15,9545±0,544	5,223	0,000
Control group	31	10,7727±0,829		

Table- 1. 5. Comparison of the Post-test scores of the Students in the Control Group and in the Experimental Group on the Vocabulary Achievement test

When the results of the independent sample t test, performed in order to compare study groups' posttest scores, were analyzed, it was found that there is a significant difference— $p<0,05$ —between the posttest scores of the experimental group and the control group. According to this finding, the mnemonic keyword method used in the experimental group was more effective in enhancing the students' vocabulary levels than the activities in the control group.

The results of this study are line with almost all of the research carried out in the literature (Rodrigues & Sadoski 2000; Baleghizadeh & Ashoori 2010; Pressley, Levin & Miller, 1982; Pressely et al., 1980, Atkinson & Raugh 1975; Sariçoban & Başıbek, 2012; Soleimani, Saeedi & Mohajenia, 2012, Brown & Perry, 1991). In the view of the body of research in L2 vocabulary learning strategies, especially the studies on the Keyword method, the positive results of this study in favor of the keyword method can be attributed to the fact that it provided learners a meaningful visual image upon which to base memory for the new L2 word (Shapiro and Waters (2005).

Most of the studies in the literature as in our study compared the effects the keyword method with traditional L2 vocabulary teaching method or learning strategies, namely, rote-rehearsal, presenting definition, L1 equivalent or L2 synonyms (Atkison, 1975; Atkison & Raugh, 1975; Chen and Hsiao, 2010; Baleghizadeh & Ashoori, 2010). The findings of these studies are consistent and they unanimously accept that the keyword method is superior to the traditional methods, i.e. rote learning. So, according research findings which also tally with the results of the present study, we can conclude that the keyword method yield better learning benefits compared to traditional L2 vocabulary learning techniques or strategies.

On the other hand some studies compared the keyword method with other alternative strategies or method. For example Sarıcoban and Basibek (2012) compared the keyword method with the context method. Tavakoli and Gerami (2013) examined the effects of two different mnemonic non-verbal approaches the keyword method and pictorial method on L2 vocabulary learning and retention. They found the keyword method to be superior. Zarei and Salimi (2012) examined the effects of three methods of vocabulary presentation, i.e., picture, song, and the keyword method. They also found that the keyword method was more effective. Pressly, Levin and Miller (1982) reported that learners in the imagery keyword condition performed significantly higher compared to the participants who were presented the vocabulary in sentence contexts. So it can be argued that imagery link, which is also used in our study, is the source of success in the keyword method. The effectiveness of the keyword method can be attributed to depth of processing, dual coding and cognitive engagement during sentence repetition.

Among the studies reviewed some found that methods combined with the keyword method yield better results compared to using the keyword method alone. Brown and Perry (1991) compared three L2 vocabulary learning strategies, namely; keyword, semantic, and keyword-semantic and concluded that combined keyword-semantic strategy led to better results. They found that that combined keyword-semantic strategy led to better results. Rodrigues and Sadoski (2000) studied the comparative effects of rote rehearsal, context, keyword, and context-keyword on immediate and long-term retention of L2. They reported that combined context/keyword method was significantly better than the keyword method. Therefore, considering the results of these studies, it can be concluded that the keyword method should be applied in combination with other non-traditional vocabulary learning methods, an argument which requires further studies to be proven.

5. CONCLUSION

This study which was undertaken to test the effectiveness of the mnemonic keyword method in L2 vocabulary in Turkish EFL setting in a secondary school and explored the learning benefits of the keyword method when compared to traditional L2 vocabulary teaching and learning strategies applied in English classes in line with the current educational program and materials provided by the ministry of education. The study showed that low-proficiency students can learn L2 vocabulary better when they are taught with the keyword method which entails acoustic link and mental image to be formed.

The keyword method stands out as a proven vocabulary learning strategy for foreign language teachers and learners. In the face of the fact that vocabulary is an integral part of L2 learning and can sometimes turn into a daunting job for foreign language learners, foreign language teachers can bring in joy and success in their classes by employing the mnemonic keyword method. Just as for other methods, techniques or strategies, the mnemonic keyword method is to be used to bring in variation into EFL classes. We must bear in mind that the keyword method is one of the potent alternatives to vocabulary teaching. We are supposed to equip our learners with a variety of learning strategies so that we can address to individual differences in their learning styles. Only when we provide our learners with a rich repertoire of learning strategies, can we say that we fulfill our responsibilities as guides for our students' learning and can our students can become independent learners. Thus, as language teaching practitioners and researchers, we should apply this scientifically-proven technique in our classes as potential alternative in L2 vocabulary teaching and learning.

In line with the results of the study, it can be suggested to use the keyword method in all English lessons where the inherent nature of the target word is suitable for the mnemonic keyword method. Furthermore, ELT material developers can consider incorporating activities based on the mnemonic keyword method in their language teaching materials to make them more effective and interesting especially for young learners. Besides, the mnemonic keyword method should be included in in-service and pre-service ELF teacher training programs. Further studies on the mnemonic keyword method can compare student-generated and teacher-provided keyword materials. Besides, long-term retention of the target words can be compared with other vocabulary learning strategies, namely; the context method, wordlist, L1 translation and keyword + context method. It would also be interesting to

compare the keyword method not only in terms of retention of vocabulary items but also depth of vocabulary knowledge which include the knowledge of the part of speech, pronunciation, the use of words in fluent speech and written production and collocation.

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APPENDIX- 1 LESSON PLAN (SAMPLE LESSON ACTIVITY)

LESSON PLAN

Subject: English

Unit: 6

Topic: Detective Stories. The Story of the Stolen Necklace

Duration: 4 x 4= 8 hours of course

TARGET BEHAVIORS

1. The students can express the preferences they have made.
2. They can explain the reasons of their preferences.
3. They can create simple questions.
4. They can express their personal views.
5. They can describe what people usually do.
6. They can use the target words mentioned in the unit. (fish, trip, smile, slim, blush, raise.)

TEACHING – LEARNING ACTIVITIES

Attracting Attention



“I chose career my dear!..”

The teacher projects the above picture on the board. S/he then asks the students to make guesses and comments about the conversation above. Depending on the comments made by the students, the teacher asks the students explain what their career preference would be in the future. Then, the teacher tells the students the following “Today we are going to learn to express in English what careers you would like to have and the reasons for it”.

Motivation

“Today we are going to learn to express what careers you would like to have and the reasons for it in English”.

The Lesson

Activity

Objective: To be able to express preferences and their reasons in English.

Tools and Materials: Four Seasons English textbook, CD player, board, projector, and flashcards.



Stages of the Activity:

- ✓ The teacher shows the students some pictures related to a specific occupation and asks the students to tell the names of these occupations.
- ✓ The teacher asks the students what pictures they would like to choose.
- ✓ Then the teacher asks the Ss the reasons why they chose that specific picture(s).
- ✓ The teacher asks the students to ask each other about their preferences regarding summer vacation.
- ✓ S/he has the students make sentences such as “I would rather go rafting than canoeing because it is easier” and “I prefer rafting to kayaking because it is more entertaining”.
- ✓ The teacher reads aloud a dialogue about preferences and writes the target words mentioned there on the board.
- ✓ The teacher projects the (meaning/ L1 equivalent or definition of the) target words and the keywords onto the board following their guesses.
- ✓ After the students make guesses regarding their meaning, s/he projects the target words and the keywords on the board.
- ✓ Then, pictures that represent those words are given and the students are expected to make the connection between the words and the pictures. Students give answers that are close to the sample sentences.
- ✓ Sample sentences are then projected onto the board and the students are expected to make sense of the connection between the words.
- ✓ The students are asked to tell their preferences about anything with the new vocabulary.
- ✓ The students are then asked to explain what their preferences would be in any subject using the new words they have learned.
- ✓ Explanation:

The teacher helps students make sentences related to preferences with the aid of simple sentences without pushing them. The goal here is to introduce the phrases and expressions that the students will use when talking about their preferences. The teacher writes the answers provided by the students on the board. S/he has students work on a sentence without correcting them. After that, the teacher revises the sentences with the students and makes corrections on the wrong parts. Following the revision, the whole class reads the sentences aloud at the same time. Time is given to students to write down any notes and study what they have learned. Then, the teacher reads aloud a text in the textbook. S/he has the students underline the target words mentioned in the text. The target words from this unit are as follows:

- a. fish
- b. trip
- c. smile
- d. slim
- e. blush
- f. raise

The teacher does not allocate separate hours of lesson in both groups. The teacher asks students to underline these when they appear in text. However, different from the control group, in the experimental group slides which are prepared with the keyword method. The teacher shows the slides related with the target words on the board. Later on, the teacher asks the students to read sentences accompanied with visuals and repeat it several time by keeping their eyes on the visual meanwhile. The students first read the target word and then the keyword and finally the Turkish sentence which includes the keyword. In the control group, slides which include the same visuals related with target words are used. But these slides do not involve the keyword method.

The Process of Presenting the Keyword:

“Ok. Friends! Let’s have a look at the word “**slim**” in the unit. The word “**slim**” means attractively thin. To remember the word **Slim**, let us use Selim as the keyword. Now “What is the keyword for the word **slim**?”

(The students respond: **Selim**). The teacher gives feedback by saying “well done, right”. Yes, friends the keyword for **slim** is **Selim** and it means attractively thin. Now let us see our keyword in a sentence. The teacher shows the slide and asks the students to look at the picture of a thin boy and read the sentence under the figure. “OK. Friends let us read our sentence all together.”

The students say “**SELİM** is a very **SLIM** boy”. Ok dear students. For what word is the Selim keyword?

Students: Slim.

The teacher: “What is our sentence in which we use our key word”.

The students “**SELİM** is a **SLIM** boy”.

The teacher: “ Then, friends what keyword does the word **slim** remind you of”.

The students: Selim.

The teacher :“Right, what is the name of the child in the picture?”.

The students :Selim.

The teacher :“ What does **Selim** look like?”.

The students : “He is slim”.

The teacher : “Then let us remember our sentence one again by looking at the picture”. The teachers makes the students repeat the sentence.

The teacher: “ and once again what does **Selim** look like ?”.

The students: “he is weak”

The teacher :“ Then what does weak mean and for what word is **Selim** the keyword?”

The students: Slim.

The teacher says “well done” and finishes off the activity.

APPENDIX-2

Examples of keywords used to teach l2 english vocabulary to 8th graders

TARGET WORD	KEYWORD
FISH	FİŞ
TRIP	TİRİP
SMILE	İSMAİL
SLIM	SELİM
BLUSH	BULAŞ
RAISE	REİS
TASTY	TESTİ
DELICIOUS	DELİŞANS
IRON	AYRAN
WASH	VOŞ
TRASH	TİRAŞ
MESS	MES
BUY	BAY
SNAKE	SİNEK
SAILOR	SAYILIR
ATTACK	ETEK
DISH	DİŞ
PIECE	PİS
BUTTER	BATIR
COUHG	KAF

Examples of some sentence in which the keywords are used. (Köksal, O., 2013).

1. *BALIĞIN FİŞİNİ unuttum (I forgot the receipt for the fish I bought)*



2. SEYAHAT ediyorum diye bana TİRİP atma (Do not assume a pose because I am going on a trip)



3. İsmail herşeye gülümsüyordu (İSMAIL used to SMILE at everything)



4. ÜTÜ YAPARKEN AYRAN içiyordu (She was drinking ayran-heteronym for iron-when ironing)



5. Dedem MESİNİ hep DAĞINIK bırakır (My grandfather always leaves his mes-Turkish heteronym for "mess" meaning leather socks-in a mess)

