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The Role of Gender and Discipline in Vocabulary Learning Strategy Use of Turkish Graduate EFL Learners

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***Abstract* — The purpose of this research is to determine the role of two learner background factors, namely; gender and discipline (academic major) in learners' frequency of vocabulary learning strategy use. To this end, data were collected from 79 Turkish graduate students pursuing their master's or PhD education in a variety of departments in 27 universities in Turkey via a questionnaire with 93 items on vocabulary learning strategies. The analyses of the study data revealed significant difference between male and female learners in favour of the female ones in the frequency VLS use while non-significant results between science major and arts and humanities major learners.**

***Keywords* — Vocabulary Learning Strategy, Gender, Discipline, Academic Major, EFL**

I. INTRODUCTION

Learning strategies are widely accepted to be of crucial value in second/foreign language learning with a lot of research effort going into the area. Researchers focus their research on a variety of strategies as well as the effect of strategy instruction on success or the role of some learner background factors on strategy use.

Vocabulary learning strategies (VLSs), being one of the most commonly researched type of learning strategies, are defined as steps taken by language learners to learning new words (Asgari and Mustapha, 2011). Research on VLSs tended to focus first on a categorisation of VLSs and then on their relationship with some learner background factors. Researchers like Cohen, 1987; Stoffer, 1995; Gu and Johnson, 1996; Lawson and Hogben, 1996; Schmitt, 1997; Weaver and Cohen, 1997; Cook, 2001; Nation, 2001; Fan, 2003 and Gu, 2003 provided taxonomies of VLSs (in their chronological order). After a taxonomy is adopted as the base of the study, some of the research effort has been into an individual (particular) VLS and dictionary use (Baxter, 1980; Hulstijin, Hollander and Greidanus, 1996; Laufer and Hadar, 1997) and also metacognitive strategies (Zhao, 2009; Çubukcu, 2008; Rasekh and Ranjbary, 2003) while some other into different memory strategies (Morin and Goebe, 2001; Waring, 1997; Freyd and Baron, 1982). A number of researches on different cognitive strategies (Prince, 1996) and overall VLS use (Barcroft, 2009; Fan, 2003) have also been made.

For the purposes of another study by the same researcher, VLSs were classified into five categories by the researcher, each category referring to a step of learning a new vocabulary item. The categories of VLSs and the type of strategies they refer to by aiming to answer a question each have been provided below:

1. Triggering Strategies: *'What vocabulary item(s) does the learner want to learn?'*
2. Resolution Strategies: *'What does the learner want to learn concerning a particular vocabulary item?'*
3. Determination Strategies: *'How does the learner learn the word?'*
4. Reinforcement Strategies: *'How does the learner reinforce the designated knowledge of a vocabulary item?'*
5. Retrieval Strategies: *'How does the learner retrieve a vocabulary item that s/he has already studied?'*

Learner background factors are now widely acknowledged to be closely related to learning strategies which in turn help determine learning outcomes in language acquisition (Gu, 2002). Gender and discipline, which are two of the most discussed learner factors constitute the focus of this paper together with vocabulary learning strategies Turkish EFL learners deploy.

To start with, gender has been found to be a potent factor in determining learners' VLS use by a number of studies in the literature (Alemi and Tayebi, 2011; Soureshjani, 2011). A recent study by Ahour and Abdi (2015) revealed that male and female learners differ greatly in their frequency of using VLSs. Gu's (2002) research revealed statistical significance as well between male and female language learners in VLS use in favour of female learners. Similar to the findings of these two studies, Ping's (2002) study accounted for use of more varied strategies by females than males in general academic vocabulary learning while application of practical strategies by males were found to be more often than females in specific academic vocabulary learning. In parallel with the other research presented on the relationship between gender and VLS use, Božinović and Sindik (2011) also found gender differences in the use of learning strategies, where the females more frequently used all types of learning strategies, apart from socio-affective strategies. Likewise, Zhou and Intaraprasert (2015) found gender has some effects on pre-service teachers' strategy use at the overall, category and individual levels.

In his study on the relationship between language learning strategies and some background factors, Wharton (2000), on the other hand, unexpectedly – as he puts it -, found that strategies were used significantly more often by men, contracting the findings of his research with a great majority of the rest of the studies on the same subject in the literature. Lee's (2007) large scale research on VLSs of Korean university students revealed equally unexpected

results with its finding of no gender effect on the pattern and frequency of strategy use. Wei (2007), similarly, found no evidence of a significant difference in strategy use by gender as a result of her research on college level English language learners' VLS use in Chinese context. Likewise, a relatively recent study by Zokaee, Zaferanieh and Naseri (2012) suggested that there was no significant difference between male and female Iranian undergraduate EFL learners in terms of their VLS choices. Tsai and Chang's (2009) study (with 647 participants in a Taiwanese context with university students) is another study among the limited number of studies in literature having found no statistically significant difference between male and female participants' use of VLSs.

In addition to gender, schooling on a chosen or preferred subject has been widely assumed to affect learner strategy preferences and mental behaviour (Gu, 2002). Similarly, Rao and Liu (2011), who conducted their research in Chinese EFL context, found that although there were more similarities than differences in their strategy use, there did exist significant differences between social science students and science students in the use of some learning strategies, thus proving discipline (academic major) to be a potent factor affecting learner strategy use. Tsai and Chang's (2009) research also had a field-of-study aspect, with findings revealing that English-major students used more VLSs than non-English-majors. In a more recent study, Boonkongsaen and Intaraprasert (2014) searched the relationship between students' field of study and English VLS use with the finding that field of study was significantly related to students' overall VLS use, use of VLSs by the category and individual strategy levels. The researchers categorised participants into three; arts-majors, science-majors, and business-majors. The results revealed that arts-majors employed VLSs significantly more frequently than business and science-majors in the overall VLS use while business-majors and science-majors did not differ in their VLS use.

However, research on the relationship between discipline and strategy use in the literature reveal contrasting findings such as Gu's (2002) research on the relationship between discipline and VLS use which, despite finding use of strategy differences between arts and science majors, did not find any statistically significant difference between the two groups.

This study focused only on Turkish EFL learners in case cultural and contextual differences play a role in determining the influence of gender and discipline.

The purpose of this research was to determine the role of gender and discipline (academic major) in the frequency of vocabulary learning strategy use of 79 Turkish graduate students pursuing their master's or PhD education in a variety of departments in 27 universities in Turkey based on empirical data. For these purposes, the following research questions (RQ) were aimed to be answered:

1. Does Turkish graduate learners' frequency of VLS use vary in terms of their gender?
2. Does Turkish graduate learners' frequency of VLS use vary in terms of their discipline?

II. METHOD

A. Participants

In total, 79 graduate learners pursuing their master's or PhD education in a variety of departments 27 Turkish universities participated in the study. The participants of the study consisted of 31 males and 48 females. Participants' age ranged from 23 to 43, with a mean age of 28. 64 of the 79 participants, constituting 81%, were master's level learners while the remaining 15 (19%) were PhD students. The distribution of participants in terms of gender and discipline has been provided on Table 1.

Table 1. Distribution of Participants according to Gender and Academic Major

			Discipline		Total
			Arts & Humanities	Science	
Gender	Female	N	37	11	48
		%	47%	14%	61%
	Male	N	16	15	31
		%	20%	19%	39%
Total		N	53	26	79
		%	67%	33%	100%

Table 1 reveals 48 of the participants, constituting 61%, were females and 31 (constituting the remaining 39%) were males. The distribution of female participants in terms of their disciplines as provided by Table 1 shows that the ratio of the arts and humanities major students was 37 (47%) with 11 science majors constituting 14%, and both constituting 48 (61%) of the 79 participants. The distribution of male participants, on the other hand, shows that the ratio of the arts and humanities major students was 16 (20%) with 15 science majors constituting 19%, and both constituting the remaining 31 (39%) of the 79 participants. In other words, the distribution of participants according to their academic majors revealed that 67% (53) of the participants were arts and humanities learners while the remaining 33% (26) were science majors.

B. Materials

Personal information on students were collected through the use of a personal information sheet consisting of questions on participants' age, gender, university, academic major and so on.

A 5-point rating scale Vocabulary Learning Strategies questionnaire developed by the researcher was used in the data collection. The questionnaire consisted of 93 items (each related to one of the five types of VLSs) with a section on frequency of use of VLSs in Likert form, as well. The questionnaire was piloted before its use for the purposes of this study.

The reliability of the VLSQ, as measured by *Cronbach Alpha* coefficient was calculated to range between .80 and 95 for its five subcategories, with an overall *Cronbach Alpha* coefficient of .97.

C. Procedure

Data on frequency of use of VLSs as well as some personal information were collected from graduate

learners attending 27 Turkish universities over a two-month period via VLSQ. Consent forms prepared in the participants' native tongue (Turkish) were signed by the participants as to let them know of their rights and expectations from them.

D. Procedure

Descriptive statistics (such as mean and standard deviation) were utilized. In addition, *t* tests were conducted to capture differences in reported frequency of use of VLSs, if any, between females and males as well as between arts and humanities majors and science majors. Multivariate analysis of variance (MANOVA) was performed to see if gender and discipline had any interaction effects.

Also, since the number of participants was more than 30 (79) according to *Central-Limit Theorem*, parametric tests could be used. Before each tests was conducted, the study data were checked as to whether they met the assumptions of the test to be used. It was seen that all the assumptions were met.

III. Findings And Discussion

Findings are presented according to three levels of data analysis; descriptive statistics on the use five categories of VLSs by Turkish graduate EFL learners, the relationship between gender and VLS use, and the one between discipline and VLS use.

Table 2. Average Frequencies of Use of the Five Categories of Vocabulary Learning Strategies

	(n=79)	
Strategy type	Mean	SD
Triggering	4.06	.60
Resolution	3.21	.82
Determination	3.39	.64
Reinforcement	3.02	.72
Retrieval	3.28	.91
General Average	3.25	.62

Table 2 reveals that the most frequently used type of VLS is Triggering Strategies with an average score of 4.06 while the least frequently used type of VLS is Reinforcement Strategies with an average score of 3.02. Determination (m=3.39), Retrieval (m=3.28), and Resolution Strategies (m=3.21) are found to be the second, third and fourth frequently used types of VLSs by the EFL learners in Turkey respectively with the average frequency of VLS use being 3.25.

Bearing in mind that these categories are actually five steps to learning a word, it is quite normal that the first stage, being Triggering Strategies has the biggest average (as learners starts their process of learning a word, but then somehow fail to reach the last step, hindering the acquisition of the word).

Findings concerning RQ 1: gender and frequency of use of VLSs

In order to answer RQ 1, as to the difference between male and female Turkish graduate learners of English language in terms of their use of VLSs, a t test has been carried out as well as calculating the average score of each group for the five sub-categories of VLS and a general average score.

An account of the distribution of average frequencies of reported use of the five sub-categories and general average of VLSs according to gender has been provided on Table 3.

Table 3. Average Frequencies of Use of the Five Subcategories of Vocabulary Learning Strategies in terms of Gender

	Female (n=48)		Male (n=31)		Females vs. Males		
Strategy type	m	SD	m	SD	*t*	p	*r*
Triggering	4.26	.46	3.76	.68	3.96	0.00*	0.41
Resolution	3.51	.71	2.75	.77	4.53	0.00*	0.46
Determination	3.61	.56	3.05	.60	4.19	0.00*	0.43
Reinforcement	3.25	.62	2.66	.72	3.93	0.00*	0.41
Retrieval	3.58	.78	2.81	.90	4.04	0.00*	0.42
General Average	3.50	.49	2.87	.61	5.00	0.00*	0.50

(* marks statistically significant p values)

An analysis of the rankings of frequency of use of VLSs across genders revealed (as shown on Table 3) that the most frequently used type of VLS, Triggering Strategies, is shared by female and male participants of the study with the average frequencies of 4.26 and 3.76, respectively. The second most frequently used type of VLSs, which is Determination Strategies, was also shared by female (m=3.61) and male participants (m=3.05). Retrieval and Resolution Strategies came the third and fourth with frequencies of 3.58 and 3.51, respectively, for female participants. Male participants, similarly, used Retrieval Strategies the third, and Resolution Strategies the fourth most frequently with the mean scores of 2.81 and 2.75, respectively. Reinforcement Strategies are the least frequently used type of VLSs by both females (m=3.25) and males (m=2.66). It is clear from the table that although the means show a difference the rankings of frequency of use of different types of VLSs are quite similar for the two gender groups.

At test was conducted to see if the difference between female and male participants in the frequency of use of VLSs was statistically significant. The results revealed that the difference between female and male was significant ($p<.05$) in favour of females in all of the five categories of VLSs, with the effect sizes indicating medium sized effect ($r>.30$) for all five categories of VLSs as well as a large sized effect ($r=.50$) for the overall VLSs.

This means, in the present study, the findings suggest that gender was found to be one of the factors influencing VLS use. This is congruent with the findings of some studies such as the ones by Ahour and Abdi (2015), Gu (2002), Ping (2002), Božinović and Sindik (2011), and Zhou and Intaraprasert (2015) in that the all found that female learners deployed significantly more VLSs than males did. On the other hand, the findings of the present study are discordant with both those of Wharton's (2000), which found that strategies were used significantly more often by men, and those of the research by Lee (2007), Wei (2007), Zokaee, Zaferanieh and Naseri (2012), and Tsai and Chang (2009), which suggested that there was no significant difference between male and female learners in terms of their VLS use. However, it should be noted that studies in literature which found statistically significant difference in the use of VLSs in favour of males or ones which found no difference at all between the two genders are much fewer than those finding a statistically significant difference in VLS use in favour of females.

Findings concerning RQ 2: discipline and frequency of use of VLSs

As for the distribution of average frequencies of reported use of the five sub-categories and general average of VLSs according to academic major in Turkey (as an EFL context), Table 4 aims to give an account of this.

Table 4. Average Frequencies of Use of the Five Subcategories of VLSs in terms of Academic Major

	Arts & Humanities (n=53)		Science (n=26)		Arts & Humanities vs. Science		
Strategy type	m	SD	m	SD	*t*	p	*r*
Triggering	4.12	.60	3.94	.61	1.27	0.21	0.14
Resolution	3.30	.83	3.04	.79	1.33	0.19	0.15
Determination	3.50	.59	3.17	.68	2.21	0.03*	0.24
Reinforcement	3.05	.78	2.95	.73	0.60	0.55	0.07
Retrieval	3.38	.89	3.07	.93	1.45	0.15	0.16
General Average	3.32	.61	3.12	.64	1.37	0.17	0.15

(* marks statistically significant p values)

Table 4 clearly shows that the most frequently used type of VLS by the Art and Humanities major learners is Triggering Strategies with an average of 4.12 (SD=.6). Determination (3.5, SD=.59), Retrieval (3.38, SD=.89) and Resolution Strategies (3.30, SD=.83) are the second, third and forth most frequently used type of VLSs. The least frequently used type of VLS is Reinforcement Strategies by Arts and Humanities major learners with mean scores of 3.05 (SD=.72), respectively. The general average frequency of VLSs by Arts and Humanities majors is represented by the score of 3.32 (SD=.61).

As for the most frequently used type of VLS by the Science major learners (as shown on Table 4) Triggering Strategies is the first one with an average of 3.94 (SD=.606). Determination (3.17, SD=.68) Resolution (3.04, SD=.79) and Retrieval Strategies (2.95, SD=.73) are the second, third and forth most frequently used type of VLSs by Science major learners respectively. The least frequently used type of VLS by Science major learners is Reinforcement Strategies with mean scores of 2.95 (SD=.73). The general average frequency of VLSs by Science majors is represented by the score of 3.12 (SD=.64).

A t test was conducted to see if the difference between Arts & Humanities and Science major participants in the frequency of use of VLSs was statistically significant. The results revealed that the difference between Arts & Humanities and Science major participants was significant ($p<.05$) only in Determination Strategies. The effect size for the significant difference indicated a small sized effect ($r=.24$).

Thus, in the present study, the effect size for Determination Strategies being small and the average for overall VLS use and all the other four categories of VLS use being statistically insignificant, the findings are in parallel with those of Gu's (2002), while being unparalleled with Rao and Liu's (2011) research findings, which revealed that there were significant differences between social science students and science students in the use of strategies, or Boonkongsaen and Intaraprasert's (2014), which revealed that arts-majors employed VLSs significantly more frequently than business and science-majors in the overall VLS use while business-majors and the science-majors did not differ in their VLS use.

In order to see if there was a significant relationship between the frequencies of VLS use on one hand and gender and discipline on the other, a Multivariate Analysis of Variances (MANOVA) test was carried out. Wilks' Lambda values were taken into account. The results have been presented in Table 5.

Table 5. The Interaction between Gender and Discipline regarding VLS Use

Effect	Value	F	p	*η2*
Gender	.777	4.070	.003*	.223
Discipline	.934	1.005	.421	.066
Gender * Discipline	.958	.620	.685	.042

(* marks statistically significant p values)

The MANOVA test carried out to see the effects of gender and discipline on the frequency of use of VLSs on Table 5 revealed a significant univariate main effect of 'gender', Wilks' Lambda = .777, $F(5,71) = 4.07$, $p<0.05$; but not a significant univariate main effect for 'discipline', Wilks' Lambda = .934, $F(5,71) = 1.005$, $p>0.05$; and not a

significant multivariate main effect for 'gender and discipline' together, Wilks' Lambda = .958, F(5,71) = .62, p>0.05. In other words, there was a statistically significant difference between the male and female participants of the study in the frequency of VLS use, which is already evident on Table 3. However, there was not a statistically significant difference between the Science major and Arts and Humanities major participants of the study in the frequency of VLS use. Also, when gender and discipline were assessed together, no statistically significant difference among participants was found. This means, the difference (in VLS use) between female and male participants is the same among Science majors as it is among Arts and Humanities majors; and the other way round, the difference between Science majors and Arts & Humanities majors is the same for females as it is for males. In addition, partial eta squared ($\eta 2$) values (effect sizes) were calculated to be .223 for gender, .066 for discipline, and .042 (out of 1) for gender and discipline together.

IV. Conclusion

Female participants of the study reported more frequent use of all five categories of VLSs than male students did, with all of them as well as general VLSs reaching statistical significance, which proved gender to be a potent variable in vocabulary learning strategy use, which is congruent with the findings of most of the research in the literature. On the other hand, arts and humanities major participants reported more frequent use of all five categories of VLSs as well as of general VLSs than science major students did, although only discipline difference on *determination* strategies reached statistical significance with the difference between arts and humanities majors and science majors in general VLS use being insignificant. This shows discipline not to be as potent a factor as gender in determining strategies used by foreign language learners in vocabulary learning.

Appendix

Table 6. Frequencies of Use of each of the VLSs

Item	Strategy		Frequency of strategy use	
			Mean (n=79)	SD
1	Trig1	I try to learn the English words mentioned in classes.	3.96	1.01
2	Trig2	I try to learn the words that I think are important out of the English words mentioned in classes.	4.32	0.78
3	Trig3	I try to learn the words I'll be asked about in the exams.	4.10	1.09
4	Trig4	I try to learn the words that fall into my field of interest even when they are not included in the textbooks.	4.25	0.94
5	Trig5	I try to learn the words that I frequently come across with in classes.	4.30	0.90
6	Trig6	I learn the meaning of the English words that I come across with in my daily life (e.g. in the name of a cafe, on the poster of a film, in a song).	3.95	1.12
7	Trig7	I learn the words I hear in a dialogue.	3.75	1.13
8	Trig8	I search for and learn the words that I think will be necessary in my Daily life (e.g. food words).	3.70	1.25
9	Trig9	I look up the ones that I think are important among the words I come across while reading.	4.24	0.91
		Triggering	**4.06**	**0.60**
10	Res1	I learn the pronunciation of a word so that I can recognise it when I hear it.	3.57	0.93
11	Res2	I learn how to pronounce the word correctly.	3.78	1.22
12	Res3	I learn the word to be able to recognise it when I come across it.	3.82	0.96
13	Res4	I learn the word together with its spelling.	4.08	1.05
14	Res5	When learning a word I try to differentiate between its stem and suffixes.	2.82	1.38
15	Res6	I learn the Turkish translation of a new English word that I come across.	3.92	1.01
16	Res7	I learn the meaning of the word in English.	3.19	1.25
17	Res8	I learn an English word together with its synonym and antonym.	2.76	1.16
18	Res9	I choose one among the many meanings of a word and learn that one.	3.37	1.20
19	Res10	I consider what other words the word I am learning makes me think of.	3.09	1.26
20	Res11	I learn a word together with its grammatical uses.	2.68	1.34
21	Res12	I learn the word form (such as noun, verb, adjective, etc.) of a new English Word I come across with.	3.14	1.45
22	Res13	I aim to recognise an English verb when I come across its inflections.	3.29	1.42
23	Res14	I learn whether an English verb is transitive or intransitive.	2.43	1.28
24	Res15	I learn the plural version of a new English (countable) noun as well.	2.92	1.29
25	Res16	I learn which or what type of words the word is used with.	2.85	1.25
26	Res17	I generally want to know how frequently I will come across with the word.	3.54	1.20
27	Res18	I learn whether a word is formal or informal.	2.75	1.25
28	Res19	I learn the meaning of a word as a term.	3.03	1.07
		Resolution	**3.21**	**0.82**
29	Det-Guess1	I try to guess the meaning of a Word by its word form (such as noun, verb, adjective, etc.).	3.37	1.34
30	Det-Guess2	I guess the meaning of a word using its stem, prefix and suffix (e.g. guessing the meaning of 'unhelpful').	3.94	1.28

31	Det-Guess3	I try to guess the meaning of a word considering a Turkish word (if there are any) with the same stem and with a similar meaning (e.g. 'action – aksiyon', 'decoration – dekorasyon, etc.).	4.25	1.08
32	Det-Guess4	I try to guess the meaning of a word with the help of the figures and shapes given with it.	4.09	1.05
33	Det-Guess5	I try to get some help from the context (words around it) as I am guessing the meaning of a word.	4.16	0.98
		Det-Guessing	*3.96*	*0.96*
34	Det-Dic1	I look up the word in a bilingual (English to Turkish) dictionary.	4.06	1.08
35	Det-Dic2	I look up the word in a monolingual (English to English) dictionary.	2.90	1.27
36	Det-Dic3	I look up the word in an illustrated (visual) dictionary.	1.95	1.20
37	Det-Dic4	I look up the words in an online or offline dictionary on my mobile or computer.	4.37	0.98
38	Det-Dic5	I write the word on a search engine on the Internet.	3.52	1.38
		Det-Dictionary	*3.36*	*0.64*
39	Det-Int1	I ask the teacher to translate the word into Turkish.	2.84	1.26
40	Det-Int2	I ask the teacher the synonym / antonym of the word.	2.63	1.20
41	Det-Int3	I ask the teacher to explain or define the word in English.	2.75	1.30
42	Det-Int4	I ask the teacher to use the word in a sentence	3.09	1.26
43	Det-Int5	I ask the meaning of the word to my classmates.	3.11	1.23
44	Det-Int6	I try to discover the meaning of the word in the course of class / group activities.	2.94	1.23
45	Det-Int7	In the course of a dialogue, I ask about the words whose meanings I do not know to the person I am talking to .	3.35	1.22
46	Det-Int8	In the course of a dialogue, when I cannot remember a word I would like to use, I explain the word with other words and get the person I am talking to to tell it.	3.68	1.20
47	Det-Int9	When I cannot remember the name of an object, I show it and try to get the person I am talking to to tell its name.	3.42	1.13
		Det-Interactive	*3.09*	*0.79*
		Determination	**3.39**	**0.64**
48	Rein-Int1	I rehearse and practice the words I have learnt with friends from school.	2.58	1.17
49	Rein-Int2	I get the teacher check the vocabulary notebooks, lists and word-cards I prepare for accuracy.	1.92	1.01
50	Rein-Int3	I try to use the words that I've recently learnt in face to face communication with native speakers or foreigners.	2.89	1.41
51	Rein-Int4	I try to use the words that I've recently learnt when corresponding with (via e-mail, letters, chatting, text messages, etc.) native speakers or foreigners.	3.23	1.39
52	Rein-Int5	I try to use the words that I've recently learnt when I am talking on the phone to native speakers or foreigners.	2.27	1.14
		Rein-Interactive	*2.58*	*0.84*
53	Rein-Sens-V1	I revise a word I have recently learnt together with a visual conveying the its meaning.	2.42	1.10
54	Rein-Sens-V2	I study words by relating them to some images in my mind (e.g. studying the Word 'peak' with a virtual image of a mountain with an ice-cap on top of it).	3.61	1.28
55	Rein-Sens-V3	I create a mind map for the words that are related in topic or in meaning and study them together with that map (e.g. I create a mind map for the word 'transportation' by categorising it into 'land', 'air' and 'water' first, and then categorise each into smaller ways of transport on my mind map).	3.11	1.44
56	Rein-Sens-V4	I get help from the physical position of a word (on the page, blackboard or signpost) as I am studying it.	3.78	1.23
57	Rein-Sens-V5	I try to learn the words that fall into my field of interest even when they are not included in the textbooks.	2.14	1.27
58	Rein-Sens-V6	As I am studying a word, I try to visualize its spelling in my mind.	3.70	1.30
59	Rein-Sens-V7	I study words by attaching objects their English equivalent on them.	2.34	1.30
60	Rein-Sens-V8	I study words with similar meanings by using semantic features tables. For example;		

	wrist	wall	table
'watch'	✓		
'clock'		✓	✓

			1.94	1.12
61	Rein-Sens-V9	I create a figure reflecting the meaning of an English word using its letters (e.g. writing the word 'mug' as mu^{g} so that 'u' represents a mug and 'g' its handle).	1.94	1.18
		Rein-Sensual-Visual	*2.78*	*0.81*
62	Rein-Sens-A1	I read the words loudly as I am studying them.	3.58	1.28
63	Rein-Sens-A2	I audio-record lists of vocabulary and listen to them over and over.	2.18	1.28
64	Rein-Sens-A3	I relate the pronunciation of a word to a sound it reminds me of (e.g. relating the word 'splash' with the sound a fast car makes with water on a rainy day).	3.16	1.41
65	Rein-Sens-A4	I create a sound-based relationship between the pronunciation of a word and its meaning (e.g. a relationship between 'squeeze' and 'sıkıyoruz').	3.28	1.39
66	Rein-Sens-A5	I study the word using key word technique (e.g. relating the word 'harsh', which means 'ağır' in Turkish, with 'ağır öğrenci harçları').	3.05	1.42
		Rein-Sensual-Auditory	*3.05*	*0.98*
67	Rein-Sens-K	I study a word with the help of a physical activity related to it (e.g. acting as if pushing something while studying the word 'push').	3.32	1.30
		Rein-Sensual	*2.90*	*0.82*

68	Rein-Org1	I group words as I am studying them (e.g. grouping nouns related to weather conditions like 'wind', 'rain', 'snow' and adjectives like ''windy', 'rainy', 'snowy').	3.35	1.19
69	Rein-Org2	I study words relating them to words with the same topic I already know (e.g. relating the word 'niece' with words like 'uncle, aunt, daughter' I already know).	3.44	1.18
70	Rein-Org3	I study words relating them to words with related meanings I already know (e.g. relating the word 'pescatarian', which means a person who does not eat meat but eats fish, with words like 'vegetarian, vegan' I already know).	3.44	1.31
71	Rein-Org4	I study a word with its synonym and antonym ('bright X dark', 'small = short, little').	3.52	1.21
72	Rein-Org5	I study gradable adjectives in order (e.g. ordering adjectives from cold to hot as 'freezing > cold > cool > warm > hot > burning').	3.05	1.35
73	Rein-Org6	I study a word trying to find a similar word in Turkish (if there is one) (e.g. action-aksiyon, decoration-dekorasyon, etc.).	4.18	0.96
74	Rein-Org7	I study a word together with its context (e.g. a tongue-twister, saying, poem, song lyric, film caps, etc.).	3.28	1.14
		Rein-Organisational	*3.47*	*0.87*
75	Rein-Personal	I reinforce a word relating it to a personal experience, memory or anecdote (reinforcing the word 'bunny' with my favourite childhood cartoon *Bugs Bunny*).	3.89	1.05
76	Rein-Mech1	I study words wring them over and over.	3.48	1.30
77	Rein-Mech2	I study a word by underlining its initial letter.	1.77	1.12
78	Rein-Mech3	I rehearse vocabulary using word lists.	3.33	1.44
79	Rein-Mech4	I rehearse vocabulary using small word-cards.	2.94	1.44
80	Rein-Mech5	I study words using my vocabulary notebook that I keep for new words I learn.	3.23	1.41
81	Rein-Mech6	I study vocabulary from glossary or vocabulary sections of course books (e.g. glossary section in the end of or within a course books or CD/DVDs that come with them).	2.65	1.44
82	Rein-Mech7	I study vocabulary from my notes that I take during classes.	3.58	1.26
83	Rein-Mech8	I rehearse vocabulary in a planned way with regular intervals (e.g. right after class, a day, a week, a month later, etc.).	3.38	1.31
84	Rein-Mech9	I rehearse vocabulary by solving vocabulary tests.	3.30	1.34
		Rein-Mechanical	*3.07*	*0.94*
85	Rein-Cre1	I revise vocabulary in context (e.g. in a sentence).	3.24	1.29
86	Rein-Cre2	I learn words by making up a story with them.	2.47	1.20
87	Rein-Cre3	I reinforce the word by explaining it with other words (e.g. explaining the word 'parents' as 'a person's mother and father).	2.81	1.41
		Rein-Creative	*2.84*	*1.09*
		Reinforcement	**3.02**	**0.72**
88	Ret1	I retrieve a word getting help from its pre-fix, suffix and/or root (e.g. retrieving the meaning of the word 'unhappiness' from its negativity prefix 'un-' and noun suffix '-ness').	3.78	1.33
89	Ret2	I remember a word getting help from its word form (whether a word is a noun, verb, adjective, etc.).	3.00	1.37
90	Ret3	I try to retrieve a word by its physical location on the page (of the book or notebook).	3.53	1.32
91	Ret4	I try to retrieve a word trying to remember where / in what context I learnt it (e.g. in class, in the course of a dialogue or in a film).	3.62	1.19
92	Ret5	I try to retrieve the word by remembering its initial letter.	2.62	1.20
93	Ret6	I try to retrieve a word by trying to remember what physical activity I was doing when I first learnt it (e.g. acting out like stirring something while trying to retrieve the word 'stir').	3.13	1.29
		Retrieval	**3.28**	**0.91**
		General Average	**3.25**	**0.62**

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