English Language & Literature Teaching, Vol. 25, No. 2, Summer 2019

EFL Learners' Vocabulary Learning in Terms of Gender and Vocabulary Knowledge

Jeong-Won Lee
(Chungnam National University)

Lee, Jeong-Won (2019). EFL learners' vocabulary learning in terms of gender and vocabulary knowledge. *English Language & Literature Teaching, 25*(2), 1-19.

The study aims at investigating patterns of variation in EFL high school students' vocabulary strategy use according to gender and vocabulary knowledge. For this study, 1,124 high school students participated, and they were asked to take a vocabulary test and respond to a questionnaire. The findings are as follows: 1) there was no significant gender differences in their vocabulary knowledge; 2) the learners showed different strategy use patterns depending upon their level of vocabulary knowledge; and 3) their vocabulary learning strategy use was significantly different between male and female learners in general that males were more successful strategy users than females. These findings suggest that the widely accepted belief of female dominance over their male counterparts in vocabulary learning and vocabulary learning strategy use is needed to be revisited, taking into account diverse factors in different learning contexts in order to obtain a clear, convincing solution to the issue in question.

[vocabulary learning strategy/gender/vocabulary knowledge]

I. INTRODUCTION

Vocabulary knowledge plays a more significant role in communication in a second or foreign language than other language skills (McCarthy, 1990) since errors in vocabulary—the greatest source of problem in language learning—are more likely to interfere with successful communication (Gass, 1988; Read, 2000). Accordingly, it is established securely that vocabulary learning is essential for the development of L2 learners' communicative competence and enhancement of overall language skills (Horwitz, 1988; S. Lee, 2007; O'Keeffe, 2012).

It is now widely acknowledged that various factors are closely associated with vocabulary learning, such as gender, vocabulary learning strategy use, level of vocabulary knowledge, learning styles, academic majors, social context, to name a few. As for the gender issue among those, it has long been strongly believed that female learners are superior to their male counterparts in language learning (Sunderland, 2000) and also in vocabulary learning (Oxford, Lavine, Hollaway, Felkins, & Saleh, 1996; Young & Oxford, 1997). Recently, however, some research has piled up complex evidence that suggests gender difference is influenced by learning tasks (Young & Oxford, 1997) and cultural context of learning (Brecht, Davidson, & Ginsberg, 1990).

Vocabulary learning strategy (VLS) is another most discussed factor in vocabulary learning. Especially, VLS exerts great impact on incidental vocabulary learning, which help L2 learners achieve vocabulary growth independently (DeCarrico, 2001). The relationship between VLS based on the its frequency of use and vocabulary knowledge or proficiency level is well documented through a growing body of research performed at home (C. Chin & C. Yook, 2016; Y. Chon & Y. Kim, 2011; J. Huh, 2009; I. Jeon, 2007; S. Lee, 2007; J.-E. Park, 2001) and abroad (Gu & Johnson, 1996; Kojic-Sabo & Lihtbown, 1999). Generally, L2 learners showed different pattern of strategy use according to their vocabulary proficiency levels. That is, the more proficient they were in vocabulary knowledge, the more frequently they used successful VLS. Notwithstanding the number of studies on VLS, no consensus has yet been achieved on how different types and patterns of strategy choice are depending upon their vocabulary knowledge level (Lai, 2009).

Concerning the role of gender in the use of VLS, some research findings (Gu, 2002; Young & Oxford, 1997) support the widely accepted proposition that female learners use learning strategies more frequently than their male counterparts (Green & Oxford, 1995; Oxford & Nyikos, 1989; Wen & Johnson, 1997). Interestingly, however, the study results do not seem to provide consistent findings. There were studies that reported no gender effect on the use of learning strategies (Catalan, 2003; Schmitt, 1997) and VLS in particular (S. Lee, 2007; J.-E. Park, 2001); and male learners' dominance in the use of learning strategies (Brecht et al., 1990) and male learners' outperformance in listening vocabulary (Boyle, 1987). With regard to the studies on VLS, not many of them have focused on the gender issue which is considered a determinant of strategy use (Oxford, 1989); and to complicate the picture, the two studies performed in Korea reported results against the common belief of female learners' dominance in the use of VLS. Accordingly, more studies on the effect of gender on the use of VLS are required to determine the relationship between the two constructs, which can help broaden the comprehensive understanding of vocabulary learning (Oxford, 1989).

In this respect, the current study, a largescale quantitative study, aims at investigating

patterns of variation in EFL high school students' vocabulary knowledge and their VLS use according to gender and vocabulary level. To fulfill this purpose, the following research questions were posed:

1. Does gender have any relation to EFL learners' level of vocabulary knowledge?
2. Does the level of vocabulary knowledge play a role in their use of VLSs?
3. Does gender play a role in their use of VLSs?

II. LITERATURE REVIEW

It has long been an absolute faith that female learners are in general more successful in language learning than male learners (Gu, 2002; Sunderland, 2000); and the belief appears to be no exception in vocabulary learning (Boyle, 1987; Gu, 2002; Oxford et al., 1996; Young & Oxford, 1997). It has also been believed that there are several factors affecting vocabulary learning such as VLS, gender, vocabulary knowledge level, academic majors, etc. Most research interested in vocabulary learning has focused on how vocabulary learning can be enhanced through using VLSs—the rightly strongest factor in understanding vocabulary learning—and thus on the relationship of VLS use to vocabulary knowledge and gender differences.

1. The Role of Gender in the Use of VLS

Female dominance in language learning has long been prevailed among SLA researchers (Oxford et al., 1996; Sunderland, 2000; Young & Oxford, 1997). Part of gender differences in ESL/EFL contexts may have been attributed to differences in learning strategies (Gu, 2002). Significant differences were found between male and female learners in learning strategy use and choice (Green & Oxford, 1995; Gu, 2002; Lan & Oxford, 2003; Oxford & Nyikos, 1989; Wen & Johnson, 1997; Young & Oxford, 1997).

Gender differences in VLS were reported mostly in the frequency of the use of VLS that female learners were more likely to use strategies than their male counterparts (Catalan, 2003; Gu, 2002; Lan & Oxford, 2003) with the exception of S. Lee's (2007) study that the effects of gender in the frequency of strategy use were not found. In terms of strategy choice or the pattern of strategy use—another interesting factor in studies on learning strategies—significant influence of gender on the pattern of strategy use or strategy choice was reported that male learners chose definition strategies more often, while female participants chose contextualization ones more frequently (Al-Nujaidi, 2000). However, there were some findings against gender differences in the pattern of strategy use or

strategy choice that both male and female learners generally revealed a similar pattern of strategy use (Catalan, 2003; S. Lee, 2007; J.-E. Park, 2001; Schmitt, 1997).

Unlike the number of the study performed on the relationship of VLS to vocabulary knowledge or proficiency level, it is true that more studies on the effect of gender on the use of VLS are required to determine the relationship between the two constructs, which can help broaden the comprehensive understanding of vocabulary learning (Oxford, 1989). Especially, given that the two studies carried out in Korea reported unanimously against gender differences in the use of VLS, a study with different subjects in different context is in need to verify the general assumption of female dominance in learning strategy use.

2. The Relationship Between Vocabulary Knowledge and the Use of VLS

Not much research on the characteristics and types of VLS can be found. According to some researchers (Nation, 2001; O'Malley & Chamot, 1990; Oxford, 1990) most language learning strategies are related to VLSs to a considerable extent, which makes it possible to apply the taxonomy of language learning strategies to that of VLSs.

With Gu and Johnson (1996), who introduced the taxonomy of strategies exclusively for vocabulary learning, in the lead, the relationship between the use of VLS and vocabulary knowledge has been investigated over the past decade. The results from a variety of studies were fairly consistent that L2 learners' VLS use was different depending upon their vocabulary knowledge level. Most of them uniformly reported that proficient learners used a wider range of VLSs more frequently than less proficient ones (Y. Chon & Y. Kim, 2011; Halbach, 2000; J. Huh, 2009; I. Jeon, 2007; Kojic-Sabo & Lightbown, 1999; Lai, 2009; S. Lee, 2007; Mochizuki, 1999).

With respect to the types of VLSs used by learners according to their vocabulary knowledge level, some research reported that high-level (or advanced) learners used meaning- or context-related (or more elaborated) strategies more, while low-level (or beginner) learners, rote strategies such as visual repetition and memorization more (C. Chin & C. Yook, 2016; Gu & Johnson, 1996; Kojic-Sabo & Lightbown, 1999). Other studies found different strategy use of the two proficiency groups that proficient learners used metacognitive and cognitive strategies more frequently than less proficient ones (S. Lee, 2007; Mochizuki, 1999). Another study (I. Jeon, 2007) showed that high advanced learners employed discovery, memory, and cognitive strategies more frequently than intermediate and lower ones. Still other study (J. Huh, 2009) reported that proficient learners used metacognitive strategies more, whereas less proficient participants used cognitive strategies more.

To sum up, vocabulary knowledge level exerts a crucial effect on strategy use that the

more proficient learners are in vocabulary, the more VLSs they use. However, no consensus has yet been achieved on how different are types and patterns of strategy choice depending upon their vocabulary knowledge level (Lai, 2009).

III. METHOD

1. Participants

For the study, the data was collected from 1,124 high school students—657 males (53.7%) and 567 females (46.3%)—from 6 regions in Korea: 146 from Seoul, 130 from Gyeonggi, 412 from Incheon, 70 from Daejeon, 49 from Chungnam, 58 from Gyeongbuk, 257 from Gwangju, and 102 from Jeonnam. More than half of them consisted of 2nd-year students (683: 55.8%), and 1st-years were 244 (19.95%) and 3rd-years were 297 (24.3%). For all of the students, English is a required subject in the curriculum so that they had been exposed to a certain amount of English instruction, though there must be some variation in time and quantity.

In addition, to address the function of their vocabulary knowledge level, one of the most frequently reported variables that affect vocabulary learning (Green & Oxford, 1995), they were divided into three groups—high, mid, and low—based on their vocabulary test scores. The total of 7% of the participants were ruled out as missing data for the group comparison analysis from between the high and mid groups, and between mid and low groups, in order to clearly distinguish the group differences. Thus, the three groups of students consisted of 383 high-level students (31.3%) who scored above 47 out of 60 with an average of 53, 383 mid-level students (31.3%) who scored from 30 to 45 with an average of 38, and 372 low-level students (30.4%) who scored less than 26 with an average of 17.

2. Instruments

1) Questionnaire

For this study, the questionnaire of VLS use was adapted from Gu and Johnson (1996) to secure generalizability and comparability of the findings since the previous studies performed in Korea (Y. Chon & Y. Kim, 2011; J. Huh, 2009; I. Lee, 2007; S. Lee & M. Min, 2016; J.-E. Park, 2001) mostly used Schmitt's (1997) taxonomy. Some modification was made in the questionnaire to satisfy the purpose of the study and the students' level of L2 vocabulary proficiency. The questionnaire (30 items in total) was categorized into six strategies: beliefs about vocabulary learning (7 items), metacognitive regulation (3 items),

dictionary use strategies (7 items), note-taking strategies (3 items), rehearsal strategies (5 items), and encoding strategies (5 items). The students were asked to respond to the items on the 4-point Likert scale to clearly distinguish positive responses from negative ones: 1 – strongly disagree, 2 – disagree, 3 – agree, and 4 – strongly agree.

2) Vocabulary Test

For this study, the Vocabulary Levels Test (VLT) at the 3,000-word level was used to measure students' vocabulary knowledge (Nation, 1990). VLT has been known as a more accurate measure than traditional types such as the multiple-choice fill-in-the-blank test (Nation, 2001; Schmitt, Schmitt, & Clapham, 2001). It is also widely used to measure English vocabulary knowledge (Schmitt, 2010). Before the test, the students were given a few sample items to familiarize themselves with the test format. Then they were asked to answer 60 items of VLT in total.

3. Procedures

Asking 11 high school teachers to collect the data from their students, by email, about their vocabulary knowledge and perception of vocabulary learning and vocabulary strategy use, the researcher offered explanation about why and how to collect the data in detail. She asked the teachers to provide the students, who were to be involved in the study, with a clear guide about the purpose of the data gathering and the way to do that. The teachers administered the vocabulary test followed by the questionnaire. It took about 50 minutes for them to complete the two tasks. The teachers sent the packet of the vocabulary test and the questionnaire back to the researcher by mail right after finishing gathering the data.

4. Data Analysis

The results were submitted to analysis using the SPSS statistical package, version 24.0. First, *t*-tests were performed to check for any statistical differences between males and females in the vocabulary test and the two questionnaires. Next, one-way ANOVAs were conducted to see if there are any differences between the three levels of the students' vocabulary knowledge in the vocabulary test and the two questionnaires. Finally, a two-way ANOVA was carried out to examine if any interaction effect exists between gender and the level of the participants' vocabulary knowledge.

IV. RESULTS AND DISCUSSION

1. The Relationship Between EFL Learners' Vocabulary Knowledge and Gender

T-tests were conducted to capture any differences of EFL learners' vocabulary knowledge level according to gender in their vocabulary level. As shown in Table 1, no statistically significant difference was found according to gender and in their level of vocabulary knowledge. Unlike previous studies (Boyle, 1987; Gu, 2002; Oxford et al., 1996; Young & Oxford, 1997) that reported female learners' outperformance over their male counterparts in the vocabulary test, the current study failed to provide evidence supporting female dominance in vocabulary learning (Scarcella & Zimmerman, 1998). This result suggests that the gender issue in language learning including vocabulary learning needs more to be investigated, taking into account the role of learning contexts as well as social, cultural, and situational background of learning (Brecht et al., 1990; Ehrlich, 1997).

TABLE 1

Differences of Vocabulary Size According to Gender in the Vocabulary Level

Level	Gender	*N*	*M*	*SD*	*t*	*p*
High	Male	206	52.72	3.757	-1.543	.124
	Female	177	53.32	3.817		
	Total	383	53.02	3.787		
Mid	Male	207	38.20	4.724	.864	.388
	Female	176	37.78	4.748		
	Total	383	37.99	4.736		
Low	Male	199	16.46	5.993	-1.918	.056
	Female	173	17.60	5.431		
	Total	372	17.03	5.712		
Total	Male	612	35.90	15.259	-.535	.593
	Female	526	36.37	14.985		
	Total	1138	36.14	15.122		

One finding that deserves attention is that there was a tendency of female learners' superiority in their vocabulary knowledge to their male counterparts in the low vocabulary level, with the *p*-level of slightly above .05 ($p = .056$). It can be cautiously interpreted that the widely-accepted proposition of female dominance in language learning might be applicable to the low-level learners in their vocabulary knowledge.

One-way ANOVAs were conducted to see if there are any differences of EFL learners' vocabulary knowledge according to their vocabulary level in gender as in Table 2. As expected, a clear and distinctive difference was found between the three groups according to their level of vocabulary knowledge irrespective of gender.

TABLE 2

Differences of Vocabulary knowledge According to Vocabulary Level in Gender

Gender	Level	*N*	*M*	*SD*	*F*	*p*	Post-hoc
Male	High	206	52.72	3.757	2807.230	.000	H > M > L
	Mid	207	38.20	4.724			
	Low	199	16.46	5.993			
	Total	612	36.02	15.627			
Female	High	177	53.32	3.817	2532.179	.000	H > M > L
	Mid	176	37.78	4.748			
	Low	173	17.60	5.431			
	Total	526	36.37	15.352			
Total	High	383	53.00	3.792	5310.546	.000	H > M > L
	Mid	383	38.01	4.733			
	Low	372	16.99	5.759			
	Total	1138	36.18	15.495			

In addition, a two-way ANOVA was performed to examine if there is an interaction effect between gender and vocabulary level. As in Table 3, there was no significant interaction between the two independent variables, only with the main effect of the variable of vocabulary knowledge level. We can safely say that the learners' test results were obviously different in terms of their level of vocabulary knowledge, but not of gender.

TABLE 3

Effects of Gender and Vocabulary Level on Vocabulary knowledge

Source	*SS*	*df*	*MS*	*F*	*p*
Corrected Model	246805.371	5	49361.074	2134.005	.000
Intercept	1467231.583	1	1467231.583	63432.160	.000
GENDER	54.999	1	54.999	2.378	.123
LEVEL	245034.160	2	122517.080	5296.726	.000
GENDER*LEVEL	118.538	2	59.269	2.562	.078
Error	26183.976	1132	23.131		
Total	1762779.000	1138			
Corrected Total	272989.347	1137			

2. EFL Learners' Use of VLS in Terms of Vocabulary Knowledge

In order to examine any differences of EFL learners' use of VLSs according to their level of vocabulary knowledge, ANOVAs were conducted. First, the results of the items on the strategies of beliefs about vocabulary learning and metacognitive regulation are addressed for convenience sake.

Concerning EFL learners' beliefs about vocabulary learning and metacognitive regulation in terms of their level of vocabulary knowledge in Table 4, significant group differences were found in 6 out of 7 questionnaire items in beliefs about vocabulary learning and 2 out of 3 in metacognitive regulation, except the two items of "7. Words studied should be put to use before they are finally learned" and "8. I use various means to make clear vocabulary items that I am not quite clear of." The three groups responded negatively in item 7 (high: 2.78, mid: 2.89, and low: 2.88), while they did positively in item 8 (high: 3.21, mid: 3.22, and low: 3.15), even though the differences between groups in both items were not statistically significant (p = .177 and p = .394 respectively).

TABLE 4

Differences of EFL Learners' Beliefs and Metacognition According to the Vocabulary Level

	Item	Level	*M*	*SD*	*F*	*p*	Post-hoc
Beliefs about vocabulary learning	1. The best way to remember words is to memorize word lists or dictionaries.	High	2.83	.826	3.618	.027	M, L > H
		Mid	2.98	.807			
		Low	2.87	.842			
	2. Repetition is the best way to remember words.	High	3.65	.586	5.725	.003	H, M > L
		Mid	3.64	.578			
		Low	3.52	.642			
	3. You can only acquire a large vocabulary by memory of individual words.	High	2.28	.857	4.561	.011	L > M, H
		Mid	2.36	.826			
		Low	2.46	.851			
	4. The meanings of a considerable amount of words can be picked up by reading.	High	3.30	.676	16.381	.000	H > M > L
		Mid	3.13	.751			
		Low	2.99	.777			
	5. Guessing words in context is one of the best ways to learn vocabulary.	High	3.22	.755	7.787	.000	H > M, L
		Mid	3.09	.727			
		Low	3.01	.777			
	6. When coming across a word frequently in different contexts, you'll know what it means.	High	3.44	.676	4.259	.014	H, M > L
		Mid	3.43	.631			
		Low	3.31	.716			
Meta-cognitive regulation	9. I focus on what my English teacher tells us to learn.	High	1.62	.794	12.444	.000	L > H, M
		Mid	1.69	.769			
		Low	1.90	.894			
	10. I only focus on words that are directly related to tests.	High	1.81	.867	10.367	.000	M, L > H
		Mid	2.00	.907			
		Low	2.10	.920			

Judging from the EFL learners' beliefs about vocabulary learning, the desirable way for effective vocabulary learning the high-level learners frequently employed is to encounter the words they have to learn repeatedly in different contexts, not sticking to memorization of individual words in word lists or dictionaries as low-level learners did (C. Chin & C. Yook, 2016; Gu & Johnson, 1996; Kojic-Sabo & Lightbown, 1999). Additionally, in terms of metacognitive regulation, high-level learners reported more negative perception of studying words associated directly with teaching and testing, which can be interpreted that the bigger the learners' vocabulary knowledge is, the more successful they think learning vocabulary in a variety of contexts using opportunities to encounter various words repeatedly is (C. Chin & C. Yook, 2016).

Differences of EFL learners' use of the other four VLS—dictionary use, note-taking, rehearsal, and encoding—in terms of their level of vocabulary knowledge were examined using ANOVAs as in Table 5. The EFL learners' vocabulary strategy use was significantly different according to their level of vocabulary knowledge. Generally, high-level learners (and mid-level learners in some items) reported more frequent use of dictionary use, note-taking, rehearsal, and encoding strategies than low-level learners did (Green & Oxford, 1995; Gu & Johnson, 1996). Given that the dictionary use strategies are regarded as effective ones for comprehension and production in vocabulary acquisition (Nist & Olejnki, 1995; Summers, 1988), the teacher needs to encourage low-level learners to use the strategies in their L2 learning. As for rehearsal strategies, the results of items 11, 12, and 13 echoed that of the other strategy use that high-level learners used the strategies more frequently than low-level ones. Especially, it was corroborated that oral repetition strategy (item 13) is positively related to L2 proficiency including vocabulary knowledge (Gu & Johnson, 1996). One finding that is worthy of attention is that mid- and low-level learners used visual repetition strategies (items 14 and 15)—a negative predictor of vocabulary knowledge —more frequently than high-level learners (Gu & Johnson, 1996).

3. EFL Learners' Use of VLS in Terms of Gender

In order to examine any differences of EFL learners' use of VLSs according to gender, t-tests were conducted. First, the results of the items on the strategies of beliefs about vocabulary learning and metacognitive regulation are addressed for convenience sake.

TABLE 5

Differences of EFL Learners' Vocabulary Strategy Use According to Vocabulary Level

	Item	Level	*M*	*SD*	*F*	*p*	Post-hoc
Dictionary Use	1. When I see an unfamiliar word again and again, I look it up.	High	3.44	.698	13.244	.000	H, M > L
		Mid	3.32	.754			
		Low	3.16	.816			
	2. When I want to confirm my guess about a word, I look it up.	High	3.20	.752	12.246	.000	H, M > L
		Mid	3.18	.796			
		Low	2.95	.806			
	3. When not knowing a word prevents me from understanding a sentence or context, I look it up.	High	3.41	.676	21.105	.000	H, M > L
		Mid	3.33	.717			
		Low	3.08	.821			
	4. I pay attention to the examples of use when I look up a word.	High	2.62	.946	5.543	.004	H > L
		Mid	2.52	.946			
		Low	2.39	.944			
	5. I look for expressions that go with the word I look up.	High	2.54	.905	4.224	.015	H > L
		Mid	2.50	.929			
		Low	2.36	.895			
	7. I integrate dictionary definitions into the context where the word is used.	High	3.22	.696	15.730	.000	H, M > L
		Mid	3.10	.733			
		Low	2.91	.806			
Note-taking	9. I write down the Korean equivalent and the English synonyms of the word.	High	3.43	.789	10.248	.000	H, M > L
		Mid	3.44	.710			
		Low	3.21	.862			
Rehearsal	11. I keep the vocabulary lists of new words that I make.	High	2.19	1.005	6.044	.002	H > L
		Mid	2.08	.950			
		Low	1.94	.911			
	12. I study my vocabulary list until I don't have any words that I don't remember.	High	2.79	.939	5.843	.003	H, M > L
		Mid	2.80	.930			
		Low	2.59	.960			
	13. When I try to remember a word, I repeat it aloud to myself.	High	3.15	.880	4.954	.007	H > L
		Mid	3.24	.806			
		Low	3.05	.860			
	14. When I try to remember a word, I write it repeatedly.	High	2.80	1.023	7.463	.001	M, L > H
		Mid	3.03	.963			
		Low	3.03	.924			
	15. I write the new words and their Korean equivalents repeatedly to remember them.	High	2.71	1.045	6.920	.001	M, L > H
		Mid	2.96	.983			
		Low	2.91	.962			
Encoding	17. I create a mental image of the new word to help me remember it.	High	3.02	.958	4.148	.016	H > L
		Mid	2.99	.924			
		Low	2.84	.903			

As for the gender variable in Table 6, significant differences were found in 6 out of 7 questionnaire items in beliefs about vocabulary learning and 2 out of 3 in metacognitive regulation. In the items 1-3 (memorization), male learners reported more frequent use of memorizing individual words from word lists or dictionaries (items 1 and 3), whereas female learners valued more on the effect of repetition—a memory technique which is known as unproductive in vocabulary learning—than their male counterparts (item 2). Such beliefs are closely related to female learners' more frequent use of visual repetition strategies (items 14 and 15) in the category of rehearsal strategies in Table 7. As for the items 4-7 (context use), male learners perceived significantly more the role of context than female participants. These results are opposite to previous studies that male learners relied reportedly more on rote memorization and that female learners favored more vocabulary learning in context (Al-Nujaidi, 2000; Gu, 2002). Moreover, male learners were more likely to concentrate on the words they think they need to learn when learning vocabulary than their female counterparts (items 9 and 10).

TABLE 6

Differences of EFL Learners' Beliefs and Metacognition According to Gender

	Item	Gender	*M*	*SD*	*t*	*p*
Beliefs about vocabulary learning	1. The best way to remember words is to memorize word lists or dictionaries.	M	2.94	.879	1.976	.048
		F	2.84	.759		
	2. Repetition is the best way to remember words.	M	3.57	.655	-2.252	.025
		F	3.65	.538		
	3. You can only acquire a large vocabulary by memory of individual words.	M	2.43	.908	2.906	.004
		F	2.29	.764		
	4. The meanings of a considerable amount of words can be picked up by reading.	M	3.20	.743	2.747	.006
		F	3.08	.743		
	5. Guessing words in context is one of the best ways to learn vocabulary.	M	3.15	.771	2.050	.041
		F	3.06	.740		
	6. When coming across a word frequently in different contexts, you'll know what it means.	M	3.44	.673	2.234	.026
		F	3.35	.678		
Meta-cognitive regulation	9. I focus on what my English teacher tells us to learn.	M	1.79	.897	2.440	.015
		F	1.67	.736		
	10. I only focus on words that are directly related to tests.	M	2.02	.958	2.248	.025
		F	1.90	.836		

Differences of EFL learners' use of the other four VLS—dictionary use, note-taking, rehearsal, and encoding—in terms of gender were examined using *t*-tests. As in Table 7, no significant differences were found in the learners' dictionary use just for comprehension (items 1, 2, and 3), whereas male learners used dictionaries more skillfully to satisfy

learning purposes as in items 4, 5, 6, and 7. Especially, it is noteworthy that male learners, who perceived significantly more the role of context in vocabulary learning than female learners (see Table 4), reported more frequent use of context-related dictionary use as in items 4 and 7.

TABLE 7

Differences of EFL Learners' Vocabulary Strategy Use According to Gender

	Item	Gender	*M*	*SD*	*t*	*p*
Dictionary use	4. The meanings of a considerable amount of words can be picked up by reading.	M	2.60	.970	3.755	.001
		F	2.41	.915		
	5. I look for expressions that go with the word I look up.	M	2.55	.924	3.176	.002
		F	2.37	.891		
	6. To understand the meanings of the word I look up, I look up another new word as well.	M	2.54	.954	5.459	.000
		F	2.25	.871		
	7. I integrate dictionary definitions into the context where the word is used.	M	3.13	.778	2.432	.015
		F	3.02	.725		
Note-taking	8. I write down the English synonym(s) of the word I look up.	M	2.15	.974	2.795	.005
		F	2.00	.866		
	9. I write down the Korean equivalent and the English synonyms of the word.	M	3.31	.738	-2.348	.019
		F	3.42	.738		
	10. I note down examples showing the usages of the world I look up.	M	2.04	.918	2.281	.023
		F	1.92	.838		
Rehearsal	12. I study my vocabulary list until I don't have any words that I don't remember.	M	2.79	.984	2.529	.012
		F	2.65	.896		
	14. When I try to remember a word, I write it repeatedly.	M	2.85	1.031	-3.832	.000
		F	3.07	.897		
	15. I write the new words and their Korean equivalents repeatedly to remember them.	M	2.76	1.045	-3.761	.000
		F	2.98	.938		
Encoding	18. I deliberately study word-formation rules to remember more words.	M	2.47	1.008	5.341	.000
		F	2.17	.887		
	19. I group words into categories (e.g., animals, utensils, vegetables, etc.).	M	2.29	1.018	5.380	.000
		F	1.99	.852		
	20. When I remember a word, I remember the sentence in which the word is used.	M	2.14	.980	4.354	.000
		F	1.90	.835		

Moreover, male learners focused more on English-related information such as English synonym(s) and examples when taking a note of words (items 8 and 10), while female

learners resorted more upon Korean equivalents of the word they wanted to learn than their male counterparts (item 9). Such female learners' strategy use behavior appears to have things to do with their more frequent use of visual repetition strategies (items 14 and 15) which is categorized as a strong negative predictor of vocabulary knowledge (Gu & Johnson, 1996). Plus, it is interesting that female learners used both of them more frequently as lower-level learners of vocabulary knowledge did, even though no significant difference between male and female learners was found in their vocabulary knowledge (see Table 1 and Table 3). Male learners also reported more frequent use of encoding strategies than female learners, including attention to word formation (item 18) and contextual encoding (item 20) that affects effective learning of vocabulary. By and large, unlike the findings of previous studies (Green & Oxford, 1995; Gu, 2002; Gu & Johnson, 1996; Oxford & Nyikos, 1989) that supported female dominance in VLS use, in this study male learners excelled in using VLSs that successful language learners are believed to use.

V. CONCLUSION

The current study was performed to investigate patterns of variation in EFL high school students' vocabulary knowledge, their perception of vocabulary learning, and their vocabulary strategy use by gender and level of vocabulary knowledge. On the basis of 1,224 students' test data of vocabulary knowledge and their responses to the two types of questionnaire on the perception of vocabulary learning and vocabulary strategy use, the following findings were obtained.

First, unlike widely accepted belief that female learners outperform over their male counterparts in the vocabulary test (Boyle, 1987; Gu, 2002; Oxford et al., 1996; Young & Oxford, 1997), the current study conducted with EFL high school students failed to ascertain the belief: There was no significant differences between male and female learners in their vocabulary knowledge. In terms of gender issue, EFL learners' language learning including vocabulary learning needs to be understood considering multi-faceted variables such as their learning style, learning contexts, and social·cultural background of learning (Brecht et al., 1990; Ehrlich, 1997; Gu, 2002). According to ANOVA analysis, it was clear as expected that EFL learners' vocabulary knowledge was significantly different between their levels of vocabulary knowledge. Also no interaction effect between gender and vocabulary level was found, supporting the outcome of the difference in their level of vocabulary knowledge, irrespective of gender.

Next, concerning the level of vocabulary knowledge, there was group differences. High-level learners revealed more negative perception of memorizing individual words and concentrating only on words directly related to teaching and testing, while they thought the

role of context use in vocabulary learning more positively, which may allow them to have chances to encounter words repeatedly in various contexts (Green & Oxford, 1995). The learners also revealed different strategy use patterns: Generally, high-level learners reported more frequent use of VLSs that was found to be conducive to successful vocabulary learning (Green & Oxford, 1995; Gu & Johnson, 1996). It ascertains the fact that active strategy use is closely related to the development of vocabulary knowledge.

Finally, the EFL learners' use of VLSs was significantly different between male and female learners in general. Mostly, males were more active and positive learners toward vocabulary learning. Especially, male learners showed more positive attitude to the importance of context use in learning words, which is opposite to Gu's (2002) results of female learners' more positive perception of vocabulary learning. On the contrary, female participants showed significantly higher use of strategies that is regarded as a negative predictor such as visual strategies, whereas male learners turned out to be successful strategy users in vocabulary learning, unlike the findings from previous studies (Green & Oxford, 1995; Gu, 2002; Gu & Johnson, 1996; Oxford & Nyikos, 1989).

Conclusively, the widely accepted belief of female dominance over their male counterparts in vocabulary learning and VLS use was not proved in this study. The findings in the current study are that male and female learners did not differ in their vocabulary knowledge, and that male learners were more positive than female learners in VLS use and more successful users of VLSs. This can be interpreted that the use of VLSs in vocabulary learning is not the only predictor of successful vocabulary learning (Gu, 2002). It rightly implies that more evidence from multi-level studies taking into account diverse factors such as social expectations, attitudes, motivation, learning styles, and flexibility of strategy use is required (Cohen, 1998; Oxford, 1995) in order to provide a clear, convincing solution to the complex puzzle of gender and proficiency issues in vocabulary learning.

The current study, a largescale study, used the questionnaire format to collect data about EFL learners' perception of and strategy use in vocabulary learning in order to obtain more objective and generalizable findings so as to fully understand the issues in question. Nevertheless, the nature of self-reports and anonymity of the questionnaire might not reflect accurately reality by the possibility of false reports (Ellis, 1994; Oxford & Green, 1995). Also mainly focusing on providing the convincing evidence about the issues with a huge number of case, the study failed to offer authentic and detailed descriptions of where the differences stem from. With these limitations in mind, the future study should be performed to obtain evidence using multiple data collection procedures including interviews and classroom observation, to yield further and perhaps more trustworthy findings of the role of gender in vocabulary learning and the relationship between successful vocabulary learning and vocabulary strategy use.

REFERENCES

Al-Nujaidi, A. H. (2000). *Vocabulary learning strategies of Saudi first-year university students*. Unpublished master's thesis, Colorado State University, Colorado.

Boyle, J. P. (1987). Sex differences in listening vocabulary. *Language Learning, 37*(2), 273-284.

Brecht, R., Davidson, D., & Ginsberg, R. (1990). The empirical study of proficiency gain in study abroad environments among American students of Russian. In D. Davidson (Ed.), *American contributions to the VII international congress of MAPRIAL*. Washington, DC: American Council of Teachers of Russian.

Catalan, R. M. J. (2003). Sex differences in L2 vocabulary learning strategies. *International Journal of Applied Linguistics, 13*(1), 54-77.

Chin, C., & Yook, C. (2016). Beliefs and strategies of college EFL students for vocabulary learning. *English Language & Literature Teaching, 22*(3), 1-33.

Chon, Y., & Kim, Y. (2011). Lexical discovery and consolidation strategies of proficient and less proficient EFL vocational high school learners. *English Language & Literature Teaching, 17*(3), 27-56.

Cohen, M. (1998). A habit of healthy idleness: Boys' under-achievement in historical perspective. In D. Epstein, J. Elwood, V. Hey, & J. Maw (Eds.), *Failing boys? Issues in gender and achievement* (pp. 19-34). Buckingham: Open University Press.

DeCarrico, J. (2001). Vocabulary learning and teaching. In M. Celce-Murcia (Ed.), *Teaching English as a second or foreign language* (pp. 285-299). Boston, MA: Heinle & Heinle.

Ehrlich, S. (1997). Gender as social practice: Implications for second language acquisition. *Studies in Second Language Acquisition, 19*(4), 421-446.

Ellis, R. (1994). *The study of second language acquisition*. Oxford: Oxford University Press.

Gass, S. (1988). Second language vocabulary acquisition. *Annual Review of Applied Linguistics, 9*, 92-106.

Green, J. M., & Oxford, R. L. (1995). A closer look at learning strategies, L2 proficiency, and gender. *TESOL Quarterly, 29*, 261-297.

Gu, P. Y. (2002). Gender, academic major, and vocabulary learning strategies of Chinese EFL learners. *RELC Journal, 33*(1), 35-54.

Gu, P. Y., & Johnson, R. K. (1996). Vocabulary learning strategies and language learning outcomes. *Language Learning, 46*(4), 643-679.

Halbach, A. (2000). Finding out about students' learning strategies by looking at their diaries: A case study. *System, 28*, 85-96.

Horwitz, E. K. (1988). The beliefs about language learning of beginning university foreign language students. *The Modern Language Journal, 72*(3), 283-294.

Huh, J. (2009). Vocabulary learning strategy use and vocabulary proficiency. *English Language & Literature Teaching, 15*(4), 37-54.

Jeon, I. (2007). The relationship between Korean EFL learners' vocabulary ability and vocabulary learning strategies. *English Teaching, 62*(1), 31-54.

Kojic-Sabo, I., & Lightbown, P. M. (1999). Students' approaches to vocabulary learning and their relationship to success. *The Modern Language Journal, 83*(2), 176-192.

Lai, Y.-C. (2009). Language learning strategy use and English proficiency of university freshmen in Taiwan. *TESOL Quarterly, 43*(2), 255-280.

Lan, R., & Oxford, R. L. (2003). Language learning strategy profiles of elementary school students in Taiwan. *International Review of Applied Linguistics in Language Teaching, 41*, 339-379.

Lee, S. (2007). Vocabulary learning strategies of Korean university students: Strategy use, vocabulary size, and gender. *English Teaching, 62*(1), 149-169.

Lee, S., & Min, M. (2016). A study on Korean high school students' use of vocabulary learning strategies. *English Teaching, 61*(2), 115-137.

McCarthy, M. (1990). *Vocabulary*. Oxford: Oxford University Press.

Mochizuki, A. (1999). Language learning strategies used by Japanese university students. *RELC Journal, 30*(2), 101-113.

Nation, I. S. P. (1990). *Teaching and learning vocabulary*. Massachusetts: Newbury House.

Nation, I. S. P. (2001). *Learning vocabulary in another language*. Cambridge: Cambridge University Press.

Nist, S. L., & Olejnik, S. (1995). The role of context and dictionary definitions on varying levels of word knowledge. *Reading Research Quarterly, 30*(2), 172-193.

O'keeffe, A. (2012). Vocabulary instruction. In A. Burns & J. Richards (Eds.), *The Cambridge guide to pedagogy and practice in second language teaching* (pp. 236-245). Cambridge: Cambridge University Press.

O'Malley, J., & Chamot, A. (1990). *Learning strategies in second language acquisition*. Cambridge: Cambridge University Press.

Oxford, R. L. (1989). Use of language strategies: A synthesis of studies with implications for strategy training. *System, 17*, 1-13.

Oxford, R. L. (1990). *Language learning strategies: What every teacher should know*. Boston, MA: Newbury House.

Oxford, R. L. (1995). Gender differences in language learning styles: What do they mean? In J. M. Reid (Ed.), *Learning styles in the ESL/EFL classroom* (pp. 34-46). Boston, MA: Heinle & Heinle.

Oxford, R. L., & Nyikos, M. (1989). Variables affecting choice of language learning strategies by university students. *The Modern Language Journal, 73*(3), 291-300.

Oxford, R. L., Lavine, R. Z., Hollaway, M. E., Felkins, G., & Saleh, A. (1996). Telling their stories: Language students use diaries and recollection. In R. L. Oxford (Ed.), *Language learning strategies around the world: Corsscultural perspectives* (pp. 19-34). Manoa: University of Hawaii Press.

Park, J.-E. (2001). Korean EFL learners' vocabulary learning strategies. *English Teaching, 56*(4), 3-30.

Read, J. (2000). *Assessing vocabulary*. Cambridge: Cambridge University Press.

Scarcella, R., & Zimmerman, C. (1998). Academic words and gender: ESL student performance on a test of academic lexicon. *Studies in Second Language Acquisition, 20*(1), 27-49.

Schmitt, N. (1997). Vocabulary learning strategies. In N. Schmitt & M. McCarthy (Eds.), *Vocabulary: Description, acquisition, and pedagogy* (pp. 199-227). Cambridge: Cambridge University Press.

Schmitt, N. (2010). *Researching vocabulary: A vocabulary research manual*. Basingstoke: Palgrave Macmillan.

Schmitt, N., Schmitt, D., & Clapham, C. (2001). Developing and exploring the behavior of two new versions of the Vocabulary Levels Test. *Language Testing, 18*, 55-88.

Summers, D. (1988). The role of dictionaries in language learning. In R. Carter & McCarthy (Eds.), *Vocabulary and language teaching* (pp. 111-125). Harlow, Essex: Longman.

Sunderland, J. (2000). Issues of language and gender in second and foreign language education. *Language Teaching, 33*, 203-223.

Wen, Q., & Johnson, R. K. (1997). L2 learner variables and English achievement: A study of tertiary-level English majors in China. *Applied Linguistics, 18*, 27-48.

Young, D. J., & Oxford, R. (1997). A gender-related analysis of strategies used to process written input in the native language and a foreign language. *Applied Language Learning, 8*(1), 43-73.

Examples in: English

Applicable Language: English

Applicable level: Tertiary

Jeong-Won Lee
Dept. of English Education
Chungnam National University
34134 Daehang-no 99, Yuseong-gu
Daejeon, Korea
Email: jeongwon@cnu.ac.kr

Received: April 15th, 2019
Reviewed: May 27th, 2019
Revised version received: June 5th, 2019