

Vocabulary Learning Strategies of Medical Students at Shiraz University of Medical Sciences

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Abstract

This study aimed to investigate the use of vocabulary learning strategies among medical students at Shiraz University of Medical Sciences (SUMS) in Iran as an EFL context. A questionnaire was administered to 120 medical students (53 males, 67 females) to identify; 1) the effective types of vocabulary learning strategies used by the learners and 2) the differences in vocabulary strategy use based on gender. The results revealed that guessing and dictionary strategies were the most frequently used VLS and social and study preference strategies were the least used ones. The results of ANOVA showed that there were statistically significant differences in the mean scores of the eight strategies. As to gender, the females utilized more VLS than males specially in the case of guessing and note-taking strategies; the statistical analysis indicated a significant difference between the students' gender and their choice of VLS.

Keywords: Vocabulary learning strategies (VLS), Dictionary, Guessing, Study preferences, Memory, Autonomy, Note-taking, Social, Selective attention strategies

1. Introduction

Language learning strategies have played a very significant role in language learning for many years and a number of studies have been carried out on this topic (Oxford 1990, 1994, 2002, Nunan 2002, Griffiths 2003, Cohen 2007, Prichard 2008). Learning strategies have been defined by Oxford (1994) "as specific actions, behaviors, steps, or techniques students use-often consciously-to improve their progress in apprehending, internalizing, and using the L2". According to Oxford (1990), these strategies can make learning easier, faster, more enjoyable, self-directed, effective, and transferable to new situations. In this regard, Cohen (2007) believes that language learning strategies are conscious mental activities that must include an action, a goal and a learning situation. So, the term "strategy" implies some degree of consciousness on the learner's part. Although there is much debate among researchers on the extent of learning strategy use, it is generally agreed that some degree of intention is present (Hsiao and Oxford, 2002). If foreign language students are equipped with such strategies, e.g. vocabulary learning strategies, they can be more successful language learners because vocabulary learning strategies develop the autonomy of the students by allowing self-directed involvement, helping them gain control of their learning (Oxford, 1990). Learner autonomy is the ability of the learner to be responsible for his/her own learning. According to Benson (2001), strategy instruction can be considered as a way to help learners take charge of their own learning. VLS are an important part of language learning strategies, attracting much attention of the researchers since the late 1970s. Exploring and applying these strategies help the learners to improve their skills and language learning.

2. Review of the Literature

Vocabulary is inevitably an integral part of any language system and vocabulary knowledge has a significant role in language comprehension and production. Consequently, VLS are greatly important in language learning strategies and both teachers and learners should be aware of their uses. According to Fan (2003), all VLS are more or less related to the following five steps of learning vocabulary in a foreign language identified by Brown and Payne (1994): (1) having sources of encountering new words, (2) getting a clear image, either visual or auditory or both, of

the forms of the new words, (3) learning the meaning of the words, (4) making a strong memory connection between the forms and the meanings of the words, and (5) using the words.

Ahmed (1989) studied the use of VLS among English undergraduate students in Sudan. He noticed that strategy use was more evident among high-achieving students. The most frequently used strategies by the respondents were note-taking and dictionary strategies. Lawson and Hogben (1998) examined the effects of instruction on the use of keyword strategy for 40 experienced students. They found that these learners knew different VLS and most of them used repetition to learn vocabulary. Kudo (1999) described and categorized VLS systematically. His study revealed that many strategies were uncommonly used. He concluded that the most common VLS in L2 were rote-learning and the less common ones were key-word technique and semantic-mapping. Fan (2003) explored the strategy use of 1067 freshman university students in Hong Kong. He found that while the learners used guessing, dictionary and analysis regularly, they rarely utilized management and keyword method strategies. Eslami Rasekh and Ranjbari (2003) have studied the effects of metacognitive strategy training on enhancing the learners' vocabulary knowledge (N=53). Their subjects were Iranian male and female EFL students aged 19-25. The results showed that teaching metacognitive strategies explicitly can help the learners to develop their vocabulary knowledge. Marin-Marín (2005) examined the utilization of VLS by 150 EFL students at the University of Quintana. It was found that guessing meaning from context, using dictionary to check the meaning and repeating silently were the most commonly used strategies and keeping notes on electric devices, using electric dictionaries, and recording words on audiotapes were the least commonly used strategies.

Wong (2005) studied the relationship between self-efficacy and language learning strategies. He also aimed to identify self-reported language learning strategies and recognized the ways in which different learners improve their proficiency. The study was carried out in Malaysia on 74 graduate pre-service teachers. He concluded that most of the participants often used cognitive strategies and compensation strategies. On the other hand, memory strategies were used less than other strategies. Moreover, a significant relationship was found between the participants' learning strategies and their language self-efficacy. The results revealed that high self-efficacy learners reported greater use of strategies to improve their language proficiency. Gu and Johnson (1996) conducted an investigation on VLS and language learning outcomes. The participants were 850 sophomore non-English majors at Beijing Normal University who completed a vocabulary learning questionnaire. The replies were correlated with the results on a vocabulary size test on the College English Test (CETBAND2). A wide variety of VLS were employed by the learners and two metacognitive strategies, i.e. Self-initiation and Selective Attention, appeared as positive predictors of College English Test scores. Also, note-taking, guessing from context, skilful use of dictionary, paying attention to word formation, contextual encoding and activation of newly learned words had a positive correlation with the two test scores. In contrast, visual repetition of new words emerged as the strongest negative predictor of both vocabulary size and general proficiency. Moreover, strategies for better vocabulary retention related more to vocabulary size than to proficiency in English. They concluded that instead of individual strategies, a combination of these strategies may be responsible for these participants' learning.

Lai (2007) focused on VLS of 242 Taiwanese college students. It was noticed that the most commonly used strategies were the overall rote memorization strategies and less cognitively demanding strategies while the least frequently used strategies were those related to social learning activities, study aid and the use of monolingual dictionaries. In another study conducted by Kafipour and Sarani (2008), it was found that the utilization of VLS affects the students' performance in language learning. Kaivanpanah and Alavi (2008) studied the relationship between the learners' abilities to assess their own understanding of the unknown words and their proficiency and gender. It was found that proficiency in the second language and gender influence the learners' self-assessment. The results revealed that learners do not have an accurate assessment of their understanding of the meaning of unknown words in texts. It was also concluded that the accuracy of the learners' guessing is related to their level of proficiency and gender. In an attempt to investigate the most and least frequently-used VLS by Iranian EFL majors (N=328) and the relationship between gender and overall strategy use, Soodmand Afshar (2010) divided the participants into good and poor learners based on their academic records and the results of a placement test. The results revealed that all the learners, either poor or good, commonly employed some strategies most or least frequently but the place of the strategies sometimes changed in the tables. There was no statistically significant difference in the mean reported frequency of the overall strategy use of male and female participants.

A similar study conducted by Arjomand and Sharififar (2011) was an attempt to determine the most and least frequently used VLS among Iranian EFL freshman students and its relationship to gender. The results indicated that cognitive and social strategies were the most and least VLS, respectively, used by all learners. Females employed cognitive and males used metacognitive strategies as the most frequently used VLS, whereas both genders employed social strategies as the least frequently used ones. Just in the case of metacognitive strategies there was statistically

significant difference between preferences of the girls and the boys. Recently Khatib, et al. (2011) investigated VLS of Iranian upper-intermediate EFL learners. Their subjects were 146 English majors. The results indicated that the preferred VLS of these learners were those categories involving self-motivation, word organization and authentic language use. No significant difference was observed between gender and VLS choice. On the other hand, there are some studies conducted on learning styles and its relationship with the students' vocabulary knowledge. As an example, in a more recent study conducted on 250 students, Kafipour, Yazdani and Shokrpour (2011) researched about the relationship between vocabulary level and learning style of Iranian EFL learners. They came to the conclusion that there is no significant relationship between them. Moreover, it was revealed that the students had sufficient vocabulary knowledge at 2000-3000 word level but not at 5000-100000 and academic vocabulary levels.

2.1 Types of VLS

Although various VLS classification systems have been proposed by different researchers (Gu & Johnson, 1996; O' Malley & Chamot 1990; Oxford, 1990; Schmitt, 1997, 2000), there is not one agreeable system for all situations. Schmitt (1997, 2000) presents two dimensions of VLS: discovery and consolidation strategies. The former are used to determine the meaning of new words when the learners encounter them for the first time while the latter are applied to consolidate meanings when the learners face the words again. Discovery strategies include determination and social strategies while consolidation strategies are subdivided into social, memory, cognitive and metacognitive strategies. His classification is partly based on Oxford's (1990) taxonomy of language learning strategies consisting of social, memory, cognitive and metacognitive strategies.

The VLS classification system used in this study is the categorization employed by Jones (2006). According to this system, strategies are classified as dictionary strategies, guessing strategies, study preferences, memory strategies, autonomy, note-taking strategies, selective attention and social strategies.

According to Fan (2003), proficient students use dictionary strategies more often than less proficient ones. Regarding the type of dictionary, Baxter (1980) states that monolingual dictionary use is clearly better for students in the long run since learners are forced to depend less on L1 and more on L2. However, Hsien-jen (2001) found that among intermediate Spanish learners, bilingual dictionaries were preferred to monolingual ones. Gu and Johnson (1996) found that some of their proficient learners used more guessing and dictionary strategies than any other group. They were also notable for their varied overall strategy use. Study preferences indicate the way learners prefer to study vocabulary, i.e. alone, with another person or in a group. Memory strategies are different strategies used by the learners to recall the vocabulary; for example, some keep a record of new words or repeat words aloud to themselves or write them several times, etc. Autonomy is closely linked to motivation and even presupposes some amount of it (Cohen & Dörnyei, 2002). An autonomous learner is responsible for his/her own learning, for example by reading extensively outside the class, making opportunities to use English outside the class or by other out-of-class activities such as listening to English music or watching movies or TV in English.

Note-taking strategies are actually examples of cognitive strategies focusing on the mechanical aspects of learning vocabulary. These strategies show what types of words the learners write down, e.g. common words, words that are of personal interest to them or words or phrases that learners think are useful. These strategies also indicate whether the learners write down the definitions in English or Persian. Moreover, the strategies reveal the information that the learners write down about words, such as meaning of the words, collocation, grammatical information, etc. Selective attention belongs to metacognitive strategies involving planning, monitoring, evaluating and organizing one's own learning (Oxford, 1995, Rubin, 1987). And finally social strategies are those that a learner chooses to undertake for the purpose of interacting with other learners or native speakers (Cohen & Dörnyei, 2002) such as trying to speak with native English speakers.

3. Significance of the Study

Exploring the VSL of medical students at SUMS can shed light on their individual differences in vocabulary learning, thereby making our EFL teachers and curriculum designers more aware of their roles in designing appropriate materials and activities to help the learners improve their vocabulary learning. Moreover, obtaining a picture of VSL of these students will increase awareness of classroom methodology and curriculum planning concerning vocabulary learning. It permits EFL educators and curriculum planners to match teaching and learning to enhance the learners' potentials. It also helps the students to develop strategies to become more autonomous learners.

4. Research Questions

This study was designed to investigate the utilization of VLS among medical students at SUMS in Iran who study English as a foreign language. There was an attempt to find answers to the following research questions:

1. What effective VLS do medical students at SUMS use?
2. Are there any differences in vocabulary strategy use according to gender?

Obtaining a picture of VLS of these students can provide insight for classroom methodology and curriculum planning concerning vocabulary learning.

5. Material and Method

5.1 Participants

The participants in this study were 120 medical students (53 males, 67 females) at Shiraz University of Medical Sciences (SUMS). The age of the students, who were first, second and third- year medical students, ranged from 18 to 21. They had already passed an English course under the title of “General English One” and at the time of data collection they were enrolled in the course of “General English Two”, so they had already had enough input to answer the questions related to VLS.

5.2 Instrument

The instrument utilized in this research was the one employed by Jones (2006) which was adopted from other researchers (Fan, 2003; Gu & Johnson, 1996; Nation, 2001; O'Malley & Chamot, 1990; Oxford, 1990; Schmitt, 2000). The questionnaire consisted of 41 items related to the students' approach to vocabulary learning (see Appendix B). The items were classified under eight sections as dictionary strategies, guessing strategies, study preferences, memory strategies, autonomy, note-taking strategies, selective attention, and social strategies. The participants were asked to answer each item with a 5-point Likert-style frequency scale based on Oxford (1990) as follows: 1) I never or almost never do this, 2) I don't usually do this, 3) I sometime do this, 4) I usually do this and 5) I always or almost always do this.

5.3 Procedure

The questionnaire required about 20 minutes to be completed; it was administered in the English classes. It was in English but to ensure that the students completely understand it, instruction was given in Persian to enhance the reliability. The students were allowed to ask questions during data collection. They were ensured that their responses would not affect their grades and were asked not to mention their names and just specify their genders. They were also asked to complete the questionnaire honestly.

6. Data Analysis

The collected data were analyzed using SPSS, version 10. Descriptive statistics were applied to explore the participants' vocabulary strategy use. For each item on the survey, the frequencies of the responses were calculated in percentages. Also, the means and standard deviations were determined for the 41 strategies listed in the questionnaire. ANOVA was carried out to see whether the differences among the mean percentage scores of the eight strategies are statistically significant or not. Descriptive and inferential statistics were employed to analyze the data according to gender. For descriptive statistics, the sample was filtered according to gender and then the percentage scores were calculated so that the males' and females' answers could be compared for each item. The inferential statistics formulated a composite scale from the item responses so that the males and females could be compared according to strategy category (as against just comparing based on individual items). For example, the three items in the study preferences category resulted in a minimum composite score of 3 for the category (3 items x minimum response score of 1) and a maximum composite score of 15 (3 items x maximum score of 5) for a full composite range of 3 to 15. Afterwards, the means and standard deviations of the composite scores were calculated and compared. To check whether the differences between the composite scores for male and female students in each category were statistically significant or not, an independent samples t-test (two-tailed hypothesis) was carried out.

7. Results and Discussion (Considering All Subjects)

To explore the extent of VLS use among medical students at SUMS and answer the first research question, descriptive statistics were applied to determine the mean percentage scores and standard deviations of the eight categories and their subdivisions (41 items).

[Insert Table 1 here]

As Table 1 reveals, guessing and dictionary strategies were the most frequently used strategies among these learners followed by memory, note taking, selective attention, autonomy and social strategies. Study preferences were determined as the least frequently used strategy. One way analysis of variance showed that there was a statistically significant difference ($p < 0.001$) among the mean percentage of the eight strategies.

Guessing and dictionary strategies, as the most preferred ones, were employed by 69.83% and 67.25% of the

respondents, respectively. This is congruent with the results of Gu and Johnson (1996) that some proficient learners used more guessing and dictionary strategies than any other type. Similarly, Xia (2007) concluded that dictionary and guessing were used more frequently among English majors at Jiujiang University. This finding also accords with the current trend in teaching vocabulary in which the emphasis is on guessing the meanings of new words from the context (Lawson and Hogben, 1996; Nassaji, 2003) and this technique is always recommended to students in different English classes at SUMS.

Dictionary strategies were clearly popular with these respondents with a mean percentage score of 67.25. Using dictionary frequently is associated with strong learners (Ahmed, 1989; Fan, 2003) and medical students are usually the best at SUMS. Their most common reason for referring to dictionary is facing with new words in their reading passages. The mean percentage scores for individual survey items for all the subjects are presented in Table 1 (see Appendix A). The students used bilingual dictionary more (69.83%) than monolingual one (55.00%). The preference for bilingual dictionaries was also observed among Arab students (Jones, 2006) and Spanish learners (Hsien-jen, 2001). It seems that English instructors should encourage students to use monolingual dictionaries to be more dependent on L2 to expand their lexical domain. Although the learners used dictionary frequently and looked at different meanings of a word, just 57.67% of them noticed dictionary examples of how a word is used (item 6) and 64.50% of the learners paid attention to grammatical functions of words (item 7). So, perhaps they did not have enough skill to use a dictionary properly.

Next were memory (62.05%) and note-taking (61.05%) strategies. About three-fourths (72.33%) of the students remembered words by testing themselves by looking at the English words and trying to remember the Persian translation or vice versa (item 22). A similar percentage (71.67%) remembered English words by translating them into Persian (item 23), but they did not very much remember English words by remembering the English definition (62.83%, item 24).

Considering items 33 and 34, the sub-categories of note-taking, fewer students wrote down the definitions of English words in English than in Persian (57.67% and 64.33%, respectively). These findings indicate that they should be forced to depend less on Persian and more on English to remember the English words or write down their definitions. While 65.50% of the learners tended to keep records of new words (item 12), less than half (49.66%) of them regularly revisited them outside the classroom (item 13). It suggests that learners should be reminded of the importance of regular reviewing new words.

Social strategies (56.05%) and study preferences (51.11%) were the least frequently used strategies but one of the subcategories of the latter (item 9: when I study vocabulary, I work alone.) had the maximum percentage (86.83%) and another one (item 11: when I study vocabulary, I work in a group.) had the minimum percentage (30.50%) among all other sub-categories in Table 1. (see Appendix A)

Multiple comparisons of the eight strategies by Dunnett Test revealed that the differences between dictionary strategies and study preferences, autonomy, social and selective attention were significant at 0.05 level. The difference between guessing and other strategies were significant except in the cases of dictionary and memory strategies. With regard to study preferences, the differences were remarkable except in the case of autonomy. Finally only the difference between memory and study preferences was significant as well as that of between autonomy, dictionary and guessing strategies.

8. Results and Discussion (According to Gender)

The second research question sought to find if there are any differences in vocabulary strategy use according to gender. To answer this question, filtering of the sample was done according to gender and a 2-tailed t-test was performed on the data for the equality of the means. The results and the P values are shown in Table 2.

[Insert Table 2 here]

The Table indicates some differences between male and female students regarding strategy use. Generally speaking, the females' use of most strategies was higher than that of the males but the differences were statistically significant with regard to guessing and note-taking strategies. For guessing, the mean percentage scores were 73.13 and 65.66 for females and males, respectively ($p < 0.05$). Although the mean percentage scores of males were higher for social and selective attention, the differences were not significant. These results are approximately in the same line with those obtained in Shokrpour and Mahboudi's study (2011) on the Iranian university students' use of reading strategies of different genders. In their study although the percentage of cognitive and metacognitive strategies used by females was higher than that of the males, the difference was not statistically significant. In the present study, the males employed this rank of strategies: guessing, dictionary, selective attention, memory, note-taking, social, autonomy and study preferences, while females utilized this order: guessing, dictionary, note-taking, memory,

autonomy, selective attention, social and study preferences. So both genders preferred to use guessing and dictionary and were less eager to employ study preferences strategies. The order of other strategies changed with gender.

The results also revealed that there were statistically significant differences between the total mean values of females and males (62.67% and 59.17%, respectively, $P < 0.05$). This finding is consistent with the literature indicating more frequent overall utilization of VLS by females (Dryer and Oxford, 1996; Ehrman and Oxford 1989; Green, 1991; Bedell and Oxford, 1996; Jones, 2006; Macaro, 2001; Oxford and Nyikos, 1989). But it is in contrast with Khatib (2011) and Arjomand's results (2011). None of them found any significant difference between gender and VLS use among Iranian students.

For better comparison, the mean percentage scores of the 41 strategies were separately calculated for both genders (Table 2, Appendix A). The two most preferred items for both males and females were item 3 (If there are new words in a reading passage that I don't know, I look them up in a dictionary.) and item 9 (When I study vocabulary, I work alone). Both groups were the least eager students to employ strategy no.11 (When I study vocabulary, I work in a group.) and no .10 (When I study vocabulary, I work with another person). These findings are also true about the mean percentage scores of strategies considering all subjects (Table 1, Appendix A). Therefore, whether male or female, If these respondents couldn't guess the meanings of unfamiliar words, they referred to the dictionary and another point is that they preferred to study vocabulary alone, not with another person or in a group.

9. Conclusion

The results of this study revealed that the most frequently used strategies by medical students at our university (SUMS) were guessing and dictionary strategies whereas the least ones were social and study preferences. This finding indicated a significant difference among the mean scores of the eight categories of strategies. Multiple comparisons of the eight strategies by Dunnet test confirmed that the differences between dictionary strategies and study preferences, autonomy, social and selective attention were significant at 0.05 level. Regarding dictionary strategies, the subjects preferred to use bilingual dictionary frequently but they were not so much aware of the useful information found in a dictionary.

Considering gender, it emerged from the survey that female medical students at SUMS significantly used more VLS than male learners. The performance of a 2-tailed t-test on the data showed that this difference was especially considerable with regard to guessing and note- taking strategies. Generally speaking, both genders most frequently employed guessing and dictionary strategies and they least frequently used study preferences but the order of other strategies changed with gender.

10. Implications and Suggestions

Considering the focus of this study, it is suggested that the language teachers should make the students aware of the importance of VLS in enhancing their learning. By strategy training, the lecturers can motivate the learners to employ VLS effectively. More training should be done with regard to the least frequently strategies (i.e. autonomy, social and study preferences) so that the students can learn vocabulary perceptively through both in class and out of class activities. Of course, as concluded by Kafipour, et al (2011), our university students mostly prefer individual learning style and also are not competent in the use of 5000-100000 and academic vocabulary levels; therefore, they need to develop their receptive and productive level vocabulary quantitatively. As recommended by them, our students "need extensive and direct vocabulary instruction in order to be able to have successful learning in their academic studies". (p. 9)

Lack of interest in using monolingual dictionary among the subjects might result from insufficient knowledge about how to use them. Lecturers should train them on how to use monolingual dictionary appropriately. They should practically make the learners aware of the presence of invaluable detailed lexical and grammatical information found in the dictionary. Moreover, emphasis on the use of L2 rather than L1 in remembering English words or writing down their definition is recommended. Also regular reviewing of their records of new words outside the class time should be stressed. Finally, in order to have a more generalized view about the VLS of medical students in Iran, further studies should be performed at other universities of medical sciences across the country.

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Table 1. Descriptive statistics for VLS used by all the subjects

Strategy	No	Min	Max	Mean	S.D.
Guessing	120	20.00	100.00	69.83	20.24
Dictionary	119	37.14	91.43	67.25	10.61
Memory	120	32.31	87.69	62.05	10.95
Note-taking	120	20.00	96.67	61.05	15.14
Selective attention	120	20.00	100.00	60.44	16.11
Autonomy	120	20.00	100.00	57.43	17.47
Social	120	26.67	93.33	56.05	14.90
Study preferences	120	26.67	86.67	51.11	8.95
Total	119	42.44	81.46	61.11	8.81

Table 2. Descriptive statistics for VLS based on gender

Strategy	Mean ± SD (Mates)	Mean ±SD (Females)	P. value
Dictionary	65.44±9.99	68.7±10.95	0.096
Guessing	65.66±20.89	73.13±19.24	0.044
Study preferences	50.44 ±10.17	51.64±7.9	0.468
Memory	59.91 ±10.8	63.74±10.85	0.057
Autonomy	55.16±17.03	59.22±17.74	0.208
Note taking	57.54 ±14.63	63.83±15.07	0.023
Social	56.47±13.37	55.72±16.1	0.784
Selective attention	62.38±16.43	58.9±15.81	0.241
Total	59.17±7.95	62.67±9.2	0.030

*The mean difference is significant at 0.05 level.

Appendix A

1. Mean scores for individual survey items (All subjects)

	Descriptive Statistics				
	N	Minimum	Maximum	Mean	Std. Deviation
p11	120	20.00	100.00	30.5000	16.79586
p10	120	20.00	100.00	36.0000	17.88854
p25	120	20.00	100.00	49.5000	21.37500
p13	120	20.00	100.00	49.6667	22.30173
p28	120	20.00	100.00	51.5000	22.10175
p15	120	20.00	100.00	52.1667	25.44341
p35	120	20.00	100.00	52.6667	23.03572
p36	120	20.00	100.00	53.0000	21.79353
p41	120	20.00	100.00	53.5000	25.02604
p20	120	20.00	100.00	54.0000	21.31792
p1	120	20.00	100.00	55.0000	26.08970
p39	120	20.00	100.00	55.6667	23.21740
p14	120	20.00	100.00	56.3333	25.79601
p33	120	20.00	100.00	57.5000	24.94532
p6	120	20.00	100.00	57.6667	22.63088
p26	120	20.00	100.00	58.3333	27.26568
p40	120	20.00	100.00	59.0000	20.55532
p18	120	20.00	100.00	60.8333	22.66242
p17	120	20.00	100.00	61.0000	23.16909
p30	120	20.00	100.00	61.5000	22.77585

p27	120	20.00	100.00	61.6667	24.94813
p24	120	20.00	100.00	62.8333	22.19786
p16	120	20.00	100.00	63.3333	22.80105
p31	120	20.00	100.00	63.8333	22.34878
p37	120	20.00	100.00	64.1667	23.03024
p38	120	20.00	100.00	64.1667	23.74880
p34	120	20.00	100.00	64.3333	23.36173
p7	120	20.00	100.00	64.5000	24.24836
p12	120	20.00	100.00	65.5000	26.05263
p29	120	20.00	100.00	66.1667	21.66139
p32	120	20.00	100.00	66.5000	23.64478
p19	120	20.00	100.00	68.1667	23.40665
p21	120	20.00	100.00	68.8333	20.21661
p8	120	20.00	100.00	69.8333	20.24984
p2	120	20.00	100.00	69.8333	23.04484
p4	120	20.00	100.00	70.8333	24.85532
p23	120	20.00	100.00	71.6667	23.98646
p5	119	20.00	100.00	71.7647	21.84875
p22	120	20.00	100.00	72.3333	23.21740
p3	120	20.00	100.00	80.3333	20.08107
p9	120	20.00	100.00	86.8333	17.67985
Valid N (listwise)	119				

2. Mean scores for individual survey items (According to gender)

Sex = male

	Descriptive Statistics				
	N	Minimum	Maximum	Mean	Std. Deviation
p11	53	20.00	100.00	32.0755	18.53878
p10	53	20.00	80.00	33.5849	16.99483
p35	53	20.00	80.00	45.6604	18.96448
p25	53	20.00	80.00	46.7925	21.10173
p28	53	20.00	100.00	47.5472	23.27971
p14	53	20.00	100.00	49.0566	22.03704
p1	53	20.00	100.00	49.4340	24.37015
p33	53	20.00	100.00	51.6981	24.31649
p36	53	20.00	100.00	52.0755	20.13020

p13	53	20.00	100.00	52.0755	23.31709
p24	53	20.00	100.00	52.8302	21.87177
p41	53	20.00	100.00	53.9623	23.39787
p15	53	20.00	100.00	54.7170	27.21734
p26	53	20.00	100.00	54.7170	27.49852
p20	53	20.00	100.00	55.4717	22.06337
p6	53	20.00	100.00	56.2264	22.20762
p39	53	20.00	100.00	56.2264	22.88990
p18	53	20.00	100.00	57.3585	23.54627
p17	53	20.00	100.00	57.7358	25.01088
p7	53	20.00	100.00	58.4906	22.82005
p40	53	20.00	100.00	59.2453	20.74099
p31	53	20.00	100.00	60.0000	21.83857
p30	53	20.00	100.00	60.3774	23.69374
p16	53	20.00	100.00	61.5094	21.78534
p27	53	20.00	100.00	62.2642	25.61862
p34	53	20.00	100.00	63.3962	23.11704
p32	53	20.00	100.00	64.1509	24.91786
p37	53	20.00	100.00	64.1509	23.65082
p29	53	20.00	100.00	64.5283	22.40931
p12	53	20.00	100.00	64.5283	28.18661
p8	53	20.00	100.00	65.6604	20.89437
p19	53	20.00	100.00	66.0377	25.59594
p21	53	20.00	100.00	66.7925	20.35961
p22	53	20.00	100.00	69.8113	25.60728
p5	53	20.00	100.00	70.9434	20.96372
p23	53	20.00	100.00	70.9434	24.67201
p38	53	20.00	100.00	70.9434	23.06047
p2	53	40.00	100.00	71.3208	20.94294
p4	53	20.00	100.00	71.3208	24.65436
p3	53	20.00	100.00	80.3774	20.56531
p9	53	20.00	100.00	85.6604	19.36585
Valid N (listwise)	53				
a. sex = male					

sex = female

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
p11	67	20.00	100.00	29.2537	15.30631
p10	67	20.00	100.00	37.9104	18.46679
p13	67	20.00	100.00	47.7612	21.44909
p15	67	20.00	100.00	50.1493	23.96288
p25	67	20.00	100.00	51.6418	21.50384
p20	67	20.00	100.00	52.8358	20.80253
p41	67	20.00	100.00	53.1343	26.41217
p36	67	20.00	100.00	53.7313	23.14878
p28	67	20.00	100.00	54.6269	20.76772
p39	67	20.00	100.00	55.2239	23.63602
p35	67	20.00	100.00	58.2090	24.55207
p6	67	20.00	100.00	58.8060	23.06265
p38	67	20.00	100.00	58.8060	23.06265
p40	67	20.00	100.00	58.8060	20.56198
p1	67	20.00	100.00	59.4030	26.73555
p26	67	20.00	100.00	61.1940	26.94115
p27	67	20.00	100.00	61.1940	24.58889
p14	67	20.00	100.00	62.0896	27.22172
p33	67	20.00	100.00	62.0896	24.65135
p30	67	20.00	100.00	62.3881	22.16259
p17	67	20.00	100.00	63.5821	21.44065
p18	67	20.00	100.00	63.5821	21.72148
p37	67	20.00	100.00	64.1791	22.70691
p16	67	20.00	100.00	64.7761	23.63602
p34	67	20.00	100.00	65.0746	23.70099
p12	67	20.00	100.00	66.2687	24.42278
p31	67	20.00	100.00	66.8657	22.44245
p29	67	20.00	100.00	67.4627	21.13042
p32	67	20.00	100.00	68.3582	22.60310
p2	67	20.00	100.00	68.6567	24.67335
p7	67	20.00	100.00	69.2537	24.45239
p19	67	20.00	100.00	69.8507	21.56685
p4	67	20.00	100.00	70.4478	25.19216

p21	67	20.00	100.00	70.4478	20.10826
p24	67	20.00	100.00	70.7463	19.17333
p23	67	20.00	100.00	72.2388	23.60155
p5	66	20.00	100.00	72.4242	22.67229
p8	67	20.00	100.00	73.1343	19.24396
p22	67	20.00	100.00	74.3284	21.12186
p3	67	20.00	100.00	80.2985	19.84563
p9	67	40.00	100.00	87.7612	16.31331
Valid N (listwise)	66				
a. sex = female					

Appendix B: Vocabulary Learning Strategy Survey Items

Dictionary Strategies

1. I use an English-only dictionary (not a Persian English or English Persian dictionary).
2. I use a Persian /English or English /Persian dictionary (not an English-only dictionary)
3. If there are new words in reading passage that I do not know, I look them up in the dictionary.
4. I look up a word in the dictionary if it is of personal interest to me.
5. I look at the different meanings of a word in the dictionary.
6. I look at examples of how a word is used when I look it up in the dictionary.
7. When I look up a word in the dictionary, I look to see if it is a noun, a verb, an adverb, etc.

Guessing strategies

8. I guess the meanings of words I don't know before I ask someone else or look in the dictionary.

Study preferences

9. When I study vocabulary, I work alone.
10. When I study vocabulary, I work with one other person,
11. When I study vocabulary, I work in the dictionary.

Memory strategies

12. I keep a record of new words I see (for example, in vocabulary lists, in vocabulary notebooks, on vocabulary cards, etc.)
13. Outside of class time, I regularly review new words that I have recently seen.
14. I repeat words aloud to help me remember them.
15. I write words several times to help me remember them.
16. I remember words together that have similar spellings.
17. I remember words by creating mental pictures of them in my mind.
18. I remember words together that sound similar.
19. To help me remember words. I pay attention to the word's prefixes, roots, and suffixes (for example, pre-re, tion,- sion, etc.).
20. I remember words by grouping them together according to subject (for example, remembering names of animals together, remembering name of countries together ,remembering name of foods together).
21. I remember words by remembering the sentence I which I saw them or the context in which I saw them.
22. I remember words by testing myself (for example, by looking at the English words and trying to remember the Persian word and trying to remember English translation.)

23. I remember English words by translating them into Persian.
24. I remember English words by remembering the English definition.

Autonomy

25. I read English books, newspapers, and magazines outside of class for my own pleasure.
26. I listen to English music outside of class time.
27. I watch movies or TV in English outside of class time.
28. I try to make opportunities outside of class to use words I've just learned (for examples, using new English words for shopping, trying to talk to someone about a topic. I've just studied, etc.)
29. I learn new words from all kinds of materials (for example, from reading forms, from looking at road signs, from reading restaurant menus, etc).

Note-taking strategies

30. I write down a word if I think is common.
31. I write down a word that are of personal interest to me.
32. I write down a word or phrases that I think are useful.
33. I write down the definitions of English words in English.
34. I write down information about words Persian.
35. I write down information about words when I look them up in the dictionary (for example, I write down the word's meaning, collections, grammatical information, examples of usage, etc.).

Selective Attention

36. I have a schedule or routine that I follow for studying vocabulary.
37. I think about my progress in vocabulary learning.
38. I decide which words are important for me to learn and which are not important for me to learn.

Social strategies

39. I ask my teacher for meanings of new words.
40. I ask other students for meanings of new words.
41. I try to speak to native English speakers as often as possible (for example, to people from the UK. Canada, America, or Australia).