Measuring Vocabulary Learning Strategy Use of Turkish EFL Learners in Relation to Academic Success and Vocabulary Size

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Abstract

The purpose of this study was to investigate Vocabulary Learning Strategy (VLS) use of English Language and Literature Department students in relation to academic success and vocabulary size. The participants of the study are 213 English Language and Literature students. Two data collection tools were used in the study. The first tool was theVocabulary Learning Strategy (VLS) questionnaire which was adapted from by Gu & Johnson (1996), and the second data collection tool was a Vocabulary Level Test (VLT) developed by Nation (1983).Descriptive statistics were conducted in order to measure the level of vocabulary learning strategy (VLS) use and vocabulary size of the participants. In addition, correlation analysis was carried out in order to see which VLSs are more frequently used by low, middle and upper level vocabulary size students. The results indicated that the participants have a high level of vocabulary size for 2000 word level, 3000 word level, and academic word levels, a moderate level of vocabulary size for 5000 word level and a low level in 10000 word level. The participants were found to have a moderate level of vocabulary learning strategy use. The study also found that 3rd grade students had larger vocabulary size in terms of 2000, 3000 and academic vocabulary level. As for the vocabulary strategy use, 3rd grade students were found to use *bottom-up strategies* and *note-taking strategies* more frequently than 2nd grade students. Finally, correlation analysis revealed that *bottom-up strategies*, *using linguistic clues*, and *top-down strategies* significantly correlated with academic success.

Keywords: *vocabulary learning strategy; vocabulary size; word level*

1. Introduction

Vocabulary learning is one of the major and essential components of mastering a foreign language; nevertheless, it is often either neglected or eliminated in language related departments like English Language Teaching department or English Language and Literature departments in the Turkish context. Therefore, insufficient vocabulary instruction leads to inadequate vocabulary acquisition on the part of students. Students in these departments are expected to develop their own vocabulary size without instruction. Stæhr (2008, p. 1) states that "vocabulary knowledge is generally assumed to be a good predictor of language proficiency in a second or a foreign language."Alderson (2005) also found that vocabulary had a strong relationship with reading, listening, writing, speaking and grammar. Thus, it is possible to argue that language ability in general mainly boils down to sound vocabulary knowledge (Alderson, 2005).

In literature, there are a number of studies that point to the relation between vocabulary size and learners' strategy use (Lawson and Hogben, 1996; Schmitt, 1997; and Fan, 2003). A number of recent studies focused on the relationship between vocabulary learning strategy use and vocabulary size(Hamzah, et all, 2009; Kafipour, et al, 2011; Komol&Sripetpun, 2011; Kalajahi&Pourshahian, 2012). Most of these studies found that vocabulary learning strategies contributed to the overall vocabulary learning of the learners.

1.1 Vocabulary Learning Strategies

According to Nation (2001), vocabulary learning strategies are among language learning strategies. VLSs are defined as "the actions that learners take to help themselves understand and remember vocabulary items" (Cameron, 2001, p.

92). VLSs are also defined as:

> the mechanism used in order to learn vocabulary as well as steps or actions taken by students (a) to find out the meaning of unknown words, (b) to retain them in long-term memory, (c) to recall them at will, and (d) to use them in oral or written mode" (Catalan, 2003, p. 56).

There are a number of different classification patterns for VLSs. An earlier version proposed by O'Malley et al. (1985) claimed the use of 24 strategies employed by learners of English. These strategies were "Metacognitive", "Cognitive", and "Socio-affective" strategies. Oxford (1990) proposed a classification in which there were direct and indirect strategies. According to her, direct strategies contain "Memory", "Cognitive",and "Compensation" strategies while indirect strategies include "Metacognitive", "Affective", and 'Social" strategies.Schmitt (1997) categorized vocabulary learning strategies into determination strategies, social strategies, memorization strategies, cognitive and metacognitive strategies. Gu (2003) classified second language (L2) vocabularylearning strategies as *cognitive*, *metacognitive*, *memory* and *activationstrategies*. The present study used the taxonomies of Gu.

1.2 Research on Vocabulary Learning Strategies

Vocabulary learning strategies have been studied since the last decade both in breath and in depth in experimental and descriptive studies. Zarafshan (2002) explored why Iranian EFL learners make little use of metacognitive strategies and found that curriculum design does not promote collaborative and social learning. The study found that adult learners used more sophisticated strategies including memory and cognitive strategies. This finding is in line with Oxford's (1990) belief that adult learners tend to use more sophisticated VLS. Zarafshan'sstudy (2002) indicatedthe importance of formal training on strategy development. To justify this in the Turkish context, Aktekin and Güven(2007) worked on raising learners' and teachers' awareness on vocabulary learningstrategy and their study discovered that providing vocabulary learning strategy instruction had a significant positive effecton the vocabulary learning of students. Quite recently, Boonkongsaen and Intaraprasert (2014) conducted a study on the effects of fields of study (arts, business and science-oriented, and language-learning experiences (whether limited or non-limited to formal classroom instructions) on the use of VLSs among Thai tertiary-level students. They found that field of study affected the students' overall VLS use.

There are a number of studies that focus on vocabulary learning strategies in relation to different variables. Tılfarlıoğlu and Bozgeyik (2012) studied L2 learners' VLS use habits and the relationship between VLS and their vocabulary proficiency levels. The study found that the participants used a wide range of VLS, and there was a significant correlation between their beliefs about VLS in terms of usefulness and how often they used them. In addition, they found that memory strategies correlated positively with the participants' academic and general vocabulary proficiency levels. In another study, Tüm (2012) worked on the effects of dictionary use on learning Turkish words and found that learning new Turkish words is complicated but it can be overcome by using appropriate dictionary strategies.

There are also a number of studies that specifically focus on vocabulary learning strategies and vocabulary size. Quite recently, Tanyer and Öztürk (2014) carried out a study that focused on pre-service teachers' vocabulary learning strategy use and vocabulary size. Their study found that the most frequently used strategies were determination strategies despite the fact that it was not influential on pre-service teachers' vocabulary stock. Further analysis revealed that the participants' vocabulary learning strategy use explained 17.8% of the variation in their vocabulary size. Alemdari's study (2010) found that the most preferred strategies by the students were cognitive, determination and social strategies and a relationship between successful vocabulary learning and use of cognitive and social strategies was found. Kalajahi and Pourshahian (2012) conducted a study on the relationship between VLS and vocabulary size. The results showed that there are no considerable correlations between VLS and vocabulary size of EFL learners in Cyprus.

1.3 Vocabulary Size of Language Learners

The number of words a learner has in mental lexicon is referred to as vocabulary size. Nation (1990) worked on this issue extensively and suggested that about 87% of the wordsin the textshe studied were the most frequent 2,000 headwords (base words) of English. The academic words which occurfrequently in most kinds of academic texts, technical words and low-frequency words account for the remaining 8%,3% and 2% of the text, respectively.Thus, Nation (1990) concluded that all learners need to know about 2,000 to 3,000 wordlevel in order to function effectively in English.

In a similar vein, Laufer (1997) suggested that the threshold vocabulary size essential for reading comprehension was about 3,000 word level. Learners below the 3,000-word level performed poorly on the reading test regardless of how

high their academic ability was. In terms of text coverage, the 3,000 word families were reported to provide coverage of between 90% and 95% of any text. Furthermore, Hirsh and Nation (1992) believe that it is necessary to have good knowledge of at least 5,000 words if someone aims to read advanced, authentic, academic texts. To conclude, 2,000 high-frequency words level is suggested for effective basic language use and successful text comprehension requires a vocabulary size of 3,000 to 5,000. Therefore, the lowest level for vocabulary size is 2000 words level (Nation, 2005) and the average level for effective language learning and comprehension is 5,000 word level (Schmitt, 2000).

1.4 Research Questions

1.   Which vocabulary learning strategies are common among English Language and Literature department students?

2.   What is the vocabulary size of English Language and Literature department students?

3.   Are there any differences between second grade and third grade students in terms of vocabulary size and vocabulary learning strategies?

4.   Do vocabulary strategy use and vocabulary size change based on academic success?

5.   Which vocabulary learning strategies are associated with each vocabulary size level?

2. Methodology

2.1 Participants

The study was carried out with 130 English Language and Literature department students. The number of female students is 96 (67.1%), and the number of male students is 34 (23.8%). In terms of status, the number of regular students is 66 (46.2%), evening students 56 (39.2%), and distance education students 3 (2.1%). When it comes to grade level, 60 (42.0%) of the participants are second grade students, 64 (44.8%) of the students are third grade students, and 4 (2.1%) of them are fourth grade students. All groups of students, regular, evening, and distance education students, are exposed to the same teaching program.

2.2 Data Collection Tools

Vocabulary learning questionnaire: The research instrument was a Vocabulary Learning Strategy questionnaire which is an adapted version proposed by Gu & Johnson (1996). The questionnaire consists of forty-six vocabulary learning strategies statements in addition to demographic information like department, gender, status and English grade of the students. The data consists of three parts and were analyzed through SPSS (Statistical Package for the Social Sciences). The first part included four questions asking the learners' department, gender, status and English grade. The second part contained forty-six items which were divided into eight categories including "beliefs about vocabulary learning (items 1-11), metacognition regulation (items 12-18), guessing strategies (items 19-25), dictionary strategies (items 26-32), note-taking strategies (items 33-37), memory/ repetition strategies (items 38-41), activation strategies (items 42-43), and anxiety (items 44-46). All these items were evaluated in terms of 5 points rating scale such as 1 point for "never" and 5 point for "always".

The Vocabulary Levels Test: The Vocabulary Levels Test (VLT) was originally devised by Nation (1983). The present study used Version 1, which consists of five parts, representing the following five levels of word frequency in English: the levels of 2000, 3000, 5000 and 10000 words and academic words. The 2000 and 3000 word levels contain high-frequency words. The 5000 word level represents the ultimate boundary of high and low-frequency items. The words below this threshold are central if one wishes to read authentic texts fairly fluently. The 10000 word level contains low-frequency items. L2 learners within 10000 word level can be considered proficient as he can read practically any texts, apart fromspecialized materials, without major difficulty (Merikivi and Pietilä, 2014). Finally, the academic word level is based on Coxhead's (2000) Academic Word List. This level of formal words contains specialized vocabulary important for learners.

2.3 Data Analysis

The study initially employs descriptive statistics in order to measure the frequency of vocabulary strategy use of the students and their vocabulary size. Then, in order to investigate whether vocabulary learning strategies and vocabulary size differ in terms of gender or grade level, two t-tests were run. Finally, in order to find out the influence of vocabulary learning strategies on vocabulary size and which vocabulary learning strategies match with which vocabulary size, correlation analyses were carried out.

3. Results

Research question 1: Which vocabulary learning strategies are common among English Language and Literature department students?

The first aim of the study was to measure the use of vocabulary learning strategies on the part of the participants. Table 1 presents descriptive statistics about general vocabulary learning strategies employed by English Language and Literature department students. Table 1 shows that the participants have a moderate level of beliefs about vocabulary learning (M=13.97; SD=2.89), bottom-up strategies (M=11.31; SD=2,20), top-down strategies (M=11,17; SD=2,46), selective attentionstrategies (M=12.46; SD=18), using background knowledge (M=14.30; SD=2.54),using linguistic clues (M=10.42; SD=2.43), dictionary strategies (M=21.03; SD=4.01), note-taking strategies (M=15.83; SD=3.71), memory strategies (M=14.29; SD=2.89), and evaluation strategies (M=16.26; SD=3.56). Interestingly, the participants have considerably low level of self-initiation strategies (M=10.84; SD=4.92). The results indicate that the participants have a moderate level of vocabulary learning strategy use.

Table 1. Descriptive Statistics about Vocabulary Learning Strategies

VLS	N	Minimum	Maximum	Mean	Std. Deviation
beliefs	130	7,00	22,00	13,9769	2,89202
bottom-up strategies	130	5,00	18,00	11,3154	2,20653
top-down strategies	130	5,00	18,00	11,1769	2,46358
self-initiation strategies	130	4,00	53,00	10,8462	4,92338
selective attention	130	8,00	16,00	12,4692	1,86435
using background knowledge	130	7,00	20,00	14,3000	2,54464
using linguistic clues	130	3,00	15,00	10,4231	2,43955
dictionary strategies	130	11,00	31,00	21,0385	4,01046
note-taking strategies	130	5,00	25,00	15,8385	3,71630
memory strategies	128	4,00	20,00	14,2969	2,89816
evaluation strategies	130	8,00	25,00	16,2692	3,56292

Research question 2: What is the vocabulary size of English Language and Literature department students?

The second research question addresses the vocabulary size of English Language and Literature department students. The results are presented in Table 2. As we can understand from the table, the participants have relatively high level in 2000 word level (M=9.10; SD=1.88), a moderate level in 3000 word level (M=7.83; SD=2.56), a relatively low level in 5000 word level (M=6.0; SD=2.56), and a seriously low level in 10000 word level (M=2.93; SD=2.26). In terms of academic vocabulary, we can see that the participants have a moderate level of proficiency (M=19.72; SD=5.42).

Table 2. Descriptive Statistics about Vocabulary Size of the Participants

Vocabulary size	N	minimum	maximum	Mean	Std. deviation
2000 word level	130	2,00	12,00	9,1077	1,88526
3000 word level	130	1,00	12,00	7,8385	2,56634
5000 word level	130	1,00	12,00	6,008	2,5684
10000 word level	130	0,00	12,00	2,9385	2,26792
Academic vocabulary	130	1,00	29,00	19,7231	5,42177

In order to understand the vocabulary level of the participants better, the data have been further tabulated based on low, moderate and high levels. The results are presented in Table 3. As we can understand from Table 3, in 2000 word level most of the participants have a high level of proficiency and a relatively lower level of proficiency for 3000 word level. When it comes to 5000 word level, we can see that most of the participants have a moderate level of proficiency. For 10000 word level, a seriously large number of the students have a low level of proficiency. Finally, as for academic vocabulary most of the students have a high level of proficiency.

Table 3. Descriptive Statistics about Vocabulary Size of the Participants Based on Low, Moderate, and High Levels

Vocabulary size	Low		Moderate		high	
	f	*%*	*f*	*%*	*f*	*%*
2000 word level	2	0.15	36	27	92	70
3000 word level	15	11	57	43	58	44
5000 word level	35	26	73	56	22	16
10000 word level	115	88	11	.08	3	.02
Academic vocabulary	4	.03	62	47	64	49

Research question 3: Are there differences between second grade and third grade students in terms of vocabulary size and vocabulary learning strategies?

The next research questions deals with the differences between second and third level students in terms of vocabulary learning strategy use and vocabulary size. The results are presented in Table 4. as we can understand form the table, there are statistically significant differences between second and third grade students in terms of 2000 word level (p<.05), 3000 word level (p<.05), and academic vocabulary (p<.05).We can understand form Table 4 that the mean scores of third grade students are higher than second grade students. The mean score for second grade students for 2000 word level is 8.4667, while the mean score for the third grade students is 9.6875. The mean score for second grade students for 3000 word level is 7.2500, while the mean score for the third grade students is 8.3594. Finally, the mean score for second grade students for academic vocabulary is 18.7667, while the mean score for the third grade students is 20.7656. We can understand that the mean scores for the third grade students are higher than the second grade students. This suggests that vocabulary size of the students increases as they continue their education. It can also be speculated that peripheral vocabulary learning plays a role in the increase of the vocabulary size.

Table 4. T-test Results for Grade Levels and Vocabulary Size

	grade	N	M	F	Sig.
2000 word level	2. grade	60	8,4667	.250	.000
	3. grade	64	9,6875		
3000 word level	2. grade	60	7,2500	.370	.016
	3. grade	64	8,3594		
5000 word level	2. grade	60	5,833	2.505	.412
	3. grade	64	6,219		
10000 word level	2. grade	60	2,6333	2.08	.158
	3. grade	64	3,2188		
Academic vocabulary	2. grade	60	18,7667	.120	.040
	3. grade	64	20,7656		

The next point addressed by research questions 3 is whether there are statistically significant differences between second grade and third grade students in terms of vocabulary strategy use. The results are presented in Table 5. As we can understand form Table 6, there are no statistically significant differences between 2nd and 3rd grade students in terms of beliefs about vocabulary learning (p>.05), top-down strategies (p>.05), self-initiation strategies (p>.05), selective attention (p>.05), using background knowledge (p>.05), dictionary strategies (p>.05), memory strategies (p>.05), and evaluation strategies (p>.05). However, statistically significant differences were observed between 2nd grade and 3rd grade students in terms of *bottom-up strategies* (p<.05), *note-taking strategies* (p<.05), and *using linguistic clues* (p<.05). This means that as learners move up to the 3rd year they become more proficient in identifying the meanings of most words through reading, expanding their vocabulary through reading a lot. This can be explained by the fact that as learners move to 3rd year, they have to read more academic texts on literature, language teaching, and linguistics. As a result, they develop themselves in the stated strategies. As for note-taking strategies, there are no statistically significant differences in terms of "I *have a vocabulary note book to list down new word", "I only take note the meaning of the word", "I take note of the usages of the word"* and *"I take note of the synonym or antonym of the word"*. The only item that 2nd grade and 3rd grade students differed in the second items in the questionnaire: "*I write down the English word and Arabic/Malay translation of the word*". This shows that 3rd grade students rely more on writing down Turkish translations of the words they learn. Finally, in relation to using linguistic clues, the only point where 2nd and 3rd grade students differed was the item "*I make use of my knowledge of the topic to guess the meaning of word*". This finding strengthens the view that as learners need to read

more academic texts as they continue their education, they develop their skills in guessing vocabulary from context.

Table 5. T-test Results for Grade Levels andVocabulary Learning Strategies

Variables	status	N	M	F	Sig.
beliefs about vocabulary learning	2. grade	60	13,7833	,017	,593
	3. grade	64	14,0625		
bottom-up strategies	2. grade	60	10,8333	,026	,023
	3. grade	64	11,7500		
top-down strategies	2. grade	60	11,0500	2,138	,786
	3. grade	64	11,1719		
self-initiation strategies	2. grade	60	10,1500	1,866	,155
	3. grade	64	11,4375		
selective attention	2. grade	60	12,1333	,010	,068
	3. grade	64	12,7500		
using background knowledge	2. grade	60	14,2833	,463	,842
	3. grade	64	14,3750		
using linguistic clues	2. grade	60	9,9500	1,234	,041
	3. grade	64	10,8594		
dictionary strategies	2. grade	60	20,6333	2,355	,377
	3. grade	64	21,2656		
note-taking strategies	2. grade	60	15,0000	3,602	,033
	3. grade	64	16,4375		
memory strategies	2. grade	60	14,1356	,234	,717
	3. grade	64	14,3281		
evaluation strategies	2. grade	60	15,7000	,466	,146
	3. grade	64	16,6406		

Research question 4: Do vocabulary strategy use and vocabulary size change based on the grade average of the students?

The relation between frequency of vocabulary strategy use and vocabulary size has been investigated within the scope of the study. The results are presented in Table 6.

Table 6. Correlation between Vocabulary Strategy Use and Vocabulary Size

Strategies	Average	Voc. Size	Beliefs	Bottomup	T. Down	Selfini	Selective	Background	Lingclues	Dictionary	Notetaking	Memory
Beliefs	.060	.197*										
Bottomup	.312*	.219*	.274*									
Topdown	.196*	.189*	.305*	.405*								
Selfini	-.022	.059	.208*	.164	.246*							
Selective	.115	.043	.333*	.305*	.341*	.118						
Background	.144	.130	.248*	.451*	.432*	.111	.222*					
Lingclues	.237*	.207*	.248*	.401*	.563*	.258*	.348*	.424*				
Dictionary	.075	.068	.238*	.284*	.409*	.201*	.164	.394*	.387*			
Notetaking	.098	.097	.379*	.143	.250*	.073	.341*	.204*	.367*	.364*		
Memory	.075	.026	.315*	.192*	.441*	.231*	.380*	.278*	.452*	.254*	.415*	
Average		.546*	.060	.312*	.196*	-.022	.115	.144	.237*	.075	.098	.075

Notes: *$p < .05$; **$p > .01$

Average: grade average, **Voc. Size**: vocabulary size, **Beliefs**: beliefs about vocabulary learning, **Bottomup**: bottom-up strategies, **T.Down**: top-down strategies, **Selfini**: self-initiation strategies, **Selective**: selective attention strategies,**Background**: using background knowledge, **Lingclues**: using linguistic clues, **Dictionary**: dictionary strategies, **Notetaking**: note-taking strategies, **Memory**: memory strategies

As we can understand from Table 6, there are three vocabulary learning strategies that are closely related to academic success. These strategies are *bottom-up strategies (r=.312, p<.05), using linguistic clues(r=.237, p<.05), and top-down strategies (r=.196, p<.05).* Therefore, it can be said that the frequency of these three vocabulary

learning strategy use increases as academic success increases. In addition, a positive and moderate level of correlation was observed between vocabulary strategy use and vocabulary size (r=.546, p<.05). Depending on this finding, we can say that vocabulary strategy use increases as vocabulary size increases.

Research question 5: Which vocabulary learning strategies are associated with each vocabulary size level?

Within the scope of the study, in order to investigate the vocabulary strategy use frequency of the participants, the vocabulary levels of the participants in terms of 2000 word level, 3000 word level, 5000 word level, 10000 word level, and academic vocabulary were determined by calculating the correct answers. The results indicated that 33% of the participants were between 0-41, the ones from 33% to 67% ranged from 42 to 51, and the rest ranged from52 to 70 out of 78 possible correct answers. These numbers were used to categorize the participants in terms of their vocabulary size as *low level*, *middle level*, and *upper level*. The results are presented in Table 7.

Table 7. Descriptive Statistics Regarding Vocabulary Size and Vocabulary Strategy Use

Vocabulary size	Strategy	n	$\bar{X}$	SS
Low level (0-41 correct answers out of 78)	Beliefs	40	3,42	0,73
	Bottomup	40	3,61	0,82
	Topdown	40	3,59	0,88
	Selfini	40	3,58	1,72
	Selective	40	4,13	0,61
	Background	40	3,47	0,71
	Lingclues	40	3,34	0,81
	Dictionary	40	3,43	0,65
	Notetaking	40	3,06	0,69
	Memory	40	3,59	0,69
Middle level (42-51 correct answers out of 78)	Beliefs	45	3,55	0,58
	Bottomup	45	3,90	0,70
	Topdown	45	3,70	0,82
	Selfini	45	3,79	2,21
	Selective	45	4,22	0,71
	Background	45	3,62	0,65
	Lingclues	45	3,46	0,85
	Dictionary	45	3,57	0,70
	Notetaking	45	3,31	0,75
	Memory	45	3,60	0,86
Upper level (52-70 correct answers out of 78)	Beliefs	45	3,52	0,85
	Bottomup	45	3,79	0,68
	Topdown	45	3,87	0,76
	Selfini	45	3,47	0,59
	Selective	45	4,12	0,54
	Background	45	3,63	0,55
	Lingclues	45	3,61	0,77
	Dictionary	45	3,51	0,66
	Notetaking	45	3,12	0,78
	Memory	45	3,56	0,64

Average: grade average, **Voc. Size**: vocabulary size, **Beliefs**: beliefs about vocabulary learning, **Bottomup**: bottom-up strategies, **T.Down**: top-down strategies, **Selfini**: self-initiation strategies, **Selective**: selective attention strategies,**Background**: using background knowledge, **Lingclues**: using linguistic clues, **Dictionary**: dictionary strategies, **Notetaking**: note-taking strategies, **Memory**: memory strategies

As we can understand from Table 7, the vocabulary learning strategies that are frequently used by the low level group are selective attention and bottom-up strategies, and the least used strategy is note taking strategies and using linguistic clues. The students in the middle level were also found to use selective attention and bottom-up strategies most frequently and note-taking and using linguistic clues the least frequently. As for the upper level group, the results indicate that these students use selective attention strategies and top-down strategies more frequently than the other strategies and the least used strategies by the upper level group are note-taking strategies and dictionary strategies. Based on these findings, it is possible to say that there are minor differences in vocabulary learning

strategies in relation to their vocabulary size and although the same strategies seem to be used by students from all groups, their mean scores differ.

4. Discussion

The present study has been carried out in order to investigate vocabulary strategy use of Turkish EFL learners in relation to academic success and vocabulary size. To this end, the frequency of vocabulary strategy use of Turkish students was measured and the results indicated a high frequency of VLS use. For the same purpose, Turkish EFL students' vocabulary size was also measured and it was found that the participants had a high level of vocabulary in 2000, 3000, and academic vocabulary word level whereas the participants had a moderate level in 5000 word level and a low level in 10000 word levels. The study also found differences between 2nd grade and 3rd grade students in terms of vocabulary size. Third level students ranked higher in terms of 2000, 3000, and academic vocabulary sizes. This shows that vocabulary stock of students increase as they move up to upper grades, which justifies that peripheral vocabulary learning processes are at hand.

Another major finding of the study is that statistically significant differences were found between 2nd grade and 3rd grade students in terms of *bottom-up strategies, note-taking strategies,* and *using linguistic clues*. Third grade students relied more on writing down the Turkish equivalent of a new word, and they were found to be better at guessing vocabulary from context. It was hypothesized that as learners need to read more academic texts as they continue their education, they develop their skills in guessing vocabulary from context.

One of the major findings of the present study is that academic success highly correlated with *bottom-up strategies, using linguistic clues,* and *top-down strategies*. Bottom-up strategies are mostly related to reading and vocabulary development. Therefore, we can speculate that academic reading texts that students are supposed to read throughout their courses contribute to their vocabulary strategy development. Different studies produced different results in Turkish context. Tılfarlıoğlu and Bozgeyik(2012), for example, found that *memory strategies* positively correlated with academic success.

The present study did not find a particular relation between vocabulary size and vocabulary learning strategies. This finding is in line with Waldvogel's (2013) study and Tanyer and Öztürk's study (2014). Waldvogel's (2013) study found no relationship between vocabulary size and vocabulary learning strategies. The study conducted by Kalajahi and Pourshahian (2012) on the relationship between VLS and vocabulary size also showed that there were no considerable correlations between VLS and vocabulary size of EFL learners in Cyprus. In addition, althoughTanyer and Öztürk (2014) found that vocabulary learning strategies of students explained 17.8% of the variation in their vocabulary size, no correlation was found between particular vocabulary learning strategies and vocabulary stock. In contrast, Şener (2009) worked on the relationship between the use of vocabulary learning strategies and vocabulary size in the Turkish context and found that students using vocabulary learning strategies more frequently did better in the Vocabulary Levels Test (VLT). Therefore, it is not possible to claim that vocabulary learning strategies have a particular effect on vocabulary size.

5. Conclusion

We learn from the related literature that VLSs have been studied in relation to a number of different variables and different studies found different patterns of VLS use and different correlation patterns between VLS and vocabulary size. The present study found a moderate-to-high level of VLS use on the part of EFL learners and a moderate level of vocabulary size. As was stated above, there are a few studies that have been carried out on the relation between vocabulary size and VLS use. Some of them did not find any particular VLS that specifically correlated with vocabulary size, while some others found that *determination strategies* correlated with vocabulary size (Tanyer and Öztürk, 2014). Another study found (Alemdari, 2010) a relation between *cognitive, determination* and *social strategies* and vocabulary size. The present study did not find any specific correlation between VLS and vocabulary size.Although, as was stated, the literature produced different patterns in terms of VLS use and vocabulary size, as Nation (2001) states, there is no doubt that instruction on VLS will definitely help students in their vocabulary learning process.

In addition, studies on strategy training indicate that training helps learners develop their VLS. Aktekin and Güven (2007), for example, worked on raising learners' and teachers' awareness on vocabulary learning strategy and found that giving vocabulary learning strategy instruction to the study group had significant positive effect on the vocabulary learning of students.AtayandOzbulgan (2007) also claimed that "the instruction seemed to help them to

self-diagnose their learning difficulties, experiment with both familiar and unfamiliar strategies, and self-evaluate their performance" (p.47). Moreover, Kök and Canbay (2011) investigated the effects of strategy training on vocabulary learning and use of vocabulary consolidation strategies and they found that strategy training increased the participants' strategy use. Therefore, it can be said that although studies reveal varying patterns of VLS use and varying levels of correlation between VLS and vocabulary size, as we can understand form the stated studies, instruction training helps learners develop their VLS use. In this case, language teachers must help their students in improving their VLS use.

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