

# The Relationship Between Language Learning Strategies and Vocabulary Size Among High School ELL Students

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## Abstract

This study inspects the relationship between language learning strategies (LLS) of 905 Jordanian high school ELL students and their vocabulary size. The data are collected through two instruments: First, a questionnaire of 35 items and 3 types of strategies (metacognitive, cognitive, and social-affective strategies) were adapted from the Strategy Inventory Learning (SILL, Version 7.0) by Oxford (2005) to evaluate language learning strategies. Second, the Vocabulary Levels Test (VLT): Version 2 by Schmitt (2001) to gauge the vocabulary size by measuring the 2,000 word-level, 3,000 word-level, 5,000 word-level, 10,000 word-level, and Academic Word (AWL) level of the students. The results of the descriptive analysis revealed that the students' overall LLS was at a moderate strategy use. Concerning their use of strategies, the most used strategies were metacognitive, followed by cognitive strategies, and the least used strategies were social-affective strategies. In addition, the effect of their vocabulary size on the use of LLS was identified. Students with high vocabulary size applied more language learning strategies and specific strategies more than students with low vocabulary size. The students' use of LLS had a positive and significant correlation with their vocabulary size. Students with higher vocabulary size were able to employ strategies to manage and control their learning, in addition, to observe their learning better than students with lower vocabulary size. All together for students to be better in learning English, they are required to enhance their vocabulary because of its substantial relationship with language learning strategies.

**Keywords:** language learning strategies, metacognitive strategies, cognitive strategies, social-affective strategies; vocabulary size

## 1. Introduction

The topic of language learning strategies in the English as a second language (ESL), English as a foreign language (EFL), and English Language Learning (ELL) classroom has captivated the interest of many researchers for many years. The accomplishments of language learners in learning a second or foreign language have motivated researchers to shed light on language learning strategies (LLS), irrespective to any teaching methods or learning strategies used (Brown, 2007).

Different researchers have attempted to distinguish the use of LLS by "good language learners" and outcomes of these investigations demonstrated that good language learners employ more LLS than weak ones (See Altan, 2003; Bruen, 2001; Green and Oxford, 1995; O'Malley & Chamot, 1990; Stern, 1983; Rubin, 1975). Different factors, also, have been uncovered such as gender, context, culture, level of language proficiency, etc. may be associated with variant use in LLS among ESL, EFL, or ELL learners.

Regarding second or foreign language learning, language learning strategies can facilitate the process of language learning when learners are acquainted with. Thus, the aim of several studies was to detect the methods of improving language learners to develop into active, self-motivated, and creative learners while learning a language. Accordingly, language learning strategies have been considered as a fundamental aspect to prevail over second or foreign language learning difficulties (O'Malley & Chamott, 1990).

Effective communication of learners of ESL, EFL, or ELL is the outcome of their control of the four skills: listening, speaking, reading, and writing. It is apparent that without vocabulary no effective communication can occur as significant communication mainly depends on vocabulary. Alderson (2000) affirms that vocabulary knowledge is an essential factor in the learner's competency of a language. Therefore, assessing the vocabulary

size of language learners is an essential aspect of language learning. Researchers have focused on the requirement for second or foreign language learners to enhance their lexical knowledge (Schmitt, 2000). Their focal point changed from vocabulary acquisition to assessing vocabulary.

Thereupon, researchers have focused on the aspect of vocabulary as well as the awareness of language learning skills. Vocabulary knowledge has been highlighted as a major element in dealing with all learning processes, so the vocabulary size of a learner affects the process of language learning.

Based on the ideas discussed above, it is crucial to be acquainted with how learners adopt the strategies successfully with vocabulary size., the principal focus of present study is to examine which language learning strategies are effective for the learners' use and how the use of vocabulary size is linked in order to help teachers to design lesson plan and to construct feasible instructions so that effectively support learners' competence in English language.

In light of the concepts abovementioned, it is vital to be acquainted with how language learners implement language learning strategies successfully with vocabulary size. Along these lines, the focal point of this study is to investigate the relationship between the use of LLS and vocabulary size of learners.

### *1.1 Defining Language Learning Strategies (LLS)*

Learning involves a psychological process which includes storing and retrieving information as stated by Dörnyei (2005). Linguists have adopted this elucidation to define language learning strategies, for example, Rubin's (1975) definition was that they are methods or practices employed to obtain knowledge. Bialystok (1978) defined these strategies as voluntary processes for making the most of existing information to develop second language learners' competency. O'Malley and Chamot (1990) and Oxford (1990) considered language learning strategies as a specific preference and endeavor that people choose to facilitate their comprehension, learning, or gaining new knowledge. Griffiths (2013) provided a simple definition of learning strategies that reveals the nature of the topic, they are "activities consciously chosen by learners for the purpose of regulating their own language learning" (p. 36).

Many researchers draw attention to the element of consciousness in defining language learning strategies. Language learners have to select their learning strategies consciously to assist them in language learning, this what differentiates LLS from those actions that are not planned and facilitate communication in a new language (Cohen, 1998; Genesee et al., 2005; Marco, 2006). Nevertheless, language learners sometimes may not choose consciously their strategy, but they adopt an activity to facilitate their learning and to attain their aims.

Researchers have suggested several classifications of language learning strategies, which are generally applied in second language acquisition research and language classroom settings. Rubin (1987) states that LLS are direct and indirect strategies. Direct strategies are responsible for a direct impact on the learning process, while the indirect ones have an indirect effect as they facilitate learning. Oxford (1990) regards direct strategies as strategies that involve conceptual planning of language information, and indirect strategies as those which handle language learning not including directly the second or foreign language to be learned. According to Oxford (1990), direct strategies include three strategies: a) memory-related strategies, such as memorizing vocabulary; cognitive strategies, such as analyzing and summarizing; c) compensation strategies, such as guessing from context. Concerning indirect strategies, they consist of three strategies too: a) metacognitive strategies, such as planning and organizing; b) affective strategies, such as controlling emotional states; and c) social strategies, such as asking questions for knowing better.

Other researchers who identified the categories of LLS are O'Malley and Chamot (1990) and Cohen et al. (1996). They classify LLS to metacognitive, cognitive, and social-affective strategies. They related metacognitive strategies with learners' planning, monitoring and evaluating their study progress. Cognitive strategies, as well, were labeled as the strategies that enhance learning by focusing on incoming information to enhance language learning, such as transfer, note-taking, summarizing, and translation. Lastly, social-affective strategies comprise communications with people and reducing anxiety. As for Cohen et al. (1996), they differentiated social strategies from affective strategies.

### *1.2 Rationale for Selecting the SILL*

The instrument adopted in this study is the Strategy Inventory for Language Learning (SILL), a questionnaire developed by Oxford (1990). The explanations for selecting this instrument are as per the following. Firstly, the SILL remains the most widely used strategy questionnaire to gauge language learners' use of several strategies when studying a language. Secondly, SILL enable researchers to conduct a thorough investigation to explore the relations between LLS and certain linguistic abilities such as speaking or learners' cognitive. This pattern of

methodology in strategy investigations make research depends on task-based strategy measures (see Oxford et al., 2004; Hsiao & Oxford, 2002). Finally, numerous researchers have used SILL to investigate LLS of EFL learners (see Cohen, 1998; Nyikos & Oxford, 1993; Oxford, 1990). Chamot (2009) implied that researchers can apply a group of strategies that are applicable for classrooms and learners' learning aims. For instance, Takeuchi's (1993) study indicated the suitability of using memory strategies for lexical development as a result of positive links between memory strategies and lexical knowledge.

### *1.3 Vocabulary Size of Language Learners*

It has been acknowledged that vocabulary size is an essential communicative tool in second or foreign language learning. In accordance with Qian (2002) and Read (2000), vocabulary size represents the number of words a learner knows. With the aim of L2 learners to communicate effectively, they should have sufficient vocabulary (Krashen & Terrel, 1983). Inadequate vocabulary size of L2 learners is the source of ineffective spoken and written language performance (Fan, 2003). Assessing the vocabulary size of second or foreign language learners can be of great importance in language learning development and teaching strategies.

The question to ask is what number of words do a learner of English need to know? Some researchers consider that 2,000 keywords are the minimum required vocabulary size for English language learners for basic language use (Nation, 2005). The threshold vocabulary size of about 3,000 high-frequency words required for communication (Adolphs & Schmitt, 2003) and for successful text comprehension (Nation, 2005; Read, 2000; Laufer, 1997). In addition, Nation and Waring (1997) indicate that learners do not need to concentrate on other vocabularies until they learn well these high frequency words (3,000) as they are a vital major concern for them. Schmitt (2000), on the other hand, implies that if learners want to learn English better, they need to know 5,000 words. Further, Hirsh and Nation (1992) declare that learners are expected to know at least 5000 words to read advanced, and academic texts. Therefore, the minimum vocabulary size needed for English language learners is 2000 words, 5000 words are required for more language competence, and not less than 8000 to learn English well (Nation, 2005; Schmitt, 2000).

## **2. Review of Literature**

Language learning strategy studies research originated in the 1970s with the focus on the use of learning strategies by outstanding language learners, for example, Rubin (1975). Several studies have concentrated on the connection between strategies use by second or foreign language learners and their language proficiency such as Rubin (1975), Wenden (1987), O'Malley and Chamot (1990), Oxford and Ehrman's (1995) and many others. Studies have revealed a significant positive linkage between strategies use of L2 language learners and their language performance; good language learners used learning strategies more frequently than less proficient language learners.

As this study examines the high school ELL students' language learning strategies, the following section copes with studies which have examined the use of LLS among L2 school students except for the last study.

In a study among 1191 EFL elementary Taiwanese school students, Lan (2005) concluded that the most frequently preferred learning strategies by Taiwanese school students were metacognitive, compensation, social, and affective strategies. While the least frequently preferred language learning strategies by them were memory strategies.

Another study in the Taiwanese context is Su (2004) inspecting the learning strategies of 932 elementary-school EFL Taiwanese students. Three SILL categories of Oxford's (1990) were used; namely, cognitive, social, and compensation strategies. Other three learning strategies by Su were applied too; specifically, association, assistance, and constructive strategies. The subjects were moderate users of language learning strategies. The most reported strategies by the students were association strategies, and the least reported ones were assistance strategies. Several significant correlations were observed between the students' use of strategies and their English-learning experience, their parents' involvement in their English language learning, gender, and motivation.

As for McGroarty's study, it was cited in Oxford and Crookall (1989) investigating the relationship between language achievement and the use of LLS by American elementary school students studying Spanish and Japanese as foreign languages. A significant relationship was found between their language achievement and their use of cognitive strategies, for instance noting down new lexical items. As well, social strategies were related to the grades of the languages pretest, as merging with native language speakers.

One of the studies that investigated the relationship between LLS and L2 proficiency of ESL or EFL students is Park's (1997). The SILL was utilized to measure the use of LLS by 332 university students studying English in

Korea, and the TOEFL was used to measure their L2 proficiency. The outcomes of this study were as follows: First, a linear correlation was found between LLS and L2 proficiency; second, the students' overall use of LLS was significantly correlated along with their use of the six categories of the SILL with their TOEFL scores. Third, the students' use of cognitive and social strategies were more anticipating of their TOEFL scores than their use of the other four strategy categories. It was concluded that this study verified the need to employ LLS by ESL or EFL to enable them to learn L2. Additionally, LLS can be taught in classrooms and to concentrate on strategies that may possibly develop the effects of strategy training.

A study in the Omani context was Radwan's study (2011). He investigated the relationship between the use of 128 university students of English at Sultan Qaboos University in Oman of LLS and gender and English proficiency. The results revealed that a relationship existed between the students' use of LLS and their English language proficiency. Cognitive, metacognitive and affective strategies were reported to be used more by proficient students than less proficient ones. On the other hand, there was no significant relationship between their gender and their use of LLS. The only difference between male and female students was that male students favored social strategies more than the females. As a final point, training for students and language teachers is needed so as they can develop an awareness of language learning strategies.

A recent study was conducted by Tezcan and Deneme (2016). The aim of the study was to examine if there was a relationship between the use of language learning strategies of 111 eighth grade EFL Turkish students and gender. They detected that the most frequently used learning strategies by EFL Turkish students were metacognitive, social and affective strategies, while memory and cognitive strategies were the least frequently used strategies. Regarding the influence of gender on the students' use of LLS, female students used LLS more extensively than male students. Finally, there was no significant difference between the use of LLS by successful students and average ones.

The last study to be considered is Dawadi's study (2017). It investigated the relationship between language proficiency and gender of 370 EFL undergraduate Nepali students from Tribhuvan University and their use of language learning strategies. The assessing tool of the study was the SILL. Metacognitive strategies were the most significant used ones, while affective strategies were the least preferred strategies by the EFL Nepali learners. Significant differences between male and female learners were revealed in using LLS. Male students used social, compensation, and affective strategies more than their female colleagues; whereas female students employed metacognitive and cognitive strategies more than their male peers. However, there was no significant difference between learners based on gender regarding their use of memory strategies.

A considerable number of studies have been executed on language learning strategies. The common purpose of these studies has identified the use of LLS by language learners and their effect on their competent language learning progression.

### **3. Methodology**

#### *3.1 Aims and Objectives*

The main purpose of this study is to detect the relationship between language learning strategies and vocabulary size of Jordanian high school ELL students. This study aims to answer the following research questions.

- 1) Which language learning strategies do Jordanian high school ELL students report to use with respect to the grade?
- 2) How is the vocabulary size of Jordanian high school ELL students linked to their language learning strategies?

#### *3.2 Subjects*

The present study was carried out at randomly selected high schools in Jordan. As Table 1 presents, a total of 905 Jordanian high school ELL students, 426 males (47.1%) and 479 (52.9%) females, within the age range of 16-18 participated in the study. All participants were from the secondary education level consists of two years' study, eleventh-grade and twelfth-grade, neither age nor gender was a variable in the study. All the participants in this study were native speakers of Arabic.

Table 1. Number of the participants by gender and grade

	Frequency	Male	Female	Percentage (%)
Grade Twelve	439	207	232	48.5
Grade Eleven	466	219	247	51.5
Total	905	426	479	100.0

### 3.3 Instrument and Procedure

The present study used two kinds of instruments to collect data: Strategy Inventory Learning (SILL, Version 7.0) and Vocabulary Levels Test (VLT): Version 2. The Strategy Inventory Learning (SILL, Version 7.0) by Oxford (2005) consisted of 6 types of language learning strategies (LLS) with 50 items in total. A questionnaire of 35 items and 3 types of strategies were adapted from the SILL 7.0 which were suitable for scrutinizing the topic of the study. The questionnaire consists of two parts. The first part was intended to collect demographic information about the students such as age, gender, grade, and school; while the second part includes the 35-item questionnaires to detect the frequency of the students' uses of language learning strategies. This questionnaire consisted of cognitive strategies (fourteen items, items 10-23), metacognitive strategies (nine items, items 30-38), and social-affective strategies (twelve items, items 39-50). The students were asked to report their responses on a separate answer sheet according to a 5-point Likert scale as follows:

- 1) Never or almost never true of me
- 2) Generally not true of me
- 3) Somewhat true of me
- 4) Generally true of me
- 5) Always or almost always true of me

The reliability coefficient (Cronbach's alpha) for the questionnaire was 0.84 ( $\alpha = 0.84$ ) which is considered acceptable. The reliability coefficients of SILL were reported acceptable in earlier studies as Yang (2010) ( $\alpha = 0.94$ ), Hong-Nam and Leavell (2006) ( $\alpha = 0.67$ ), Bobko (2001) ( $\alpha = 0.82$ ), and Dreyer and Oxford (1996) ( $\alpha = 0.95$ ).

The Vocabulary Levels Test (VLT): Version 2 by Schmitt (2001) was the other instrument used in this study. This test is used to detect the vocabulary size of the second or foreign language learners; it is used for general or academic purposes (Schmitt et al., 2001; Read, 2000). It consists of five sub-tests (2,000 (2K), 3,000 (3K), 5,000 (5K), 10,000 (10K) and Academic Word (AWL) levels). The format of the test is the word-definition matching format of which students are required to match target words with their definitions provided. Each level of the VLT consists of 10 three-item clusters with six answer options have to be matched with three definitions; so 30 vocabulary items at every level are tested. The participants were asked to write the number of the right word next to its meaning. Here is an example from Nation (1990, p. 264).

business

clock               ----- part of a house  
horse               ----- animal with four legs  
pencil               ----- something used for writing  
shoe  
wall

You answer it in the following way.

business

clock               ---6--- part of a house  
horse               ---3--- animal with four legs  
pencil               ---4--- something used for writing  
shoe  
wall

Regarding the reliability coefficient (Cronbach's alpha) for all the levels sections of the VLT questionnaire of the study, it was 0.91 ( $\alpha = 0.91$ ). Consequently, this questionnaire was proved to be reliable for use. Additionally, several validation studies validated the 5-word levels of the VLT such as Rabadi (2004) the reliability figures were within the range of 0.89 to 0.94, Schmitt et al. (2001) indicated the reliability figures within the range of 0.91 to 0.96, Read's (2000) figures were from 0.84 to 0.95, and Beglar and Hunt's (1999) reliability figures ranged from 0.84 to 0.95.

The participants were tested in their schools during their regular classes during the 2017- 2018 academic year. Before filling out the questionnaire, the participants were instructed orally on the questionnaires, although the directions were translated into Arabic. Both questionnaires had no time limit. The SILL 7.0 questionnaire was first administered to the participants, followed by their completion of the VLT questionnaire.

### 3.4 Data Analysis

To answer the first research question of the study, the Statistical Package for Social Science (SPSS) version 21 was utilized to analyze the quantitative data obtained from the questionnaire of the three categories of SILL 7.0. Descriptive statistics were used to compute the mean and the standard deviation of the participants' scores. Table 2 indicates the interpretation of ratings in the questionnaire based on Best's (1981) scale.

Table 2. Best's scale interpretation of ratings

Very Low	0.0–1.50
Low	1.50–2.49
Moderate	2.50–3.49
High	3.50–4.49
Very High	4.50–5.00

To answer the second research question, Pearson correlation was applied to explore the relationship between the three strategies of SILL 7.0 use by the participants (dependent variables) and the participants' vocabulary size (independent variable). Each level of the VLT was marked out of 30, the scoring being either correct (1 point) or incorrect/ blank (0 points).

## 4. Results

### 4.1 Language Learning Strategies Use of the Participants

To address the first research question, Table 3 demonstrates the descriptive statistics of metacognitive strategies, cognitive strategies, and social-affective strategies executed for the study.

Table 3. Descriptive statistics of language learning strategy use overall and by category

LLS Strategies	N	Mean	SD	Comment
Metacognitive	905	3.15	0.94	Moderate-use range
Cognitive	905	2.81	0.87	Moderate-use range
Social-Affective	905	2.36	0.84	Low-use range
Overall strategy	905	2.74	0.74	Moderate-use range

It is apparent from the results displayed in Table 3 that the subjects used the overall LLS at a moderate strategy use with the mean score of ( $\bar{X} = 2.74$ ) along with Best's (1981) scale interpretation of ratings. As for the subjects' use of strategies, metacognitive strategies were reportedly the most frequently used strategies by them ( $\bar{X} = 3.15$ ), followed by cognitive strategies ( $\bar{X} = 2.81$ ), while social-affective strategies ( $\bar{X} = 2.36$ ) were the least frequently used strategies. Accordingly, the statistical results implied that Jordanian high school ELL students apparently used language learning strategies frequently.

The outcomes of the descriptive statistics analysis of language learning strategies use by twelfth-grade and eleventh-grade students are displayed in Table 4.

Table 4. Descriptive statistics of language learning strategies use by category with respect to grade

LLS Strategies	N	Mean	SD	Comment
<b>Grade Twelve</b>				
Metacognitive	439	3.11	0.83	Moderate-use range
Cognitive	439	2.71	0.78	Moderate-use range
Social-Affective	439	2.28	1.01	Low-use range
<b>Grade Eleven</b>				
Metacognitive	466	2.85	0.91	Moderate-use range
Cognitive	466	2.51	0.94	Moderate-use range
Social-Affective	466	2.00	1.06	Low-use range

The findings reveal that metacognitive strategies and cognitive strategies were used moderately by students of both grades. The highest mean score was for metacognitive strategies ( $\bar{X} = 3.11$ ) by twelfth-grade students, and the second mean score was for metacognitive strategies by eleventh-grade students ( $\bar{X} = 2.85$ ). Regarding the third mean score, it was achieved by twelfth-grade students when they reported their use of cognitive strategies ( $\bar{X} = 2.71$ ), whereas eleventh-grade students obtained the fourth mean score ( $\bar{X} = 2.51$ ) using cognitive strategies. Finally, students of both grades reportedly employed social-affective strategies infrequently as they scored the lowest mean scores ( $\bar{X} = 2.28$ ;  $\bar{X} = 2.00$ ).

With the aim of identifying which strategy items were the most and least employed by the participants, mean scores of individual strategy items of SILL 0.7 were calculated in a descending order from most to least used strategy.

The top five favorite individual strategies by the subjects, in descending order, were as follows:

1. Metacognitive category, item 32 *I pay attention when someone is speaking English* ( $\bar{X} = 3.51$ ).
2. Cognitive category, item 18 *I first skim an English passage (read over the passage quickly) then go back and read carefully* ( $\bar{X} = 3.42$ ).
3. Metacognitive category, item 31 *I notice my English mistakes and use that information to help me do better* ( $\bar{X} = 3.31$ ).
4. Cognitive category, item 19 *I look for words in my own language that are similar to new words in English* ( $\bar{X} = 3.30$ ).
5. Social-affective category, item 45 *If I do not understand something in English, I ask the other person to slow down or say it again* ( $\bar{X} = 3.27$ ).

As for the five least individual strategies reported by the participants, in descending order, were in this manner:

1. Metacognitive category, item 35 *I look for people I can talk to in English* ( $\bar{X} = 2.48$ ).
2. Cognitive category, item 16 *I read for pleasure in English* ( $\bar{X} = 2.31$ ).
3. Social-affective category, item 43 *I write down my feelings in a language learning diary* ( $\bar{X} = 2.27$ ).
4. Social-affective category, item 41 *I give myself a reward or treat when I do well in English* ( $\bar{X} = 2.01$ ).
5. Social-affective category, item 48 *I ask for help from English speakers* ( $\bar{X} = 1.95$ ).

The most individual preferred strategy by the participants was from the metacognitive category strategies; they pay attention when someone speaks English to them. On the contrary, the least individual favourite strategy by them was from the social-affective category; they don't ask for help from English speaking individuals.

A t-test was utilized to discern any probable significant difference between the use of language learning strategies by twelfth-grade students and eleventh-grade students. According to the results of the independent sample t-test of the overall strategy use, a significant difference between students of the two grades was found ( $t_{(903)} = 0.89$ ,  $p < .05$ ).

On the whole, the findings of the first question indicate that the pattern of LLSs use by Jordanian high school ELL students was mainly from the metacognitive strategies, followed by the cognitive strategies; whereas their least usage was from the social-affective strategies.

#### 4.2 Vocabulary size of the Jordanian High School ELL Students

The aim of the second research was to scrutinize if there is any relationship between language learning strategies and vocabulary size among Jordanian high school ELL students. Before inspecting the relationship between LLS

and participants' vocabulary size, the mean scores of participants in the Vocabulary Levels Test (VLT) were calculated for the five levels (2K, 3K, 5K, 10K, and AWL) and the mean scores of them in the VLT according to grade.

Table 5 illustrates the descriptive statistics of the participants' performance on VLT including the mean scores of the five levels. The results reveal that the vocabulary size of Jordanian High school ELL students at the 2K word level is the largest of all the five levels. This result signifies that all the participants have knowledge of the basic vocabulary that is needed for daily life.

Table 5. Vocabulary size of the ELL students of secondary education (N = 905)

VLT	2K	3K	5K	10K	AWL	Overall
Mean	23.45	17.68	10.89	2.06	6.74	12.17

It is evident from Table 5 that the mean scores of the participants on five levels of the VLT decrease in parallel to the increase in the levels of the VLT (at 2K  $\bar{X}$  = 23.45; at 3K  $\bar{X}$  = 17.68; at 5K  $\bar{X}$  = 10.89; at 10K  $\bar{X}$  = 3.06; at AWL  $\bar{X}$  = 6.74, and overall  $\bar{X}$  = 12.17). These results imply that the participants' performance was better on the high frequency word levels than on the lower frequency word levels. It could be deduced that the participants were knowledgeable more of the words at the 2K word level than they were at the 3K word level and that they identified gradually fewer of the words at the other three lower frequency levels. These findings are along the lines of the findings of Rabadi (2004), Schmitt's et al. (2001), and Read (2000).

Table 6 displays the results of the analysis of Jordanian high school ELL students' performance on VLT in terms of grade (grade twelve and grade eleven).

Table 6. Vocabulary size of the participants with respect to grade

Twelfth-Grade Students (N = 439)						
VLT	2K	3K	5K	10K	AWL	Overall
Mean	24.38	18.92	12.24	2.52	7.57	13.13
Eleventh-Grade Students (N = 466)						
VLT	2K	3K	5K	10K	AWL	Overall
Mean	22.51	16.42	9.53	1.61	5.89	11.19

It is noticeable from examining the results of Table 6 that twelfth-grade students generally have a better vocabulary size than eleventh-grade students. It is clear that the means ( $\bar{X}$  = 24.38,  $\bar{X}$  = 18.92,  $\bar{X}$  = 12.24,  $\bar{X}$  = 2.52, and  $\bar{X}$  = 7.57) of all five frequency levels of twelfth-grade students are higher than eleventh-grade students ( $\bar{X}$  = 22.51,  $\bar{X}$  = 16.42,  $\bar{X}$  = 9.53,  $\bar{X}$  = 1.61, and  $\bar{X}$  = 5.89) on the same five frequency levels. Students in both grades thus did better on the high frequency levels (2K and 3K) than the lower frequency ones (5K, 10K, and AWL).

It can be inferred that the participants' performance with respect to grade, they had an adequate vocabulary size at the 2K word level, as well as the 3K word level. However, their performance on the vocabulary test did not seem to imply an adequate vocabulary size at the 5K word-level, as well as at the 10K word level, and AWL.

#### 4.3 Correlation between the Language Learning Strategies and the Vocabulary Size of the Participants

The correlations between the use of 905 Jordanian high school ELL students of LLS (Language Learning Strategies) and their vocabulary size are shown in Table 7. In addition, the correlations between the vocabulary size of the students and their use of metacognitive strategies, cognitive strategies, and social-affective strategies are displayed in Table 8. The interpretation of the correlation coefficient was according to Ranter (2011). The values 0 to 0.3 indicate a weak relationship, 0.3 to 0.7 a moderate relationship, and 0.7 to 1.0 a strong relationship.

Table 7 displays the correlations between scores of LLS and the vocabulary size of Jordanian high school ELL students.



Table 7. Correlations between LLS and the vocabulary size of the participants

		LLS	Vocabulary Size
LLS	Pearson Correlation	1	.451**
	Sig. (2-tailed)	.	.000
	N	905	905
Vocabulary Size	Pearson Correlation	.451**	1
	Sig. (2-tailed)	.000	.
	N	905	905

\*\* Correlation is significant at the 0.01 level (2-tailed).

The findings of Table 7 reveal that the relationship between the scores of language learning strategies and vocabulary size of the participants was direct and significant. The vocabulary size of the participants had a moderate correlation with their use of LLS ( $r = 0.451$ ,  $p < 0.01$ ).

Table 8 presents the findings concerning the associations between metacognitive strategies, cognitive strategies, and social-affective strategies and the vocabulary size of the participants.

Table 8. Correlations between the three strategies of LLS and vocabulary size of the participants (N= 905)

	VLT	Metacognitive	Cognitive	Social-affective
VLT	1.000	0.304**	0.249*	0.187
Metacognitive		1.000	0.576**	0.454**
Cognitive			1.000	0.324**

\*\* Correlation is significant at the .01 level (2-tailed).

\*Correlation is significant at the .05 level (2-tailed).

According to Table 8, metacognitive strategies and cognitive strategies were significantly and positively related to the vocabulary size. Metacognitive strategies had a moderate correlation with the vocabulary size of the participants ( $r = 0.304$ ,  $p < 0.01$ ), whereas cognitive strategies had a weak correlation with the vocabulary size ( $r = 0.249$ ,  $p < 0.05$ ). In opposition, the correlation between the social-affective strategies and the vocabulary size of the participants was non-significant ( $r = 0.187$ ,  $p < 0.05$ ).

It is worth noting that the participants' metacognitive strategies were positively and significantly correlated with their cognitive strategies and social-affective strategies. Their metacognitive strategies had a moderate correlation with cognitive strategies ( $r = 0.576$ ,  $p < 0.01$ ), and with social-affective strategies ( $r = 0.454$ ,  $p < 0.01$ ). It could be concluded that the more the participants employ metacognitive strategies, the more they would also employ cognitive strategies and social-affective strategies.

## 5. Discussion

The present study primarily investigated the use of language learning strategies by Jordanian high school ELL students and the relationship between LLSs and their vocabulary size. A frequency analysis was implemented with the aim of exposing the frequency use of LLSs among these learners. The findings of the study revealed that the LLS overall use of the participants was moderate ( $\bar{X} = 2.74$ ). This result is along the lines of other contemporary studies (see Zhou & Intaraprasert, 2015; Razak & Babikkoi, 2014; Nikoopour et al., 2012; Feng, 2010; Kavasoglu, 2009). This finding, in addition, is consistent with earlier studies in that more use of language learning strategies results in more language proficiency (see Altan, 2003; Bruen, 2001; Green & Oxford, 1995; O'Malley & Chamot, 1990).

In terms of the three subcategories of language learning strategies, they ranged from moderate to low use by Jordanian high school ELL students. Metacognitive strategies and cognitive strategies were the most frequently used LLS strategies by the participants. This result aligned with those of several studies on language learning strategies use by EFL, ESL, or ELL students as Fleming and Walls (1998), Karahan (2007), Magogwe and Oliver (2007), and Tok and Yiğın (2014). Whereas this result was incompatible with the findings of Oxford and Nyikos (1989) and Nyikos and Oxford (1993) which revealed that cognitive strategies to be the most used strategies by their participants.

For these high school ELL students, their frequent use of metacognitive strategies points towards their level of using Metalinguistic awareness. This indicates their ability to understand their language tasks and planning to select the suitable strategies for the tasks. Metacognitive strategies thus include planning for learning, considering

the learning progression, observing their understanding or production, and assessing their learning after their task is accomplished (see Cohen & Macaro 2007; Anderson, 2002; Oxford, 1990; O'Malley et al., 1985). Wenden (1999) enhanced that metacognitive strategies are used by learners to handle, manage, control, and direct their learning. In fact, these students need to use metacognitive strategies more frequently as twelfth-grade students are preparing for secondary comprehensive exams. As stated by Pintrich and Garcia (1994), metacognitive strategies are associated with progress in academic accomplishment, and participants cannot simply do better in school but enhance their English competence.

As for cognitive strategies, they have placed the second frequent strategies used by the participants of this study. Contrastingly, this result contradicts the findings of Karahan (2007) and Bozinovic and Sindik (2010) which reported that cognitive strategies were the least frequently used strategies by their participants. The use of cognitive strategies by the participants of this study suggests that they know they have to use such strategies to improve their English language. Their most preferred individual cognitive strategies "skimming" and "looking for words in their language" show similarity with Oxford's (2003) explanation of cognitive strategies. According to Oxford (2003), cognitive strategies empower learners to handle the language material directly as practicing sounds of language, note-taking, skimming, summarizing, practicing structure of language, outlining and analyzing language material. Oxford and Ehrman's study (1995) implied that second language proficiency was considerably connected with cognitive strategies. The participants' use of cognitive strategies has a close impact on the processing of information.

Regarding social-affective strategies, they were the least frequent language learning strategies employed by the participants. This result is inconsistent with the findings of Wong Fillmore (1985), Karahan (2007) and Gunning (2011) indicating that social-affective strategies were the most frequently used by their participants. A plausible reason for the participants' relatively low frequency of these strategies could be their learning environment. They had inadequate exposure to the English language outside of English classes and were not obliged to use more social-affective strategies to communicate in the English language.

This study demonstrates the use of language learning strategies by Jordanian high school ELL students and their relationship with their vocabulary size. The results expose that the participants employ metacognitive strategies more often than all the other two strategies so as to plan, observe, and appraise their progression of learning. They, as well, apply cognitive strategies, which have a close effect on managing information. The last strategy is their use of social-affective strategies so that they lack communicating and discussing collectively with other English speakers.

In terms of the relationship between language learning strategies and the vocabulary size of the participants, a Pearson Correlation test was applied to analyze the data. The participants' vocabulary size (independent variable) was correlated with metacognitive strategies, cognitive strategies, and social-affective strategies (independent variables). As the outcomes illustrate, there was a significant positive and moderate correlation between the scores of the three strategies of LLS and the vocabulary size of the participants ( $r = 0.451$ ,  $p < 0.01$ ). Accordingly, it can be inferred that the high school ELL students with higher vocabulary size apply certain language learning strategies more than the ones with lower vocabulary size, so the more language learning strategies are employed, the higher the vocabulary size turned out to be.

With reference to the three SILL subscales, metacognitive strategies and cognitive strategies significant positive correlations with the vocabulary size of the participants. Regarding this study's positive correlation between metacognitive strategies and the vocabulary size of the participants, a similar result was reported in the studies of Şener (2009) and Hamzah, Kafipour, and Abdullah (2009). The metacognitive strategy was significantly and moderately associated with the participants' vocabulary size ( $r = 0.304$ ,  $p < 0.01$ ). This result implies that the more the participants make use of metacognitive strategies to help them learn English better, the higher their vocabulary size will be, and vice versa. As stated by Choudhary et al. (2013), Radwan (2011), and Lai (2009), also, successful language learners can be in contrast of their pairs by their more frequent use of metacognitive strategies.

Cognitive strategies had positive correlations with the participants' vocabulary size, this finding was in agreement with the findings of Şener (2015), and Ehrman and Oxford (1995). Conversely, it was a weak correlation in the current study ( $r = 0.249$ ,  $p < 0.05$ ) between the participants' vocabulary size and cognitive strategies. Conceivably this result indicates that participants with higher vocabulary size were more likely to use more frequently cognitive strategies than participants with lower vocabulary size. Participants with good vocabulary size try to deep processing information as analyzing, retrieving, and using information opposite of their peers with lower vocabulary size, who handle learning tasks carelessly. Ahmed (1989) declared, as well, that successful second language learners are capable of employing more cognitive strategies than less successful ones.

Looking at social-affective strategies, it was found that social-affective strategies had a non-significant positive relationship with participants' vocabulary size ( $r = 0.187, p < 0.05$ ). This result was contradictory to the results of Oxford and Erhman's (1995) research and Dreyer and Oxford's (1996) research, they declared a significant positive correlation between social-affective strategies and English language learners' proficiency. Whereas the current finding was along with Watanabe's (1990) finding which reported a non-significant association between these strategies and their Japanese EFL learners' English proficiency. As a result, the findings of the present study propose that participants have to be aware of the taxonomies of social-affective strategies and its importance. They have to develop their cultural understanding about English language speakers, control their foreign language anxiety (Bontempo & Napier, 2011), defeat their fright about making mistakes, and seek for occasions so as to communicate with native speakers of English to develop their English proficiency (Stern, 1983). Accordingly, participants with higher vocabulary size are able to use social-affective strategies better than their peers with lower vocabulary size.

## 6. Conclusion and Implications

The present study examined patterns of language learning strategies use among Jordanian high school ELL students enrolled in public and private schools. In addition, it explored the relationship between the students' use of language learning strategies and their vocabulary size.

It is apparent that the participants have frequently employed the three language learning strategies in learning English. Generally, metacognitive strategies were the most frequent used strategies than the other types of strategies, this implies that the students are capable of planning, systematizing, observing, appraising and coordinating several strategies for various language tasks. Moreover, their moderate use of cognitive strategies denotes that they can deal with English language material in order to process information as retrieving and analyzing information with the purpose to enhance their language proficiency. However, their low use of social-affective strategies entails their insufficient contact with English speakers outside of English classes.

Concerning the correlation results between the students' scores of LLS and their vocabulary size, it showed significant and positive correlation, although it was a moderate correlation. When the correlation tests were run for the three subcategories of language learning strategies and the participants' vocabulary size, it was observed that metacognitive strategies correlated significantly and positively with the VLT, though it was moderate. Whereas cognitive strategies had a positive and weak correlation with the VLT. The last correlation was non-significant between social-affective strategies and the VLT. The findings signified that the VLT had an effect on the effectiveness of metacognitive strategies. It is noted that metacognitive strategies were associated positively and significantly with cognitive and social-affective strategies. This finding reveals that more use of metacognitive strategies affects the other strategies.

### 6.1 Implications for Practice

The findings of the present study indicate the importance of language learning strategies and the link between these strategies and the students' vocabulary size. Language learning strategies are vital for language instructors and language learners, so language instructors are encouraged to raise their students' awareness of different language learning strategies. In terms of pedagogy, teachers are urged to deliver training of different language learning strategies to their EFL, ESL, or ELL students. Language instructors have to identify their learners' language learning strategies to make the best use of these strategies. In addition, they can play a vital role by training their students to choose the proper learning strategy in various learning situations. Besides, they can make plans for their students to become conversant with learning strategies. Brown (2002) argued that language learners apply their language learning strategies successfully when they are aware of their own learning styles and preferences.

Language learners with high vocabulary size can deal with language skills without difficulty. Likewise, teachers should pay attention to the perceptible relationship in applying language learning strategies and vocabulary size of their students. Teachers can use various assessment tools to detect their students' language learning strategies, such as surveys, learners' journals, observation, in addition to VLT in their classes to understand their vocabulary size. This will help them to raise their students' awareness of language strategies and their vocabulary size. Further, English language instructors should consider the vocabulary size of their learners while selecting which LLS they will encourage among their language learners. Moreover, teachers have to foster a constructive attitude towards language learning strategies and vocabulary size as essential aspects which help students to learn the English language.

In reference to preceding sections, metacognitive strategies were the most used strategies. Zhao (2009) confirmed the value of metacognitive strategies by providing language learners with suitable prospect to develop their vocabulary proficiency. Language instructors can help their students to use metacognitive strategies by

enlightening them about the benefits of using these strategies. It would be advantageous for teachers to teach their students how to use metacognitive strategies for comprehension and production language.

A change is expected in the attitudes of language instructors and language learners regarding language learning strategies and vocabulary size because these strategies are important for them. In order for language learners to be better in learning English, they have to increase their knowledge of vocabulary size due to its significant association with language learning strategies. Finally, teachers should develop better knowledge about all types of language learning strategies in order to present them to their students in their classes and in real life situations. As a result, students will be self-directed learners.

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