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Using semantic mapping technique in vocabulary teaching at pre-intermediate level

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Abstract

The aim of this study is to investigate the effects of using Semantic Mapping Technique in comparison to traditional technique in vocabulary learning and to find out whether there is a relationship between students' beliefs about vocabulary learning strategies (VLSs) and what strategies they prefer to use. 32 students at the pre- intermediate level of English from Selcuk University, at the Department of School of Foreign Languages took part in the study. Quantitative data was collected through a two-part questionnaire. The results revealed that students' beliefs and their preferences were related. For the experimental study, target vocabulary items were taught with Semantic Mapping technique to experimental group and control group was introduced with traditional technique. To analyze the difference between semantic mapping technique and traditional technique, t-test calculations were used with the results of the pre-test and post-test. According to the results, semantic mapping technique is more effective than the traditional technique in vocabulary learning.

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Keywords: semantic mapping technique; traditional technique; vocabulary learning strategies.

1. Introduction

The importance of learning vocabulary in foreign language teaching cannot be neglected at all. Although less importance was given to vocabulary learning in the past, many experienced teachers of English as a second or foreign language have realized that knowing a language means knowing its vocabulary as well.

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Therefore, we may assert that learning a foreign language is basically a matter of learning the vocabulary of that language. Not being able to find the word you need to express yourself is the most frustrating experience in speaking another language. The degree of proficiency in a language is related with the words you know. The more words you know, the better you can express your ideas and communicate with others. Without words, people cannot use the language effectively.

In the 1970s a shift of focus from teaching methods, classroom techniques, and instructional materials to the language learner and his/her characteristics took place as a result of disappointing research results, which revealed that no single method, instruction or material could guarantee effectiveness on its own in foreign language learning. So, scholars and researchers in the field noticed that there were learners who were successful no matter what teaching method or classroom instruction was used. On the other hand, there were some learners who could not become successful studying the same material, in the same classroom, under same conditions with others. Such concerns have initiated interest in an area known as learning strategies.

Research about learning strategies has focused on language learning and teaching in order to provide insights for developing effective vocabulary teaching and learning. Although vocabulary has been attributed less importance than the four skills in language teaching, interest in its role in language learning has grown rapidly in recent years because learning a foreign language is basically a matter of learning the vocabulary of that language as indicated above. In a foreign language learning context, it cannot be denied that vocabulary is an element of great importance and thus emphasized to a great extent. When this importance of vocabulary learning is taken into consideration, we cannot skip the role of learning strategies in vocabulary learning and teaching. Another benefit of using strategies could be that, once this ability is gained, students may transfer them to other language skills. Through the cultivation of vocabulary, learners are allowed to one more channel of communication and can benefit from one more important source of input (Biggs, 1999). If vocabulary is improved, it may provide usable data in improving language skills and can accelerate language learning. To be self-sufficient, learners must know how to learn. So, the aim here is to encourage self sufficiency by helping learners recognize situations where they could use these vocabulary learning strategies and become aware of these strategies that are particularly suitable for them and use them effectively. For that reason, it would be useful to determine their strategies and raise their awareness of these vocabulary learning strategies in order to make them not only more prepared for learning but also more analytic about their strategies they make use of. So, vocabulary learning strategies are recognized as a way to empower students to take control of and responsibility for their vocabulary learning.

All of the second language teachers have been asked questions like “How can I learn the new words easily?” and “How can the new words be kept in mind?” by the students. Second or foreign language teachers have faced this kind of questions several times. They have classes with different ages, levels, interests and backgrounds and according to them, keeping the new vocabulary in mind for long-term is an important problem for learners. Teachers of second or foreign language present new vocabulary items during lessons and at this stage there is no problem. What are waiting for them in the later steps includes difficulties in remembering the words taught in previous lessons and related with this problem there are difficulties in producing sentences and lack of communication. The importance of the acquisition of vocabulary cannot be neglected for learning second language. Since the time is limited at schools, vocabulary items must be given to the students as in an effective and practical way as possible.

Vocabulary learning strategies may help students learn and remember words in learning a foreign language. By using Semantic Mapping technique for different vocabulary items, students can increase their abilities on vocabulary learning. It is important for teachers of foreign language to learn if this method can help them. The purpose of this experimental study is to see which of the two methods, using Semantic Mapping Technique or Traditional Technique, is more effective in helping students' retention

of vocabulary in long term memory. By this way, students will be able to learn the required words in a short time, and minimum lack of retention and recognition will be obtained.

This study also aims to learn more about learners' vocabulary learning strategy preferences and to find out students' vocabulary learning strategies available for learning vocabulary. It also aims at identifying students' beliefs about vocabulary learning strategies and their preferences in vocabulary learning in order to determine whether there is a relationship between their beliefs and strategy preferences. It explores Turkish EFL learners' beliefs about their preferences by offering guidance to EFL teachers/researchers who are interested in Turkish EFL learners' strategy choice and use.

This study plays an important role in vocabulary learning because it explores a range of vocabulary learning strategies those students prefer to use and consider effective. These may, of course, be the strategies they already use, but learners ought to have the opportunity to learn about alternatives that allow them to make their own choices about vocabulary strategy use. The benefit of such a study is that it takes the learner as an individual with previous experiences and beliefs and can accommodate information both for learners and teachers about using vocabulary learning strategies in vocabulary learning. So, the second section provides a theoretical discussion with a description of Semantic Mapping Technique and the most common applications of Semantic Mapping Technique as a vocabulary strategy while the third section outlines the methods and materials used, and the following section presents the findings, and the final chapter concludes the paper.

2. Semantic Mapping Technique

Semantic mapping is a process for constructing visual displays of categories and their relationships. It is a categorical structuring of information in graphic form. It is an approach leading students to relate new words to their own experiences and prior knowledge. Semantic maps as Jonassen (1993: 98) indicates "are type of graphic organizers that visually represent relationships among categories of concepts". Figure 1 displays the structure of a semantic map. They include a key concept, or main idea, with categorized concepts related to the key concept. The categories related to the central concept and the associations among words are indicated visually in a diagram or map.

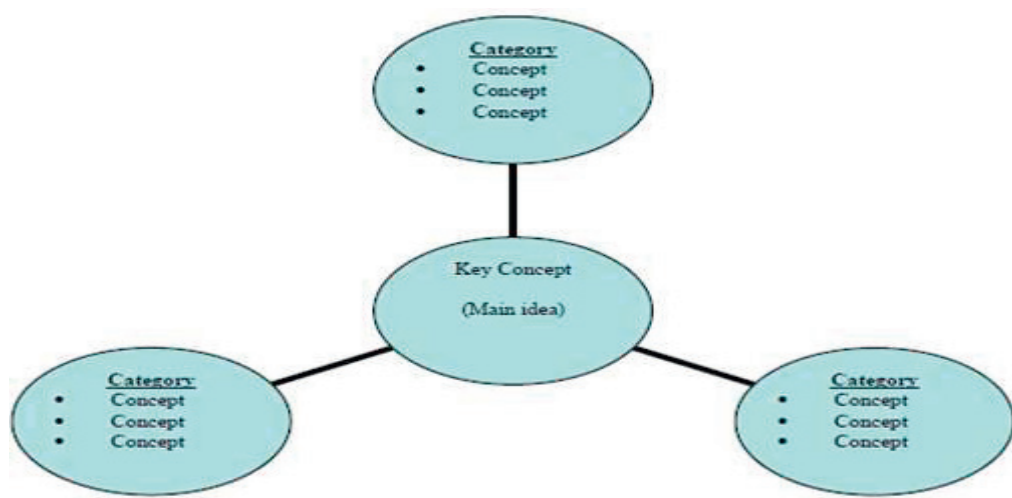


Fig. 1. The Structure of Semantic Maps

Semantic mapping is not new; it has been around for years under the labels “semantic webbing”, “semantic networking,” or “plot maps” (Heimlich and Pittelman, 1986: 3). It has been regarded as a successful and helpful teaching strategy based on the creation and evaluation of the learner’s background knowledge or schemata. There are many different definitions of semantic mapping strategies described by different researchers. Sinatra, Gemake and Berg (cited in Zaid, 1995:6) describe semantic mapping as “a graphic arrangement showing the major ideas and relationships in text or among word meanings”. Semantic maps can be used to underline the relationships between items, and they are an extremely practical framework for storage of terms. Heimlich and Pittelman (1986:3) define semantic maps as “diagrams that help students see how words are related to one another”. According to Stoller and Grabe (1993:34) “semantic mapping leads to better vocabulary retention because new lexical items are introduced in semantic networks”. In short, semantic mapping displays graphically information which is related to a topic or concept and stimulates meaningful word relations.

Semantic mapping requires the teacher and the learners cooperate working together to build up a diagrammatic map which indicates the associations between vocabulary suggested by the teacher, vocabulary by the students and vocabulary found in a reading text. Taking part in a semantic mapping process activates students’ background information which is about the topic and provides an efficient way to strengthen key words, allowing students to include the new vocabulary into their existing schemata. Semantic mapping assists the learner to learn unknown words through known words in a semantically related network.

In vocabulary learning, it is important for the learner to make an effort and show required interest. If the task does not involve enough effort, the learner may not be interested and may not pay his attention and enthusiasm. Instead of traditional techniques which are not challenging enough, more effective and enjoyable techniques can be used as they require more effort. The learners can get rid of the routine traditional ambiance in the classroom. As this technique is new for the learners, they will be expected to interest and attend the process, especially the thought of the product which will be their own creations, will courage them to use this technique.

2.1. Schema Theory

The idea of schema has been highlighted in cognitive science since the mid 1970’s. Schemata are employed in the process of interpreting sensory data, in retrieving information from memory, in organizing action (Rumelhart, 1980). Vocabulary development should be parallel with schemata or background knowledge. Thus, when new words are presented within the schematic frame they can be readily interpreted. The value of semantic mapping has been recognized as a result of understanding the important role played by prior knowledge or schemata in the learning process.

2.2. Knowledge Hypothesis

In the light of schema theory Johnson, Toms-Browski & Pittelman (1982) suggest one of the hypotheses about vocabulary development. This hypothesis is about making relationship between stored word knowledge and comprehension of discourse. The vocabulary words which have been learned previously are retrieved by the reader during comprehension process so word knowledge functions. ‘Clustering’ in terms of vocabulary learning is a beneficial way for associating the words when they are listed aimlessly and randomly.

2.2.1. Information- Processing Hypothesis

One of the processes of this hypothesis is Spreading Activation Models. This model has a facilitating effect because in the process of associations, links of mental processing is alerted. In this sense, the related sentence is comprehended quicker than an unrelated sentence. Students can gain further practice in classification by labeling the categories on the semantic map (Johnson and Pearson, 1984).

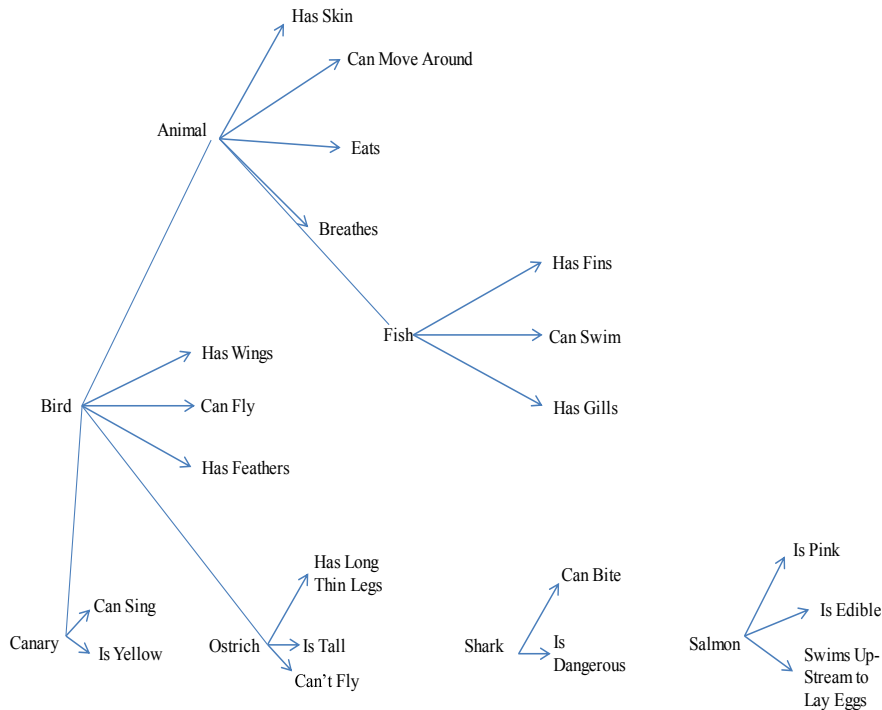


Fig. 2. An example of Semantic Mapping (Johnson and Pearson, 1984:17)

2.3. Types of semantic mapping technique

The three of the most commonly used applications of the semantic mapping strategy are (Heimlich and Pittelman, 1986:5):

- General vocabulary development,
- Pre and post reading,
- As a study skill technique.

2.3.1. *Semantic Mapping in Vocabulary Development*

Perhaps the most widely known use of semantic mapping as an instructional strategy is in general vocabulary development. In this strategy, semantic mapping procedure prepares students to understand, learn, and assess the information to be read. Johnson and Pearson (1984:12-13) adapt a semantic mapping procedure for vocabulary development:

- Choose a word or topic related to classroom work.
- List the word on a large chart tablet or on the chalkboard.
- Encourage the students to think of as many words as they can that are related to the selected key word and then list the words by categories on a sheet of paper.
- Students then share the prepared lists orally and all words are written on the class map in categories.
- Students can gain further practice in classification by labeling the categories on the semantic map (cited in Heimlich and Pittelman, 1986:5).

2.3.2. *Semantic Mapping in Pre and Post Reading*

In addition to being effective for vocabulary development, semantic mapping has been demonstrated to be a good alternative to traditional activities used before reading a new passage, as well as after reading a passage (Heimlich and Pittelman, 1986: 6). In this application, before reading the certain passage, students work on the key concept and think as many words as they can about the key concept by the help of their prior knowledge. After reading the story, students can add words and new categories to their knowledge. Semantic mapping as a pre and post reading strategy is effective with basal as well as with other reading materials and has been successfully adapted content instruction as well (Heimlich and Pittelman, 1986: 6).

2.3.3. *Semantic Mapping as a Study Skill Strategy*

Hunt (1957) elaborated on the semantic mapping strategy, using it as a study skill to guide the processing of textbook material. In Hunt's procedure; "mapping is used as a study skill technique with either individuals or groups" (cited in Heimlich and Pittelman, 1986: 6). There are three basic steps to design a map of content information from a text in Hunt's procedure:

- Identification of the main idea: The main idea is written on a sheet of paper and a shape is drawn around it.
- Secondary categories: The principal part of textbook chapter will form the secondary categories in the semantic map. Before reading the textbook, students hypothesize what the basic parts of the passage. Labels for the secondary categories are then written on the map.
- Supporting details. In this final step of the procedure, students read the chapter for details and complete the map by adding details from memory (Heimlich and Pittelman, 1986: 8).

2.4. The Procedures of Semantic Mapping Strategy

The use of semantic mapping in the classroom may be divided into five phases in general. These are “introducing the topic, brainstorming, categorization, personalizing the map, post-assessment synthesis” (Zaid, 1995:9). In Zaid’s variation, phases are explained below:

- **Introducing the topic:** The teacher declares the topic by drawing a large oval on the blackboard and writes the topic inside of it. This topic is about the passage students will read. Through this, the students can guess the purpose of the reading passage.
- **Brainstorming:** The teacher wants the students to think about keywords and ideas which are interrelated to the topic. This fact enables the students to use their background knowledge and experiences. Brainstorming is an application of the schema theory, which is necessary for connecting known and unknown concepts. Thus, prior knowledge can be used as a stepping block to new knowledge. The brainstorming part of semantic mapping gives an opportunity to observe each of the students’ schemata so prior knowledge. The keyword and ideas are listed to the one side of the blackboard. In this phase all responses are accepted as they relate to the topic
- **Categorization:** The teacher supports the students to make connections among their offers. “Category clusters” (Antonacci, 1975:174) are formed by the students and the teacher together according to the students’ ideas. Then the teacher and students decide suitable headings or labels for each of the clusters or categories of words. When this clustering finishes, the teacher wants the students to make their own copies. In this phase According to Zaid (1995) the students grow experience in practicing some valuable cognitive skills, particularly categorizing and exemplifying and they also learn comparing and contrasting, cause and effect relationships and making inference. This part also can be termed as pre- assignment.
- **Personalizing the map:** After each student makes his/her own copy, a material such as a reading passage which is about the key concepts of the map, is given. This reading passage consists of more related concepts than the students have listed. As they read, students are to decide what to add or eliminate from the map they have created. In this step, new information is integrated with prior knowledge.
- **Post- assignment synthesis:** The last part of this procedure is used to record the students’ suggestions from their personal maps on the pre-assignment. After they read the passage and add or eliminate some items, the whole class decides the final shape of the map. The new version, serves as a visual image of the knowledge they gained from the map.

3. Method and Data

Before the main study, as a prior step, a descriptive study was conducted. This study was conducted based on a survey research for the purpose of making descriptive assertions about some population and aims at finding out whether there is a relationship between students’ beliefs about vocabulary learning strategies and what vocabulary learning strategies they prefer to use when they are dealing with new words. Quantitative data for this descriptive study was collected through a two-part questionnaire including 40 items. The first part aimed to identify students’ beliefs about vocabulary learning strategies and the second part aimed to find out what vocabulary learning strategies they preferred to use most. The format for the questionnaire came from Gu & Johnson’s (1996) *Vocabulary Learning Strategies Questionnaire* (VLSQ). The reliability coefficient, Cronbach alpha of the questionnaire was .82. The questionnaire was administered by the class teachers. Subjects received oral

instructions from their teachers about how to complete the questionnaire, and were encouraged to seek clarification of any items they did not understand. This VLSQ took about 50 minutes (a class hour) to complete, including about 5 or 10 minutes' initial explanation. The questions were carefully gauged with this amount of time in mind to ensure that they could be completed. The purpose was to find out students' vocabulary learning strategies available for learning vocabulary. It also aimed at identifying students' beliefs about vocabulary learning strategies and their preferences in vocabulary learning in order to determine whether there was a relationship between these two issues and what vocabulary learning strategies they actually use when they are dealing with new vocabulary.

After conducting the questionnaire, as the testing material two tests, a pre- test and a post-test were used. First, the subjects were given the pre-test. The main study is an experimental study focusing on the effectiveness of alternative methods in teaching second language vocabulary for pre- intermediate level students of English by comparing the scores of experimental group and control group. This study involved 32 students from Selcuk University, School of Foreign Languages. The students were at pre-intermediate level. The students' ages ranged between 18 –20. This study was carried out in two classes. The students were divided into two groups. First group was chosen as an Experimental Group that received Semantic Mapping, whereas second group was constituted the Control Group that was instructed vocabulary through Traditional Technique. There were 15 students in experimental and 17 students in control group. They take 25 hours of classes in a week.

In the treatment process, the semantic mapping technique was used in the experimental group and the control group worked with traditional approaches with the same material including a reading text. Semantic Mapping Technique was compared to Traditional Technique to see which of the two techniques, using semantic mapping technique or traditional technique, is more effective in helping students' retention of vocabulary and also in order to see what learners really perform in a classroom setting during vocabulary learning process. By this way, students would be able to learn the required words in a short time, and minimum lack of retention would be obtained. For the experimental group, semantic mapping technique was used as pre and post reading activities. A prototypic semantic map (Figure 3) was prepared for the topic "Holiday".

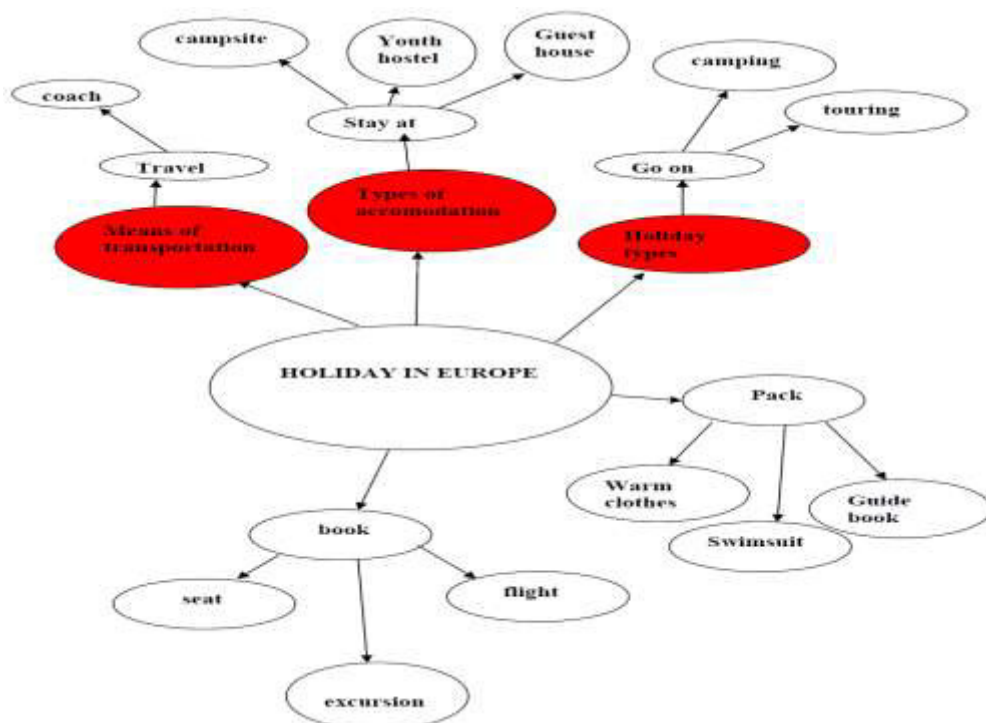


Fig. 3. A Prototypic Semantic Map for the Topic “Holiday”

This map contained the topic, suggested category labels for the target words, the target words, and suggestions for other possible categories the teacher might use in the lesson. In the “Holiday” map, the red bubbles indicated the target words that did not appear in the passages. These words were given by the teacher so that the students could categorize the lists they had formed properly. In this sense, teacher led to the students in the creation process. In their own maps students also used different color pens to indicate the words that did not appear in the text. Moreover another color of pen and board marker was needed in order to mark the target words which could be captured in the passages. In this case different colors evoked more clear shapes in the learners’ minds. In the teacher prepared maps just red color was seen, as the other target words were obtained from the passage.

The pre-test was also used as the post-test of the study after a five-week period to assess the retention rate of the target words. The test was a list of the 14 target vocabulary items to write in the blanks in the sentences. To prevent the familiarization effect, the order and some specific vocabulary items in the questions without decomposing the style and the content of the questions in the pre-test were changed in the post-test.

4. Findings

Statistical information based on the analysis of students’ beliefs about vocabulary learning strategies and their preferences in vocabulary learning in order to determine whether there is a relationship between them and what vocabulary learning strategy students prefer to use most. Data with respect to students’ beliefs about vocabulary learning strategies and their preferences in vocabulary learning strategies were collected through the *Vocabulary Learning Strategy Questionnaire*. The

statistical analyses were conducted by using the Statistical Package for Social Sciences (SPSS 15.0). In order to reveal whether there was a significant relationship between students' beliefs about vocabulary learning strategies and their preferences in vocabulary learning the Pearson correlational coefficient "r" was searched. Regarding the results obtained from the second part of the questionnaire, descriptive statistics was used to group students' responses with their major and minor mean scores according to the vocabulary learning strategies in the first part of the questionnaire.

Table 1. Pearson Correlation of *Students' Vocabulary Learning Strategies and Beliefs*

		Beliefs	Strategies
Beliefs	Pearson	1	,312*
	Sig. (2- tailed)		,047
	N	32	32
Strategies	Pearson	,312*	1
	Sig. (2- tailed)	,047	
	N	32	32

In order to determine whether there was a statistically meaningful relationship between students' beliefs about vocabulary learning strategies and their preferences in vocabulary learning, the Pearson product moment correlational coefficient "r" was searched. The results reveal that students' beliefs about vocabulary learning strategies and their preferences were significantly correlated at $p < .01$ level. This implies that students' beliefs are related to their vocabulary learning strategy preferences. For the experimental part of this study, at the beginning the pre-test scores of experimental and control groups were compared to see whether both groups were at the same level when the study started. The researchers calculated the means and standard deviations of both experimental and control groups for both tests, and then t-test was used to compare the two groups on pre-test.

Table 2. Descriptive Statistics Concerning *Vocabulary Learning Strategy Preferences*

	N	Min.	Max.	Mean	SD
G1	32	1,89	4,64	3,2050	,62752
G2	32	2,00	5,00	3,0275	,56678
G3	32	1,50	4,97	3,0183	,76532
G4	32	1,34	4,98	2,7850	,77673

G1: Employing Actions, G2: Applying Images and Sounds, G3: Creating Mental Linkages, G4: Reviewing Well.

The *Vocabulary Learning Strategy Questionnaire* was used to assess the students' preferences in vocabulary strategy use. The second part of the questionnaire consisted of 28 items designed to diagnose the major and minor vocabulary learning strategies of students. The responses that participants gave the questionnaire mentioned above were analyzed. The items were grouped under the main four categories according the first part of the questionnaire: G1 (Employing action), G2 (Applying images and sounds), G3 (Creating mental linkages), G4 (Reviewing well). It seemed that only mean scores of G1 (Employing action), being 3.20, falls into the major vocabulary learning strategy preference. According to the mean scores, G4 (Reviewing well), being 2.78, was the least preferable vocabulary learning strategy.

In the third stage, for the experimental part of this study, at the beginning the pre-test scores of experimental and control groups were compared to see whether both groups were at the same level when the study started. Means of all tests belonging to experimental and control groups were compared and statistical analysis was made by using t-test results. Because of existing two unpaired group in this study, the type of unpaired t-test was applied to the results of the tests.

Table 3. Pre-test Results

Groups	N	Mean	SD	df	t	p
Experimental	15	1,84	0,79	14	-6,19	0,5463
Control	17	1,80	0,77	14	-6,19	0,5463

A careful analysis of Table 3 indicates that pre-test mean scores for recall test (Experimental Group: M: 1,84 SD:0,79; Control Group: M: 1,80 SD:0,77) showed no significant differences between the experimental and test groups. T-test calculations were carried out in order to see the difference of the means of the two groups. According to the t-test results for the recall pre-test, p value equals to 0,5463. By conventional criteria, this difference is considered to be not statistically significant. It showed that group selection was random and neither of the groups was advantaged at the beginning of the study.

Table 4. Post-test Results

Groups	N	Mean	SD	df	t	p
Experimental	15	9,05	1,20	14	-5,82	0,0000
Control	17	7,36	1,72	14	-5,82	0,0000

The findings obtained from post-test mean scores (Experimental Group: M: 9,05 SD:1,20; Control Group: M: 7,36 SD: 1,72) showed differences between the experimental and control groups. T-test calculations were carried out in order to see the difference of the means of the two groups. According to the t-test results, p value equals to 0,0000. By conventional criteria, this difference is considered to be very statistically significant. It showed that Semantic Mapping Technique is superior to Traditional Technique.

5. Conclusion

The main aim of learning any language is to take part in communicative situations successfully by means of the target language. In accordance with the tenets of modern methods, today, most new generation foreign language teachers try to enable their students to achieve this goal. The success of the communicative process cannot be measured by the correctness rate of the grammatical rules; instead, the main point is being able to make the listener understand what the speaker means in a way that is intended by the speaker and react without breaking the smoothness of interaction.

We, of course, need grammar in order to achieve a complete smoothness in communication; however, the first and the most important element is vocabulary competence as a speaker needs to know the necessary word(s) so as to be able to mention about it and this cannot be achieved by means of memorizing it simply as it is not always easy to recall the memorized word(s) while taking part in a spoken interaction and has the risk of breaking the smoothness of communicative process, or in ways that are adopted by traditional methods. When asked almost all the students who learn a foreign language and language teachers, they are in favor of communicative methods as they are more effective for the learners to be able to communicate via the target language. However, being in favor of these methods without an efficient application of them means nothing.

If language teachers want to improve the vocabulary of their students, they should be careful about the method or technique that is to be applied. Many other effective methods and techniques can be used with or without semantic mapping and in this study we have analyzed semantic mapping as a modern and effective method that can be applied in foreign language teaching process for improving or forming vocabulary competence. One of the major challenges in teaching a foreign language is that teaching unknown words and expanding the vocabulary base of second language learners.

Learning an adequate vocabulary is a stage of foreign language learning that has been one of the major problems of any practical foreign language program. Knowing a vocabulary item, especially in a foreign language is much more than simply memorizing the word. It requires a great deal of efforts made by both teacher and students; it is not simple to find the proper approach, method or technique that should be carried out through this long process. Different learners use different methods at different times and in different circumstances. To carry out a certain method cannot give proper result as all learners have different comprehension tendency. In vocabulary learning, it is important for the learner to make effort and give required interest. If the task does not involve enough effort, the learner may not be interested and give his/her full attention and enthusiasm.

Therefore, instead of traditional techniques which are not challenging, more effective and enjoyable techniques can be more attractive for the learners. Semantic mapping strategy was used as an alternative way to teach vocabulary items in this study. In this technique, the students had an active role in learning process. As semantic maps were believed to assist the learner in recalling information and relating new information to prior knowledge, the learners were supposed to use of their prior knowledge to produce a visual image. Semantic mapping strategy capitalizes on students' prior knowledge through the categorical arrangement of word concepts, affect substantially and positively general vocabulary knowledge. Through this technique, students could get rid of the routine traditional atmosphere in the classroom situation. The learners expectedly gave attention to the class and were pleased to see their own creations through which it was provided to learn new vocabulary items. In terms of consuming time this technique was also proper for a classroom application. It did not require extra time; it was equal to usual teaching process. In a regular process, semantic mapping procedure could be applied; moreover the result of the semantic mapping application was more effective and motivating than traditional ones.

The result of this study suggests that foreign language curriculum should have a general program of parallel concept/background knowledge development and vocabulary development. In other words, as Carrel (1984) identifies, vocabulary development should be parallel with schemata or background knowledge development. The positive results of this study also suggest that foreign language vocabulary pedagogy should benefit from the inclusion of explicit learning through semantic mapping. Thus, teachers at prep schools of universities can benefit from the results of this study in organizing their lesson plans.

This research suggested or summarized general vocabulary acquisition and development. Additional research is needed in the area of teaching strategies that facilitate both general and text-specific vocabulary acquisition and development. The present study has demonstrated that the vocabulary

teaching strategy that capitalizes on student's prior knowledge through categorical arrangement of word concepts (semantic mapping), do substantially and positively affect general vocabulary acquisition.

In conclusion, although there are different techniques in the presentation of target vocabulary items at different stages of foreign language learning, not a certain technique seems to have gained general acceptance among language teachers and learners. It is impossible to say that one technique is completely adequate or inadequate in teaching and learning vocabulary items in foreign language and also it may be wrong to use merely one technique at all stages. Although semantic mapping has been found as an effective technique for learning target vocabulary, teachers and learners can also make use of other additional techniques for vocabulary teaching.

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