Kesmez, A. (2021). EFL students' vocabulary learning strategies and the difficulties faced by them in vocabulary learning. *International Journal of Language Academy*, 9 (1), 78-98.

Volume 9/1 March 2021

p. 78/98

Article History:

Received

31/12/2020

Accepted

28/01/2021

Available online

20/03/2021

**EFL STUDENTS' VOCABULARY LEARNING
STRATEGIES AND THE DIFFICULTIES FACED
BY THEM IN VOCABULARY LEARNING¹**

Ahmet KESMEZ²

Abstract

The purpose of this study is to investigate whether teaching vocabulary to preparatory class EFL students by their vocabulary learning strategies would be effective. In line with this purpose, it was aimed to determine the vocabulary learning strategies that preparatory class students used in the discovery and consolidation process of target vocabulary. This study also aimed to determine the difficulties students face in discovering and consolidating foreign language vocabulary. The study was carried out using a mixed-method research design. Quantitative data collection instruments were the Vocabulary Learning Strategies Questionnaire and pre/post-tests. The quantitative data were analyzed by using Statistical Package for the Social Sciences (SPSS) 23. The qualitative phase of the study included semi-structured interviews carried out with 14 students. The qualitative data were analyzed through descriptive analysis. The quantitative and qualitative data analysis demonstrated that students preferred determination strategies to social (discovery) strategies while discovering the meanings of new words. In the consolidation process, they used cognitive, metacognitive, memory, and social (consolidation) strategies, respectively. Also, it was found that the participants faced specific difficulties in the vocabulary learning process. After the implementation process, this study revealed that teaching vocabulary to preparatory class EFL students in accordance with their vocabulary learning strategies improves students' vocabulary knowledge compared to using conventional teaching methods.

Keywords: Vocabulary; lexical competence; vocabulary learning strategies; vocabulary learning difficulties

¹ This research article is prepared based on the dissertation titled "Vocabulary Teaching and Learning in Accordance with Turkish EFL University Students' Vocabulary Learning Strategies".

² Instr. Dr, Bingöl University, School of Foreign Languages, akesmez@bingol.edu.tr, <https://orcid.org/0000-0002-6663-794X>

INTRODUCTION

Being a fundamental part of language learning, vocabulary is regarded as a crucial component in both comprehension and communication. Because a considerable amount of vocabulary constitutes the basis for successful foreign or second language learning, the paramount significance of vocabulary is unquestionable. The essential factor that combines four language skills of listening, speaking, writing, and reading altogether is vocabulary. Therefore, the importance of lexis in language learning has been emphasized for decades though it was considered as an ignored part of the language (Meara, 1980). According to Barcoft (2004), there are three reasons why vocabulary has an essential role in language teaching; (I) the strong relationship between the ability to communicate and vocabulary knowledge, (II) language learners' attitudes to the importance of vocabulary, and (III) the significant role of lexical knowledge in the development of grammatical competence (p. 201). The enrichment of vocabulary facilitates the development of language skills, both directly and indirectly. In this respect, vocabulary also acts as a bridge between language skills. As noted by Richards (2000, p. xi), vocabulary constitutes the basis for learning target language "no amount of grammatical or other types of linguistic knowledge can be employed in communication or discourse without the mediation of vocabulary". Besides, vocabulary is accepted as the base of learning an additional language because words constitute the building blocks of target communication (Lewis, 1993; Schmitt, 1997; Schmitt, 2010). Decarrico (2001) claims that vocabulary is undoubtedly significant for both first language and also second/foreign language acquisition (p. 285). Considering all of these statements about the importance of vocabulary, it is obvious that vocabulary has an essential part in language teaching and the first condition for effective foreign language development is to have adequate lexical knowledge. Vocabulary is necessary both in written and oral communication, and teaching all four basic language skills to language learners can only be possible with the acquisition of target vocabulary. Therefore, to master a foreign language, learners need to acquire extensive vocabulary.

For the teaching-learning process to be carried out effectively, the role of the learner is of great importance. The ways that individuals take to determine their own learning and make their learning processes more permanent can be called learning strategies. Learning strategies affect the teaching-learning process, thus, the use of many learning strategies facilitates the learning and teaching process. Learning strategies also help students guide their learning processes and make appropriate decisions independently, as well as increase their motivation and self-confidence (Lee, 2002, p. 102). In this regard, Oxford (1990) claims that language learning strategies (LLSs) are particularly important in language learning because strategies are tools that support active, self-regulated learning. Additionally, Lessard-Clouston (1997) discusses four basic features of LLSs. First, LLSs are produced by learners. The individual determines the steps in the learning process on his own and does not need external support for these steps. Second, these strategies improve the advancement of language competence through the development of basic skills in the second/foreign language. Thirdly, strategies can be visible applications such as behavior, step, technique, or they can be in an abstract form, such as thought and mental process. Finally, LLSs require knowledge and memory. Research shows that LLSs help language learners become more competent by taking responsibility for their learning processes, increase learners' level of language expertise and self-confidence. Besides, studies considering LLSs reveal that students who take strategy training learn the target language better than those who do not (Al-Qahtani, 2013; Aydemir, 2007; Demirel, 2012; Dörnyei, 2005; Habok & Magyar, 2018; Özmen & Gülleroğlu, 2013; Rao, 2012; Zhang, 2015).

Ghazal (2007, p. 84) puts forward that one of the major difficulties students encounter while learning a foreign language is vocabulary learning. One of the methods to overcome this difficulty is to make students independent in the language learning process. This independence is gained only when students are aware of their learning strategies. Vocabulary learning strategies (VLSs) have been investigated by specialists in psychology, linguistics, and language teaching for a long time, and constitute an important part of the overall learning strategies by being regarded as a subset of LLSs (Nation, 2001; O'malley & Chamot, 1990; Oxford, 1990; Schmitt, 1997). While individuals learn a language as a foreign language or a second language, they use many VLSs. Vocabulary selection and usage are very important in revealing information about a subject and the way of thinking. It is a necessity in foreign language learning that students determine the most appropriate VLS and enrich their vocabulary. Schmitt (1997, pp. 199-225) discovered that learners used all the strategies they knew while learning target vocabulary and that their faltering in this strategy complexity resulted in a great deal of time and energy loss; therefore, he developed a VLS taxonomy by intensifying his research on this field. Schmitt's taxonomy consists of discovery strategies (determination and social strategies) and consolidation strategies (social, memory, cognitive, and metacognitive strategies). This taxonomy is used in the current study as the quantitative data were collected with Schmitt's questionnaire.

LITERATURE REVIEW

Having a significant place in language learning and teaching for the last couple of decades, VLSs have been an investigation area for many researchers. This research topic has been considered by researchers from various aspects such as the efficiency of teaching VLSs (Mizumoto & Takeuchi, 2009; Nalkesen, 2011; Tezgiden, 2006), the frequencies of strategy use (Çelik & Topbaş, 2010), the relationship between strategy use and success (Gu & Johnson, 1996; Şahin, 2003), and comparison of perceived usefulness and frequency of strategy use (Fan, 2003; Schmitt, 1997).

Focusing on the effectiveness of teaching VLSs, Mizumoto and Takeuchi (2009) conducted a study with students in two universities. As a result of the quantitative and qualitative analyses, it was found that teaching VLSs increased students' success in vocabulary learning and also strategy usage frequency. It was also found that teaching VLSs increased the use of specific strategies and students with different characteristics had different reactions to the teaching.

In a similar vein, Tezgiden (2006) examined the effects of teaching VLSs on students' use of strategies and their thoughts about the usefulness of strategies. In addition, attitudes of students and teachers towards strategy training were investigated. The study showed that the teaching of VLSs had a positive effect on students' strategy use, but did not make a significant difference in their opinions about the usefulness of strategies. Additionally, it was determined that students' and teachers' attitudes toward strategy training were positive. As a result, it is stated that VLSs training can contribute to student autonomy by encouraging students to think about their own learning processes; therefore, the teaching of strategy can play an important role in teaching English in Turkish universities.

Another study that provides insight into the effectiveness of teaching VLSs was carried out by Nalkesen (2011) who examined the effects of VLSs training on vocabulary knowledge and learner autonomy. The findings of the study revealed that VLSs training increased the students' vocabulary learning success, but they did not have a statistically significant effect on vocabulary learning autonomy.

Considering strategy training as an influential factor in language learning, Çelik and Topbaş (2010) carried out a survey study that aimed to analyze VLSs adopted by Turkish EFL students. The findings of their study indicated a positive relationship between the frequency of the strategy use and the language levels; also determination strategies were the most frequently used strategies whereas cognitive strategies were the least frequently used category. Another result of this study was that among the participants, the intermediate level learners regarded VLSs as more useful. The necessity of the improvement of VLSs instruction constituted one of the main implications of the study.

Another topic of interest has been the relationship between strategy use and success. For example, Şahin (2003) conducted a study to introduce students to the various strategies they can use to find the meaning of a word they encounter for the first time and to determine the effects of VLSs training on the students' vocabulary learning and use of strategies. According to the findings, the teaching of VLSs did not make any difference in the students' thoughts about vocabulary learning, but according to the results of the questionnaire and vocabulary test results, it influenced the strategy use of students. From the results obtained, it is thought that the teaching of VLSs has a positive effect on students' vocabulary learning and strategy use.

An additional study focusing on the relationship between strategy use and success was carried out by Gu and Johnson (1996). The researchers investigated the relationship between Chinese EFL learners' strategy use and learning outcomes. The results of the study indicated that there was a positive relationship between strategy use and success, and also a close connection between general proficiency and some strategies (such as guessing from context, using dictionaries, taking notes, contextual encoding and paying attention to word formation) was identified.

The comparison of perceived usefulness and frequency of strategy use has been another area of investigation for researchers as well. For instance; Schmitt (1997) carried out a large-scale study on VLSs with 600 EFL learners from different learning levels: junior high school, high school students, university-level students and adult learners. The researcher developed a questionnaire to find out strategy use and perceived usefulness. According to the findings of the study, in discovering the target words, 85% of the participants used a bilingual dictionary. As the foreign language vocabulary was presented through word lists that brought about memorizing of target words, verbal repetition and written repetition of new words constituted the second and third most frequently used VLSs respectively. Another result was that a great number of participants did not use some strategies that they found effective. Fan (2003) also examined the discrepancy between perceived usefulness and frequency of strategy use. The research design of his study was similar to Schmitt's research design and 1067 Chinese EFL learners were the participants. The results of the study showed that the participants did not use some strategies that they regarded as useful. Therefore, as Schmitt (1997) asserted, strategy instruction might be helpful to make students use different strategies that are appropriate to their learning style.

Research questions

The aim of this study was to discover whether teaching vocabulary to preparatory class EFL learners in accordance with their VLSs would be effective. To accomplish this purpose, the first step was to determine the types and frequency of VLSs that English preparatory class students use to discover the meaning of a new word and to consolidate the meaning of a learned-word. The second step was to identify students' perceptions and attitudes

towards vocabulary and VLSs. Mainly, this study aims to find answers to the following research questions;

- Which VLSs do preparatory class EFL learners use in discovering and consolidating target vocabulary?
- What are the difficulties faced by students in discovering and consolidating foreign language vocabulary?
- Is teaching vocabulary to preparatory class students in accordance with their VLSs or teaching them by using conventional vocabulary teaching techniques effective?

METHOD

In order to harmonize the distinctive components of the study in a coherent and reasonable way and to create a framework for the collection and analysis of data, the research design of this study was established after analyzing the relevant literature. When the literature was reviewed, it was found that most of the related studies used the quantitative research design. To accomplish the abovementioned aim, a mixed-method research design was preferred to combine both quantitative and qualitative data in the investigation process. The need to implement a mixed-method research design arises when the research problem is too complicated to be addressed from a particular viewpoint (Ponce & Pagán-Maldonado, 2015, p. 114). When a researcher wants to integrate the elements of both qualitative and quantitative research approaches and to benefit from both types of research, a mixed-method research design is adopted for a broader understanding and validation (Johnson, Onwuegbuzie & Turner, 2007, p. 123). In the same vein, Creswell (2005) emphasizes that this third type of research method is a means of better understanding the research problem and also asserts that both quantitative and qualitative data are equally important in mixed-method research design. Therefore, to specify the research questions clearly and to enhance data, a mixed-method research design was adopted in this study in which both types of data were collected simultaneously.

As the aim of this study was to determine the effect of VLSs on students' vocabulary achievement after an implementation process, the most appropriate research design was experimental design. The experimental research designs generally consist of two main research groups: weak experimental research designs and strong experimental research designs. Any strong experimental design should include a comparison of at least two groups; an experimental group and a control group. Two types of strong experimental research designs have been identified in the literature: pretest-posttest control-group design and posttest-only control-group design. The pretest-posttest control-group design is used in this study which is defined as "a research design that administers a posttest to two randomly assigned groups of participants after both have been pretested and one of the groups has been administered the experimental treatment condition" (Johnson & Christensen, 2008, p. 465). The table below demonstrates the procedure of this type of research design:

Table 1. The Pretest-Posttest Control-Group Design

Group	Pre-test	Treatment	Post-test
Experimental	O1	X	O2
Control	O1		O2

"O1" means pre-test assessment which was implemented to both experimental and control groups before giving an experimental treatment (X) to the experimental group. "O2"

indicates the post-test assessment that was implemented at the end of the implementation process.

Participants

430 preparatory class students participated in this study in total. 60 of the participants engaged both in the first and the implementation phases of the study while the rest of them participated only in the first phase. The participants differed in terms of gender and the universities they were studying. These students were selected as the participants because most of them did not receive any VLSs instruction in their previous educational life. Table 2 displays demographic information about student participants.

Table 2. Demographic Information about Students

		Number
University	University 1	161
	University 2	139
	University 3	62
	University 4	68
Gender	Female	304
	Male	126
Total		430

Table 2 shows that 37.4 % of student participants were from University 1, 32.3 % from University 2, 14.4 % from University 3 and the rest 15.8 % from University 4. The percentage of male participants was 29.3 while the rest were female (70.7%).

Instruments

This study was conducted using a mixed-method research design to collect both quantitative and qualitative data. By reviewing the previous literature on the examination of VLSs, it was decided to use three data collection instruments: questionnaires, interviews, and two achievement tests. Below are the descriptions of these data collection tools.

Vocabulary learning strategies questionnaire

The questionnaire that was implemented to collect quantitative data was a Vocabulary Learning Strategies Questionnaire. This instrument was originally developed by Schmitt (1997) to identify the strategies employed by preparatory class language learners in vocabulary learning. When the previous studies about VLSs were analyzed, it was found that many researchers used this questionnaire in order to figure out the VLSs used by preparatory class EFL students for language learning. Catalan (2003: 60) states the benefits of Schmitt's questionnaire as "it can be used with learners of different ages, educational backgrounds and target languages" and also adds that "it is technologically simple, which allows for ease in coding, classification and managing of the data in computer programs".

Semi-structured interviews

Since the aim was to determine the students' VLSs and the difficulties faced by them while learning target vocabulary, the questions were essentially formed to reveal the information about these aspects. In the preparation of semi-structured interview questions, the related literature and the research questions of the study were taken as the basis. The interview

questions were prepared in both English and students' mother tongue, Turkish, and it was the participants' choice to answer whether in Turkish or English. The first question of the form, which consisted of a total of three questions, was directed to reveal the discovery strategies of the students. To figure out the consolidation strategies, the second question was asked. Finally, the challenges that the participants encountered in the process of vocabulary learning were tried to be identified by asking the third question.

Pre-test and post test

Another data collection instrument was the vocabulary level test involving 50 questions. In order to test the participants' vocabulary level, a vocabulary achievement test was administrated at the beginning of the study. This test included vocabulary items from Oxford English File Elementary and Pre-intermediate course books that the students successfully completed. The pre-test contained different vocabulary question types such as filling the blanks, choosing the right word, matching the words with their synonyms, using correct form of word by adding prefixes or suffixes, underlining the odd word from other words, and multiple-choice questions. The question items were prepared by using vocabulary exercises for each unit from English File Elementary and Pre-intermediate teacher's book. The contents of questions were excluded from the structures and words that students did not learn in the course books before. In addition, the words in all the options in the test were from the students' course books. A total of 50 questions were finalized in accordance with the opinions of experts from the same department. The pre-tests for both the control group participants and experimental group participants took place at the same time, in the same classroom and followed the same procedure.

A post-test was administrated to all group participants at the last week of the experiment process. As the main aim of the study was to find out whether teaching vocabulary in accordance with learners' VLSs is effective, the post-test was administrated to both groups. This test included 50 vocabulary questions that had the same question types used in the pre-test. The question items were prepared by using vocabulary exercises for each unit from English File Intermediate course books. The post-test contained different vocabulary question types such as filling the blanks, choosing the right word, matching the words with their synonyms, using correct form of word by adding prefixes or suffixes, underlining the odd word, and multiple-choice questions. The implementation process of the post-test had the same procedure used in the pre-test.

Data collection procedures

The data collection process began after conducting all the essential legal and ethical practices. The participants were informed that the study was conducted only for academic purposes and the collected information would be kept confidential. They were also informed that their names would not be displayed. The process of quantitative data collection lasted relatively for ten months while the qualitative one lasted approximately two weeks. The questionnaires were sent to the participants online and after conducting questionnaires, 14 students were selected for interviews.

The vocabulary instruction for the experimental group was formed by taking their VLSs into consideration while the control group received a vocabulary teaching based on their Oxford English File Upper-Intermediate course book. Before the treatment process began, all necessary permissions were obtained from the administration of the department. 60 students from two preparatory classes of English Language and Literature were involved in this study. The training of both groups lasted 14 weeks in the spring term of the 2018-

2019 academic year. The content, purpose and syllabus of the course were explained to the participants in the first week and the implementation of the pre-test took place. 28 hours were devoted to English vocabulary teaching to the experimental group using most frequently used strategies with some extra materials. The control group also received 28-hour vocabulary teaching with conventional vocabulary teaching methods.

The teaching syllabuses of both control and experimental groups involved teaching vocabulary from the vocabulary parts of the Oxford English File Upper-Intermediate course book. The experimental group received vocabulary training through discovery and consolidation strategies. When the experimental group students were taught an unknown word, the discovery strategies were used, and while teaching them to reinforce their knowledge about the learned words, the consolidation strategies were implemented. On the other hand, while teaching unknown words and consolidating the meanings of learned words to control group, the traditional vocabulary teaching techniques, which Gairns and Redman (1986) divide into three categories as visual techniques, verbal techniques, and translation, were implemented. Visual techniques consist of flashcards, realia, board drawings, wall charts, etc. and these techniques are usually attributed to visual memory. Verbal techniques include synonym, antonym and definition of words which are regarded as useful in defining abstract words. Lastly, translation technique was used to convey the meaning of words. Some extra materials such as additional exercises were provided for both groups. Throughout the implementation process, the participants were evaluated by having two exams. At the end of the implementation process, a post-test was conducted to both group participants in order to collect the data required for the study.

Data analysis

As stated before, in order to find answers to the research questions of this study, the data were collected both quantitatively and qualitatively. The gathered data were analyzed separately as qualitative data analysis and quantitative data analysis.

Quantitative data analysis

The quantitative data collected by means of the above-mentioned instruments were examined by using Statistical Package for the Social Sciences (SPSS) 23. Initially, the data collected via questionnaires were subjected to reliability analysis by applying Cronbach's Alpha reliability test. The results showed that the questionnaires were highly reliable as the reliability coefficient of the questionnaire was .89. To determine which tests were to be used in the analysis process, the normality assumption was tested with Skewness and Kurtosis values to find out whether each variable was normally distributed. Table 3 presents the results of normality test for the data gathered from students' questionnaires.

Table 3. Skewness and Kurtosis Normality Values

Strategy Group	n	Skewness	Kurtosis
Determination	430	-.165	-.067
Social (discovery)	430	.205	-.275
Social (consolidation)	430	.417	-.500
Memory	430	-.098	.000
Cognitive	430	.003	-.230

Metacognitive	430	.044	-.458
---------------	-----	------	-------

According to Tabachnick and Fidell (2013), in order to regard the data results as normally distributed, the skewness and kurtosis values should be between +1.5 and -1.5. As can be seen from the table, the quantitative data gathered from questionnaires can be considered to be normally distributed. Therefore, parametric tests were conducted in the analysis of data. Additionally, the homogeneity of the data was examined by Levene's Homogeneity Test for questionnaire.

Table 4. Levene's Homogeneity Test

Levene Statistic	df1	df2	p
.532	1	427	.466

The analysis of Table 4 shows that each variable was homogeneous as p values were bigger than 0.05. As the data had parametric characteristics, several independent-samples t-tests were employed to analyze the difference between and among the variables.

Qualitative data analysis

For the analysis of qualitative data, content analysis was utilized to examine students' answers in interviews. After transcribing the data, the researcher read all the interviews carefully many times and tried to combine participants' answers into relevant categories that were later banded together into comprehensive themes. The process of qualitative data analysis of this study was conducted by hand. As Creswell (2005) mentions if the researcher has a small database or wants to be close to the data and has enough time, manual analysis can be implemented.

RESULTS

The findings are presented according to the research questions.

Which VLSs do preparatory class EFL learners use in discovering and consolidating target vocabulary?

Quantitative findings

The first research question aimed to find out the VLSs used by preparatory class language learners both in discovering and consolidating target vocabulary. Quantitative findings obtained from questionnaires related to the participants' strategy preferences are introduced.

Table 5. Independent T-Test Results for Overall Strategy Use

Strategy Group	n	M	S.D.
Determination	430	3.17	.508
Social (discovery)	430	2.76	.733
Social (consolidation)	430	2.23	.815
Memory	430	2.89	.578
Cognitive	430	3.14	.635

Metacognitive	430	2.96	.668
---------------	-----	------	------

The findings show that in discovering target words, students preferred determination strategies (M=3.17) more than social (consolidation) strategies with a mean score of 2.23. On the other hand, while consolidating target words, students used cognitive strategies (M=3.14), metacognitive strategies (M=2.96), memory strategies (M=2.89) and social (consolidation) strategies (M=2.23) respectively.

Table 6. Descriptive Statistics for Each Determination Strategy

Strategy	n	M	S.D.
DET 1: Analyzing part of speech	430	3.19	1.166
DET 2: Analyzing affixes and roots	430	2.66	1.243
DET 3: Checking for L1 cognate	430	3.46	1.156
DET 4: Analyzing any available pictures or gestures accompanying the word	430	2.96	1.224
DET 5: Guessing from textual context in which the word appears	430	3.96	1.030
DET 6: Using a bilingual dictionary	430	3.75	1.123
DET 7: Using a monolingual dictionary	430	3.17	1.173
DET 8: Using English-Turkish word lists	430	2.81	1.286
DET 9: Using flashcards	430	2.61	1.175

Table 6 shows that the first two most frequently used determination strategies by students are 'guessing from textual context in which the word appears' (M=3.96) and 'using bilingual dictionary' (M=3.75). The least frequently used strategies are 'analyzing affixes and roots' (M=2.66) and 'using flashcards' (M=2.61). Therefore, it can be said that the student participants frequently guess the meanings of unknown words from the contexts and generally use a bilingual dictionary while they rarely analyze the affixes or roots and also use flashcards in learning a new word.

Table 7. Descriptive Statistics for Each Social (Discovery) Strategy

Strategy	n	M	S.D.
SOC 10: Asking the teacher for Turkish translation of the English word	430	2.67	1.210
SOC 11: Asking the teacher for a paraphrase or synonym of the new word	430	2.83	1.229
SOC 12: Asking the teacher for a sentence including the new word	430	2.40	1.242
SOC 13: Asking classmates for the meaning of the word	430	3.28	1.155
SOC 14: Discovering the meaning of a new word through group work	430	2.63	1.229

Considering the mean scores and standard deviation of responses to the items given by students for the social (discovery) strategies, it is seen that 'asking classmates for the meaning of the word' is the most frequently used strategy for students with the highest

mean score of 3.28. The second most commonly used strategy for students is 'asking the teacher for a paraphrase or synonym of the new word' (M=2.83). The least used social (discovery) strategies are 'asking the teacher for a sentence including the new word' with the lowest mean score of 2.40 and 'discovering the meaning of a new word through group work' with the second-lowest mean score of 2.63. Given all these values, it can be indicated that while learning the meaning of a new word students generally ask the meaning of the word to their classmates rather than teachers.

Table 8. Descriptive Statistics for Each Social (Consolidation) Strategy

Strategy	n	M	S.D.
SOC 15: Studying and practicing the meaning of the word in pairs/groups, in class and outside class	430	2.30	1.128
SOC 16: Keeping word lists/flashcards	430	2.12	1.186
SOC 17: Trying to use the new word in interactions with native speakers	430	2.29	1.292

As exhibited in Table 8, items SOC 15 (studying and practicing the meaning of the word in pairs/groups in class and outside class) and SOC 17 (trying to use the new word in interactions with native speakers) have nearly the same mean scores as 2.30-2.29 respectively. The least applied strategy is 'keeping word lists/flashcards' (M=2.12). Therefore, it can be asserted that language learners tend to study the meaning of the word in groups and use the new word in interaction with native speakers rather than keep word lists/flashcards in consolidating the meanings of learned words.

Table 9. Descriptive Statistics for Each Memory Strategy

Strategy	n	M	S.D.
MEM 18: Studying word with a pictorial representation of its meaning	430	2.40	1.241
MEM 19: Studying the word by imaging its meaning	430	3.44	1.169
MEM 20: Connecting word to a personal experience	430	3.26	1.277
MEM 21: Associating the word with its coordinates	430	3.27	1.221
MEM 22: Connecting the word to its synonyms and antonyms	430	3.34	1.116
MEM 23: Using semantic maps	430	2.42	1.293
MEM 24: Using 'scales' for gradable adjectives	430	2.94	1.176
MEM 25: Linking the new word to another word that rhymes with it	430	2.10	1.165
MEM 26: Connecting the word to a familiar place	430	2.82	1.211
MEM 27: Grouping words together to study them	430	2.93	1.183
MEM 28: Grouping words together by forming geometrical patterns (triangles, squares, circles, curves, etc.)	430	1.98	1.128
MEM 29: Using new word in sentences	430	3.48	1.125
MEM 30: Grouping words together within a storyline	430	2.19	1.190
MEM 31: Studying the spelling of a word	430	3.63	1.171
MEM 32: Studying the sound of a word	430	3.81	1.087
MEM 33: Saying new word aloud when studying	430	3.57	1.223
MEM 34: Imaging the word form	430	3.11	1.173
MEM 35: Underlining initial letter of the word	430	1.66	1.114

MEM 36: Configuring the word and arranging it into its parts	430	2.32	1.265
MEM 37: Using a Turkish keyword with a similar sound in order to learn the new word	430	2.44	1.324
MEM 38: Remembering the word affixes and roots	430	2.87	1.268
MEM 39: Relating the word to its part of speech (Noun, verb, adjective, adverb, etc.)	430	3.12	1.251
MEM 40: Paraphrasing the word's meaning	430	3.24	1.171
MEM 41: Using cognates in study	430	3.49	1.255
MEM 42: Learning the words of an idiom as if they were just one word	430	2.63	1.322
MEM 43: Using physical action/body language to learn a new word	430	2.70	1.241
MEM 44: Using semantic feature grids (potato, onion= vegetables)	430	3.01	1.210

As displayed in the table, the strategy which students used most frequently is MEM 32 'studying the sound of a word' (M=3.81) and MEM 31 'studying the spelling of a word' is also commonly used by students with the second highest mean score 3.63. The first two least frequently used memory strategies by students are MEM 35 'underlining initial letter of the word' (M=1.66) and MEM 28 'grouping words together spatially on a page, card or notebook by forming geometrical patterns (triangles, squares, circles, curves, etc.)' (M=1.98). Taken together, these results suggest that students generally attach great importance to the spelling and pronunciation of words. The results also indicate that students never underline the initial letters of the word and rarely group the learned words spatially on the page.

Table 10. Descriptive Statistics for Each Cognitive Strategy

Strategy	n	M	S.D.
COG 45: Using verbal repetition of the word	430	3.85	1.087
COG 46: Writing the word several times	430	3.18	1.429
COG 47: Making word lists and revise them	430	3.40	1.256
COG 48: Using flashcards with the representation of the word	430	2.53	1.245
COG 49: Taking notes about the word in class	430	3.60	1.164
COG 50: Revising the vocabulary sections in textbook	430	3.47	1.162
COG 51: Listening to recordings and CDs of word lists	430	2.16	1.239
COG 52: Putting English labels on physical objects	430	2.30	1.315
COG 53: Keeping a vocabulary notebook	430	3.80	1.217

According to the frequency of cognitive strategies, the results show that students use most frequently the item COG 45 'using verbal repetition of the word' with the highest mean score of 3.85. The second highest mean score for students is that of COG 53 'keeping a vocabulary notebook' (M=3.80). 'Putting English labels on physical objects' (M=2.30) and 'listening to recordings and CDs of word lists' (M=2.16) are the least frequently used cognitive strategies among participants. Therefore, students often make the verbal repetition of words and keep a vocabulary notebook to consolidate the meaning of learned words.

Table 11. Descriptive Statistics for Each Metacognitive Strategy

Strategy	n	M	S.D.
MET 54: Using English-language media (songs, movies, newscasts, etc.)	430	3.66	1.271
MET 55: Testing oneself with word tests	430	2.92	1.178
MET 56: Using spaced word practice	430	2.64	1.209
MET 57: Skipping or passing new word	430	2.14	1.050
MET 58: Studying word over time	430	3.47	1.023

Considering the mean scores and standard deviation of students, it is seen that MET 54 'using English-language media (songs, movies, newscasts, etc.)' is the most frequently used strategy with the highest mean score of 3.66. The second most commonly used strategy for students is MET 58 'studying word over time' (M=3.47). The least used metacognitive strategies are MET 57 'skipping or passing new word' with the lowest mean score of 2.14 and MET 56 'using spaced word practice' with the second lowest mean score of 2.64. Given all these values, it can be claimed that while consolidating the meaning of a new word students generally use English-language media and study the learned word over time. Further, students rarely pass the meaning of the new word and use spaced word practice.

Table 12. Independent Samples T-Test Results for Gender Differences

	Gender	n	M	S.D.	t	p
Determination	Female	305	3.19	.501	1.160	.246
	Male	125	3.12	.522		
Social (discovery)	Female	305	2.82	.738	2.975	.003
	Male	125	2.59	.699		
Social (consolidation)	Female	305	2.27	.794	1.324	.186
	Male	125	2.15	.861		
Memory	Female	305	2.92	.563	1.797	.073
	Male	125	2.81	.610		
Cognitive	Female	305	3.20	.619	3.249	.001
	Male	125	2.98	.650		
Metacognitive	Female	305	3.00	.670	1.900	.058
	Male	125	2.86	.655		
Total	Female	305	2.90	.438	3.084	.002
	Male	125	2.75	.449		

Table 12 shows the participants' strategy use in terms of gender differences. As can be seen, there is a significant difference between genders in terms of social (discovery) and cognitive strategy use ($p < 0.05$). However, there is no statistically significant difference between genders in terms of determination, memory, and metacognitive strategy use ($p > 0.05$). Furthermore, the table reveals that the mean scores of the female participants in all strategies are higher than that of the male participants, therefore it can be concluded that female participants use VLSs more than male participants.

Qualitative findings

In this part, the qualitative data collected from the 14 students through semi-structured interviews will be demonstrated. The findings were categorized into two main themes: (1) VLSs used by students to discover the meaning of an unknown word, (2) VLSs used by students to consolidate the meanings of learned words and, lastly, based on the main themes, some categories and codes were formed and excerpts from the students' interviews will be provided through these codes.

Table 13. Theme 1: VLSs used by students to discover the meaning of an unknown word.

Categories	Codes
Determination strategies	Guessing from textual context
	Using bilingual dictionary
	Analyzing part of speech
	Using monolingual dictionary
Social strategies	Checking for L1 cognate
	Asking the meaning of word to classmates
	Asking the teacher for a sentence including the new word
	Asking the teacher for an antonym or a synonym

The data obtained from semi-structured interviews revealed that students frequently employed discovery strategies to get information for an unknown word. The first category is related to determination strategies which have some sub-strategies such as guessing the meaning of an unknown word from its context, looking for the word's meaning in a bilingual dictionary, analyzing part of speech (noun, verb, adverb, etc.) using monolingual dictionary, and checking for an English-Turkish cognate (linking the English word to a Turkish word, e.g. music-müzik.). Social strategies constitute the second category of first theme. Students' social strategies are 'asking the meaning of word to classmates', 'asking the teacher for a sentence including the new word' and 'asking the teacher for an antonym or a synonym'. Some participants' statements related to discovery strategies are given as follows:

A word can have more than one meaning especially in literal texts and it is changeable according to the place it is used. Therefore, to find the exact meaning of a word, I think guessing from context is the best way.

I always check the meaning of the word from the dictionary application on my phone.

Firstly, I try to find the meaning of the word by guessing from the sentence. However, I think knowing the part of speech makes it easier to find meaning.

When I encounter an unknown word, I generally look up the meaning of it in the Oxford dictionary at first.

I try to find whether the word has a similar one in Turkish, for example, 'accent-aksan'

If I don't know the meaning of a word, firstly I usually ask my classmate sitting next to me. If she does not know the meaning then I ask another one.

I ask the teacher to use the unknown word in a different sentence so that I can guess the meaning.

Asking teacher for a synonym helps me to reinforce the meaning of the word better.

Table 14. Theme 2: VLSs used by students to consolidate the meanings of learned words.

Categories	Codes
Cognitive strategies	Verbal or written repetition
	Keeping a vocabulary notebook
	Revising the vocabulary sections in the textbook
Metacognitive strategies	Using English-language media
	Studying word over time
Memory strategies	Using the new word in sentences
	Using semantic feature grids
	Connecting the word to its synonyms and antonyms
Social strategies	Using the new word in interactions with native speakers

The analysis of the second interview question revealed that students frequently used VLSs to consolidate the meaning of words. The first category of this theme includes cognitive strategies which have some sub-strategies such as verbal or written repetition of the word, making word lists and revising them, keeping a vocabulary notebook, and taking notes about the word in class. Verbal or written repetition of the word is the most commonly used cognitive strategy by the students. A great number of participants reported that they frequently repeated the learned words verbally and by writing them several times. Some notable excerpts of participants are given as below:

Whenever I learn a new word or phrase I use it in at least five sentences. Not just writing it, I generally repeat the word aloud several times.

I generally check the word from the notebook I have kept and use it as often as I can in order not to forget it again.

I can easily forget the words I've memorized before, so I try to repeat the words in my course book once a week.

I can consolidate the words I learned better if I encounter them while watching movies, listening to music or reading news on the internet.

I think that repetition often makes vocabulary permanent. I constantly repeat words from my vocabulary notebook.

Generally, I use the new words in the sentence and this strategy helps me both remember and reinforce the meaning of words.

Instead of studying words separately, grouping the semantically similar words is a better way of memorizing words' meaning.

To consolidate the meanings of words, I generally connect the words to their synonyms or antonyms. Because by doing this, I learn more than one word and also learn the meaning of the word better.

I have some friends from abroad and we created a WhatsApp group to improve our language skills. I usually try to create sentences including the words that I have learned in my courses.

Is teaching vocabulary to preparatory class students in accordance with their VLSs or teaching them by using conventional vocabulary teaching techniques effective?

Results of pre-test and post-test

In this section, the results of pre-test and post-test scores of both control and experimental groups will be presented through tables. As the main aim of the study was to find out whether a 14-week-vocabulary training in accordance with VLSs of students would improve

students' vocabulary knowledge or not, pre-tests and post-tests were conducted. Two EFL English lecturers rated the pre-tests and post-tests results of participants. The first step in the analysis of pre-test and post-test scores was to figure out whether the samples were normally distributed or not. Shapiro-Wilk normality test was adopted and the test results show that there is not a statistically significant difference for both pre-test ($p=.279$, $p>0.05$) and post-test ($p=.352$, $p>0.05$). Therefore, it can be said that the samples are normally distributed in both pre-test and post-test. Independent Samples T-Tests were performed to determine if there was a significant difference between pre-test and post-test scores of both experimental and control groups. The results are shown in Table 15.

Table 15. Independent T-Test Results for the Differences between Pre-test and Post-test Scores in the Experimental and Control Groups

	Groups	n	M	S.D.	t	P
Pre-test	Experimental	30	40.8	14.8	.061	.952
	Control	30	41.1	14.9		
Post-test	Experimental	30	53.6	12.5	-2.074	.042
	Control	30	46.4	14.2		

As illustrated in Table 15, there is not any significant difference between pre-test scores of participants in experimental and control groups ($p>0.05$). According to the results of the independent t-test, before vocabulary training, the total pre-test scores of participants in both of the groups were not different significantly. It can also be seen from the data in Table 15 that the mean difference value of the post-test is .042 ($p<0.05$); therefore, the difference between post-test scores of students is significant. The findings of post-test scores reveal that the students in the experimental group have higher scores than those in the control group.

What are the difficulties faced by students in discovering and consolidating foreign language vocabulary?

The data on the difficulties in discovering and consolidating foreign language vocabulary showed that participants experienced some kind of difficulties that are illustrated in Table 16.

Table 16. The difficulties faced by students in discovering and consolidating foreign language

Category	Codes
Difficulties	Memorizing words
	Pronouncing the words
	Using new vocabulary in speaking or writing
	Similarity of words
	Multiple-meaning words

What was common in almost all students' statements was 'memorizing the new word'. The majority of participants stated that they frequently forgot the meaning of the word because of the failure in memorizing. One of the comprehensive statements from one of the participants presents an example for this point:

I think the most challenging thing in vocabulary learning is memorizing. When not practicing the words that I memorized before, I usually have difficulty in remembering their meanings, especially in speaking courses.

As Table 16 shows, the second difficulty faced by students is 'pronouncing the words'. According to a language essay published in UK Essays (2018), "words that are difficult to pronounce are more difficult to learn". In the same vein, the participants generally complained about the difficulty of pronouncing the target words. Most of them claimed that although they paid special attention to the pronunciation of words, they still had problems with the correct pronunciation. When asked about the difficulties that they experienced while learning vocabulary, one of the participant's comments are as follows:

Of course, pronunciation. Apart from memorizing the meaning of the new word, learning its pronunciation is another problem. I always have difficulty both learning the pronunciation of new words and remembering the pronunciation of words that I know. Some excerpts related to the other difficulties faced by students are as follows:

Most of the time, especially in exams, I know the meaning of the word, but I cannot use it in a sentence. I don't know how to solve this problem.

I have a hard time distinguishing words whose spelling or pronunciation is similar. For example, the words 'patient' and 'patience' or 'latter' and 'later', etc.

Besides, I generally confuse the words that have more than one meaning such as the words 'address' and 'express'.

DISCUSSION

The first research question aimed to find out the VLSs used by preparatory class language learners both in discovering and consolidating target words. It can be commented that students employ various types of VLSs in vocabulary learning. The reason why participants highly prefer determination strategies such as guessing the meaning of an unknown word from its context or using reference materials especially dictionaries may be explained by the fact that these types of VLSs are practical, which provides students to find out the meaning on their own. The findings also revealed that the least commonly used VLSs were social strategies such as asking the meaning of the new word to teacher or classmates and discovering the meaning of the new word through group work. A possible explanation for this result may be students' lack of knowledge about group learning strategies.

The challenges faced by students in discovering and consolidating foreign language vocabulary was another point of concern of the study. The qualitative data showed that students experienced some kind of difficulties such as memorizing words, pronouncing the words, using new vocabulary in speaking or writing, similarity of words and multiple-meaning words. The most encountered difficulty in learning vocabulary was memorizing. The majority of students were of the opinion that it was hard to memorize the target words. The reason why they have difficulty in memorizing target words may be that the number of words that language learners have to learn is extremely large. This difficulty was also reported by Rohmetillah (2014). To determine the difficulties faced by students in vocabulary learning, he used both a questionnaire and an interview. The results of his study showed that participants generally had difficulty in memorizing target words. At this point it is possible to suggest that to help students in memorizing new words, teachers should consolidate the new words by using listening and reading activities and also put emphasis on guessing strategies. A recent study conducted by Afzal (2019) which investigated problems encountered by EFL students also showed some similar difficulties

found in the present study such as pronouncing new words. A possible explanation for this result may be students' lack of interest in learning pronunciation. Therefore, it can be suggested that pronunciation should also be taught as an integral part of vocabulary teaching. Students also reported some other difficulties such as using new vocabulary in speaking or writing, similarity of words and multiple-meaning words. As a result, the mentioned difficulties could be overcome if lecturers design their teaching materials by taking the difficulties faced by students into account and also use a variety of VTSs.

The quantitative data of the study also revealed that there are significant differences in strategy use based on gender variable. The results showed that female participants used all types of VLSs more than male participants. The findings suggest that gender is one of the factors influencing VLS use. Especially, there were significant differences between participants in terms of using cognitive and social (discovery) strategies. This finding was also reported by Catalan (2003). She examined sex differences in L2 vocabulary learning and according to the results male and females differ significantly with regard to number of vocabulary strategies used. In addition, the findings of present study show parallelism with the study conducted by Yilmaz (2017). In her article, the results revealed a significant difference between female and male participants in favour of females in all categories of VLSs. On the other hand, the findings of the present study contradict with those of Zokaei, Zaferanieh and Naseri (2012) who found that there was no significant difference between male and female learners in terms of their VLS use. As Yilmaz (2017) stated, studies which found that male participants used VLSs more than female participants or those that found no significant difference between the two group participants are very few in the literature.

The main objective of the current study was to explore whether teaching vocabulary to preparatory class students in accordance with their VLSs was effective compared to using conventional vocabulary teaching techniques. At the end of the implementation process, a posttest was applied to both group participants. The results have revealed that the students in experimental group got higher scores in vocabulary test than those in control group. A possible explanation for this result may be related to the efficiency of strategy use in vocabulary learning and teaching. One of the studies supporting the findings of the present study is that of Serçe (2013). The researcher tried to determine the effects of teaching VLSs on vocabulary achievement and also on using VLSs. The results demonstrated that teaching VLSs increased the success and permanence of experiment group participants at both elementary and pre-intermediate levels. Furthermore, according to the results, teaching VLSs increased students' strategy usage and students used different strategies in vocabulary learning process depending on more than one factor. Overall, it can be concluded that teaching vocabulary to students in accordance with their VLSs improves students' vocabulary knowledge compared to using conventional teaching methods.

CONCLUSION

One of the objectives of this study was to find out the VLSs used by students both in discovery and consolidation processes of target vocabulary learning. The findings demonstrated that students frequently used discovery strategies to get information for an unknown word such as guessing the meaning of an unknown word from its context, looking for the word's meaning in a bilingual dictionary, analyzing part of speech (noun, verb, adverb, etc.) using monolingual dictionary, and checking for an English-Turkish cognate. Social (discovery) strategies were found to be the least frequently used discovery strategies by students. According to the findings of both qualitative and quantitative data, students do not prefer using social strategies while trying to find out the meaning of an unknown

word. In other words; strategies such as asking the meaning of the new word to the teacher or classmates and discovering the meaning of the new word through group work were the social strategies that students rarely used in vocabulary learning.

In addition, when consolidating the meaning of learned words, students generally preferred cognitive strategies such as verbal or written repetition, keeping a vocabulary notebook, and revising the vocabulary sections in textbook. The other most frequently used strategies were metacognitive, memory, and social (consolidation) strategies respectively. The results also showed that studying the sound of a word is another most commonly used VLS among participants. On the other hand, it was discovered that in the consolidation process, the least frequently used strategies were social strategies. That is, while learning a new word or consolidating the words they have learned, the students generally preferred using VLSs that they could use on their own rather than using VLSs which were about benefiting from the knowledge of another person. This study discovered that the qualitative findings were consistent with the quantitative data collected from students to figure out their VLSs.

As the main aim of this study was to determine the effect of VLSs on students' vocabulary achievement, it is discovered that teaching vocabulary to students in accordance with their VLSs enhanced students' vocabulary knowledge compared to using conventional vocabulary teaching methods. Besides, based on the findings of the study, it can be concluded that while teaching vocabulary, using various vocabulary teaching strategies can positively affect learners' attitudes towards learning target vocabulary.

REFERENCES

- Afzal, N. (2019). A study on vocabulary-learning problems encountered by BA English majors at the university level of education. *Arab World English Journal (AWEJ)*, 10(3), 81-98. DOI:10.24093/awej/vol10no3.6
- Al-Qahtani, M.F. (2013). Relationship between English language, learning strategies, attitudes, motivation, and students' academic achievement. *Education in Medicine Journal*, 5, 19-29. DOI: 10.5959/eimj.v5i3.124
- Aydemir, V. U. (2007). Effects of the instruction of language learning strategies on students achievement in English teaching (Master's thesis). Retrieved from National Thesis Center of the Council of Higher Education. (Thesis No: 220988)
- Barcroft, J. (2004). Second language vocabulary acquisition: A lexical input processing approach. *Foreign Language Annals*, 37(2), 200-208. DOI: 10.1111/j.19449720.2004.tb02193.x
- Catalan, R. (2003). Sex differences in L2 vocabulary strategies. *Journal of Applied Linguistics*, 13, 54-77. Retrieved from: https://www.academia.edu/5672292/Sex_differences_in_L2_vocabulary_learning_strategies
- Çelik, S., & Toptaş, V. (2010). Vocabulary learning strategy use of Turkish EFL learners. *Procedia-Social and Behavioral Sciences*, 3, 62-71. DOI:10.1016/j.sbspro.2010.07.013
- Creswell, J. W. (2005). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River, N.J: Merrill.
- Decarrico, J. S. (2001). Vocabulary learning and teaching. In M. Celce-Murcia (Ed.), *Teaching English as a second or foreign language* (3rd ed., pp. 285-299). Boston: Heinle.
- Demirel, M. (2012). Üniversite öğrencilerinin kullandıkları dil öğrenme stratejileri. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 43(43), 141-153. Retrieved from: <https://dergipark.org.tr/tr/pub/hunefd/issue/7795/102019>

- Dörnyei, Z., (2005). *The Psychology of Language Learner: Individual Differences in Second Language Acquisition*. Mahwah, NJ: Lawrence Erlbaum.
- Essays, UK. (2018). The Importance of Teaching and Learning Vocabulary, English Language Essay. Retrieved from: <https://www.ukessays.com/essays/english-language/the-importance-of-teaching-and-learning-vocabulary-english-language-essay.php>
- Fan, May Y. (2003). Frequency of use, perceived usefulness, and actual usefulness of second language strategies: A study of Hong Kong learners. *The Modern Language Journal*, 87, 222-241. Retrieved from: https://www.jstor.org/stable/1193034?seq=1#metadata_info_tab_contents
- Ghazal, L. (2007). Learning vocabulary in EFL contexts through vocabulary learning strategies. *Novitas-Royal*, 1(2), 84-91. Retrieved from: https://www.researchgate.net/publication/26490097_Learning_Vocabulary_in_FL_contexts_through_Vocabulary_Learning_Strategies
- Gu, P.Y., & Johnson, R.K. (1996) Vocabulary learning strategies and language learning outcomes. *Language Learning*, 46, 643-679. Retrieved from: https://www.academia.edu/15086552/Vocabulary_Learning_Strategies_and_Language_Learning_Outcomes
- Habok, A., & Magyar, A. (2018). The effect of language learning strategies on proficiency, attitudes and school achievement. *Frontiers in Psychology*, 8, 1-8. DOI:10.3389/fpsyg.2017.02358
- Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a definition of mixed methods research. *Journal of mixed methods research*, 1(2) 112-133. DOI: 10.1177/1558689806298224
- Johnson, R.B., & Christensen, L.B. (2008) *Educational Research: Quantitative, Qualitative, and Mixed Approaches* (3rd Ed.). Sage Publications, Inc., Los Angeles.
- Lee, In-S. (2002). Gender differences in self-regulated on-line learning strategies within Korea's University context. *Educational Technology Research and Development*, 50 (1), 101-111. DOI: 10.1007/BF02504967
- Lessard-Clouston, M. (1997). Language learning strategies: An overview for L2 teachers. *The Internet TESL Journal*, 3(12). Retrieved from: <http://iteslj.org/Articles/LessardClouston/Strategy.html>
- Lewis, M. (1993). *The lexical approach*. Hove: Language Teaching Publications. Longman.
- Meara, P. (1980). Vocabulary acquisition: A neglected aspect of language learning. *Language Teaching and Linguistics Abstracts*, 13(3-4), 221-246. DOI:10.1017/S0261444800008879
- Mizumoto, A., & Takeuchi, O. (2009). Examining the effectiveness of explicit instruction of vocabulary learning strategies with Japanese EFL university students. *Language Teaching Research*, 13(4), 425-449. DOI: 10.1177/1362168809341511
- Nalkesen, Y. (2011). *The effects of vocabulary strategy training on vocabulary learning and autonomy: a case study of Turkish EFL students* (Master's thesis). Retrieved from National Thesis Center of the Council of Higher Education. (Thesis No: 288127).
- Nation, I. S. P. (2001). *Learning vocabulary in another language*. Cambridge: Cambridge University Press
- Özmen, D. T. & Gülleroğlu, H. D. (2013). Determining language learning strategies used by the students at faculty of educational sciences based on some variables. *Education and Science*, 38(169), 30-40. Retrieved from: <http://egitimvebilim.ted.org.tr/index.php/EB/article/viewFile/1119/494>
- O'Malley, J. M., & Chamot, A. U. (1990). *Learning strategies in second language acquisition*. Cambridge: Cambridge University Press

- Oxford, R. (1990). *Language learning strategies: What every teacher should know*. New York: Newbury House.
- Ponce, O. A., & Pagán-Maldonado, N. (2015). Mixed methods research in education: Capturing the complexity of the profession. *International journal of educational excellence*, 1(1), 111–135. DOI: 10.18562/IJEE.2015.0005
- Rao, Z. (2012). Language learning strategies and English proficiency: interpretations from information-processing theory. *The Language Learning Journal*, 44(1), 90-106. DOI: 0.1080/09571736.2012.733886
- Richards, J. (2000). Series Editor's Preface. In N. Schmitt's *Vocabulary in Language Teaching*. Cambridge: Cambridge University Press.
- Rohmatillah, R. (2014). A study on students' difficulties in learning vocabulary. *English Education: Jurnal Tadris Bahasa Inggris*, 6(1), 69-86. DOI:10.24042/eejtbi.v6i1.520
- Şahin, Ö. (2003). *Teaching vocabulary learning strategies in EFL classes* (Unpublished master thesis). Uludağ University, Bolu, Turkey.
- Schmitt, N. (1997). Vocabulary learning strategies. In N. Schmitt & M. McCarthy (Eds.), *Vocabulary: description, acquisition and pedagogy* (pp.199-228). Cambridge: Cambridge University Press.
- Schmitt, N. (2010). *Researching vocabulary: A vocabulary research manual*. Basingstoke: Palgrave Macmillan.
- Serçe, H. (2013). *The effects of vocabulary learning strategies instruction on learning vocabulary and strategy use* (Doctoral dissertation). Retrieved from National Thesis Center of the Council of Higher Education. (Thesis No: 347488).
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). Boston, MA: Pearson Education.
- Tezgiden, Y. (2006). *Effects of instruction in vocabulary learning strategies* (Master's thesis). Retrieved from National Thesis Center of the Council of Higher Education. (Thesis No: 186183).
- Yilmaz, V.G. (2017). The role of gender and discipline in vocabulary learning strategy use of Turkish Graduate EFL learners. *International Journal of Innovation and Research in Educational Sciences*, 4(1), 57-64. Retrieved from: https://www.ijres.org/administrator/components/com_jresearch/files/publications/IJIES_811_FINAL.pdf.
- Zhang, J. (2015). *The relationships among learning styles, learning strategy use, and English proficiency of Chinese EFL university students: A mixed methods study*. (Unpublished PhD thesis), New Zealand, University of Otago.
- Zokaei, S., Zaferanieh, E., & Naseri, M. (2012). On the impacts of perceptual learning style and gender on Iranian undergraduate EFL learners' choice of vocabulary learning strategies. *English Language Teaching*, 5(9), 138-143. DOI: 10.5539/elt