

# Vocabulary Learning Strategies Employed by Undergraduate EFL Jordanian Students

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## Abstract

The present study investigates the various vocabulary learning strategies (VLSs) used by undergraduate Jordanian students majoring English Language and Literature in Jordanian universities. The five categories of the vocabulary learning strategies (Memory, Determination, Social, Cognitive, and Metacognitive) were used in this study following Schmitt's taxonomy. For this purpose, a questionnaire containing forty items selected from Schmitt's (1997) Vocabulary Learning Strategies Questionnaire (VLSQ) was administered to a pool of 110 Jordanian students majoring in English Language and Literature from eight Jordanian universities. This testing instrument was used to reveal the types of vocabulary learning strategies used by the participants, to discover the most and least frequently used VLS employed by them, and to know the main patterns of variation of the participants' choice of VLSs if they are high, medium, or low VLS users. The descriptive analysis of the study showed that Jordanian EFL learners were "medium" strategy users overall. With regard to strategy categories, the results revealed that Memory strategies were the most frequently employed by them and Metacognitive strategies were the least frequently used strategies among them. Although the participants were medium strategy users, the results of the VLSQ revealed that some individual strategies were employed at a low level. This result leads to adopt the learners' individual vocabulary learning strategy as an important variable in future research. The findings of this study will be advantageous to language instructors to improve effective vocabulary teaching techniques and curriculum designers to provide learners with preferable vocabulary learning strategies.

**Keywords:** vocabulary learning strategies (VLSs), vocabulary learning strategy questionnaire (VLSQ), Schmitt's taxonomy, memory strategies, metacognitive strategies

## 1. Introduction

Communication without vocabulary is considered meaningless, so vocabulary acquisition is the heart of language acquisition as Laufer (1986) refers to this term. Burton (1992) adds that language learners would be self-confident when they are able to use acquired vocabulary effectively and have a good individual store of lexis. Davies and Pearse (2000) suggest that vocabulary in communication situations is usually more essential than grammar as it is annoying for language users when they cannot communicate effectively due to the lack of needed vocabulary. This is in consistency with Ellis' (1994) statement in which lexical errors could block comprehension more than grammatical errors.

### 1.1 Vocabulary Learning Strategies

Vocabulary is a fundamental element of language proficiency and its acquisition is a main factor of effective communicative skills. Developing a rich vocabulary is an essential and continuing challenge for language learners. Language learners need to use strategies to help them acquire new lexical items and to have rich vocabulary. The use of suitable strategies makes a distinction between experienced learners and beginners in many learning areas. It is a necessity for language learners to increase their vocabulary knowledge and to understand words to use them correctly. In order to achieve this purpose, emphasis has to shift from language instructors and teaching to language learners and learning (Sadighi & Zarafshan, 2006). As stated by Rubin (1987) and O'Malley and Chamot (1995), language learning strategies are any set of activities, strategies, procedures, notions that language learners use to assist in the knowledge, storing, recovery and usage of language. This approach seems reasonable for language instructors to help language learners to use vocabulary learning strategies so they can be independent vocabulary learners (O'Malley & Chamot, 1995). However,

Cameron (2001) states that language learners may not implement strategies automatically, they learn words in various ways, and as a result, learners need to be taught different vocabulary learning strategies to help them to be successful language learners. Meanwhile, several researchers have suggested that some vocabulary learning strategies are more efficient in learning and developing new lexical items (See Sanaoui, 1995; Schmitt, 1997). Nation (1990) indicates that language learners have to learn how to store, recall, and use new vocabulary items by employing several kinds of vocabulary learning strategies. Oxford (1990) and Schmitt (2000) add that each strategy for vocabulary learning might be suitable for its goal.

This brings about vocabulary learning strategies, as they are subclass of language learning strategies with the focus on vocabulary acquisition. Consequently, the definition of vocabulary learning strategy developed from language learning strategies (Catalán, 2003). Oxford (1990, p. 8) defines them “as the operations employed by the learner to aid the acquisition, storage, retrieval, and use of information (vocabulary)”. Cameron (2001, p. 92) defines vocabulary learning strategies (VLSs) as “the actions that learners take to help themselves understand and remember vocabulary items”. Catalán (2003, p. 56) decides on the definition of VLSs from Rubin (1987); Wenden (1987); Oxford (1990); and Schmitt (1997) as the adopted definition in her study as “knowledge about the mechanisms (processes, strategies) used in order to learn vocabulary as well as steps or actions taken by students (a) to find out the meaning of unknown words, (b) to retain them in long-term memory, (c) to recall them at will, and (d) to use them in oral or written mode”. Then vocabulary learning strategies are intended mental strategies that language learners employ to enhance vocabulary learning and retrieve easily new words. Language learners attempt several ways to use different vocabulary learning strategies. It is impossible for learners to memorize all the words in any language, and they cannot master the vocabulary of the target language. As a result, they need to use the techniques mentioned before at different stages of learning in order to advance their vocabulary acquisition and remember these vocabulary items. Moreover, vocabulary learning strategies vary from one learner to another in terms of different variables such as age, gender, language proficiency level, etc.

### *1.2 Vocabulary Learning Strategies Classifications*

In classifying learning strategies, several scholars have classified vocabulary learning strategies into different categories in relation to their findings. These classification systems contribute vitally to the knowledge of vocabulary strategies such as Cohen (1987); Gu and Johnson (1996); Schmitt (1997); Cook (2001); and Nation (2001). Schmitt's (1997) taxonomy of VLSs is the instrument used to collect the necessary information from the participants in this study.

Schmitt's taxonomy (1997) is a comprehensive inventory of vocabulary learning strategies. Schmitt took social, memory, cognitive and meta-cognitive strategies established by Oxford, and invented a new category that is determination strategies. Learners use this category to discover the meaning of new words without asking from another person. Consequently, learners attempt to find out the meaning of a new word by using the context, structural knowledge of language, and reference materials. Schmitt's VLSs are divided into two groups: strategies used to define the meaning of new words and strategies used to consolidate the meaning of the new words when learners come across them again. As social strategies can be employed for both purposes according to Schmitt, he includes these strategies in both groups. The first group contains determination and social strategies and the second contains cognitive, metacognitive, memory and social strategies (Schmitt, 1997).

Concerning the other classified vocabulary learning strategies, according to Cohen (1987), three main categories for vocabulary learning strategies were classified. They include strategies for remembering words, semantic strategies, and strategies for vocabulary learning and practising. As for Gu and Johnson (1996), they had grouped eight categories of vocabulary learning strategies after advanced EFL Chinese learners reported their employed VLSs. The eight categories are Beliefs about vocabulary learning; Metacognitive regulation; Guessing strategies; Dictionary strategies; Note-taking strategies; Memory strategies (rehearsal); Memory strategies (encoding); and Activation strategies. With reference to Cook (2001), she classified two major categories for getting meaning and acquiring words. Getting meaning strategies include guessing meaning from situation or context, using a dictionary, making deductions from the word-form, and linking lexical items to cognates. While acquiring word strategies include repetition and rote learning, organizing words in the minds of learners, and linking lexical items to existing knowledge. Finally, Nation (2001) classified vocabulary learning strategies in three main categories which are planning, sources, and processes. Nation (2001, p. 222) states that “*planning* involves deciding on where, how and how often to focus attention on the vocabulary item. *Strategies* include the choosing of words, choosing aspects of word knowledge, and choosing strategies as well as planning repetition. *Source* includes the getting of information about the word. This information may include all the aspects involved in knowing a word. It can come from the word form itself, from the context, from a reference source such as

dictionaries or glossaries, and from analogies and connections with other languages. Lastly, *processes* include the establishment of word knowledge through noticing, retrieving and generating strategies”.

### 1.3 Vocabulary Learning Strategies Research

This section is concerned with reviewing some research work investigating the use of vocabulary learning strategies. Major topics, associate the information and methods that will be immediately related to this research are discussed below.

The first study will be discussed is Schmitt's (1997) research. He used his taxonomy to conduct a study to 600 Japanese language learners to recognize the techniques used by good and poor language learners concerning vocabulary learning. It has been concluded that Japanese learners started using written repetition at the beginning of their learning process in addition to the use of paired associate words (L2 – L1) on lists and cards. These vocabulary learning strategies decreased as Japanese learners' vocabulary developed. Another finding was that mature Japanese learners reported the use of cognitive effort to comprehend their learning evaluation (Schmitt, 1997).

The second study was conducted by Catalán (2003) detecting that Spanish male and female learners diversified considerably in the number of vocabulary learning strategies used in learning English. Concerning the variety of VLSs, eight out of ten most frequent strategies are shared by both males and females. Variances of overall vocabulary learning strategies were reported using between males and females.

The third study was carried by Arjomand and Sharififar (2011) that was a similar research to Catalán's (2003). Its purpose was to find the relationship between gender and the use of vocabulary leaning strategies. The findings revealed that both male and female learners employed social strategies in a low level. Female learners used cognitive, determination, memory and meta-cognitive strategies, whereas, male learners had a tendency towards using meta-cognitive, cognitive, determination and memory strategies.

The fourth study was administered by Kafipour and Naveh (2011) to examine the effect of vocabulary learning strategies on the comprehension of learners' reading. Schmitt's VLSs taxonomy was applied in the study including social, cognitive, determination, memory, and meta-cognitive strategies. They found out that meta-cognitive and cognitive strategies were the most frequently used ones and social strategy was the least frequently used one. However, social strategy was the only strategy that correlated with the comprehension of student's reading.

The last study was done by Rahimi and Shams (2012). Its purpose was to find whether vocabulary learning strategies effect significantly the learners' results obtained from the vocabulary tests. The findings indicated that vocabulary learning strategies affected positively the scores of intermediate level learners. Learners who obtained good scores on the vocabulary test used the methods in the questionnaire more often to support them in better understanding of the words. Learners who obtained a high score on the vocabulary test used Meta-cognitive strategies; however, social strategies were used least often.

The present study is an attempt to provide both language learners and language instructors with comprehensive and thorough knowledge about vocabulary learning strategies as much as possible and it attempts to investigate the type of vocabulary learning strategies used by Jordanian EFL learners.

## 2. Statement of the Problem

Vocabulary knowledge is very important in learners' reading, listening, speaking, and writing skills and consequently in their academic success. Many EFL learners have difficulty with lexis learning related to breadth and depth of vocabulary knowledge which will cause difficulty in using the correct word. Additionally, EFL learners might encounter difficulties in remembering difficult words so they might avoid using them. The problem that EFL Jordanian learners come across is that they know which vocabulary to learn but they do not know how to learn vocabulary and recall new words. This research is to ferret out the helpful and appropriate vocabulary learning strategies that EFL Jordanian learners will become more acquainted with and they have to be fervent to use the kinds of vocabulary learning strategies they are less familiar with.

## 3. Objective of the Study

The key purpose of this study is to investigate the vocabulary learning strategies according to Schmitt's Taxonomy by undergraduate Jordanian students studying English Language and Literature in Jordanian universities. In addition, it explores vocabulary learning strategies used by them, the most and least vocabulary learning strategies reported by them, and it brings to light their overall strategy use.

#### 4. Research Questions

According to the above research objectives, the following research questions will be addressed through the study:

1. What are the vocabulary learning strategies (VLSs) used by undergraduate Jordanian students studying English Language and Literature in Jordanian universities?
2. What are the most and least frequently used VLS among undergraduate Jordanian students studying English Language and Literature in Jordanian universities?
3. Are undergraduate Jordanian students' studying English Language and Literature in Jordanian universities high, medium, or low VLS users?

#### 5. Limitations of the Study

The present study has two limitations:

The first limitation is related to the participants' limitation. The English language proficiency of the participants was not taken into consideration when the study was applied. There would definitely be a relationship between the VLSs reported by the participants and their level of English language proficiency. In addition, the participants' gender was not considered in this study too. The second limitation is related to the instrument of the study, which is the VLSQ by Schmitt (1997). The outcomes of the study reveal that the participants of the study report to be moderate strategy users as Table 1 indicates. As the testing instrument uses Likert scale, the validity of the test might be affected by "regression toward mean" in using this strategy inventory. It would be useful if other studies employ other testing instruments to come out with the same results.

#### 6. Research Methodology

##### 6.1 Participants

A total of 110 undergraduate Jordanian students randomly selected took part in this study. Of the 110 participants, 79 were female students (72%) and 31 were male students (28 %) with an age range from 19 to 24. The pool included participants from eight Jordanian universities majoring in English language and Literature, and all of them were native speakers of Arabic and they had been learning English as a foreign language for at least ten years.

##### 6.2 Instrumentation

The instrument used to collect data for the present study was Vocabulary Learning Strategies Questionnaire (VLSQ) by Schmitt (1997) as it suits the purposes of the study. The VLSQ was utilized to expose the types of vocabulary learning strategies used by the participants, to find out the frequency of vocabulary learning strategies employed by them, and to reveal the overall use of vocabulary learning strategy employed by the participants' choice of vocabulary learning strategies. Nevertheless, adaptations were made to the VLSQ to be relevant to the participants' learning environment and competence level. The written questionnaire was composed of two sections. The first section took account of personal information of the participants, while the second section was 40-item questionnaire to record the participants' responses on their vocabulary learning strategies. They were asked to rate their frequency of usage of the VLS according to a scale of five choices as the likert-scale questionnaire (Nunan, 1992) for each question that are never (0 point), seldom (1 point), sometimes (2 points), often (3 points), and always (4 points). The 40 questions were sub-classes of the five categories of Vocabulary Learning Strategies which are Determination, Social, Memory, Cognitive, and Metacognitive. It is important to mention that a pilot test was conducted to 20 participants, were not involved in the study, in order to gauge the reliability coefficient of the questionnaire. Cronbach -Alpha formula was used in calculating the reliability coefficient of the items, which the reliability value was 0.868 ( $\alpha = 0.868$ ).

##### 6.3 Procedures

The following procedures were followed in order to attain the aim of the study. The questionnaires were administered in groups in eight Jordanian universities on different days, as these universities are located in the North, South, and capital of Jordan. All the participants were instructed orally on the questionnaire before proceeding on with the test, whilst the instructions were also written on the first page of the test. They were informed that there was no time limit for the questionnaire.

#### 7. Results and Discussion

The obtained data from the second part of the VLSQ was analyzed by using the Statistical Package for Social Science (SPSS) version 20. The descriptive statistics were used to find mean and standard deviation to answer the questions of the study which are:

1. What are the vocabulary learning strategies (VLSs) used by undergraduate Jordanian students studying English Language and Literature in Jordanian universities?
2. What are the most and least frequently used VLS among undergraduate Jordanian students studying English Language and Literature in Jordanian universities?
3. Are undergraduate Jordanian students' studying English Language and Literature in Jordanian universities high, medium, or low VLS users?

The first analysis of the data indicates the overall use of vocabulary learning strategy employed by undergraduate Jordanian students studying English Language and Literature in Jordanian universities. The obtained data for this purpose was through the questionnaire without any concern for any specific patterns of participants' varieties of vocabulary learning strategies.

The participants' choices of the VLS determined the classification of their frequency of usage of the VLS. The classification of their frequency was as high use of strategy, medium use, and low use based on a five-point rating scale, ranging from never (0 point), seldom (1 point), sometimes (2 points), often (3 points), and always (4 points). Thus, the scoring system of strategy use can be valued from 0.00 to 5.00. The mean of each VLS category valued from 0.00 to 1.99 is considered as low use of strategy, from 2.00 to 2.99 as medium use, and from 3.00 to 5.00 as high use.

Table 1 indicates the overall strategy used by the participants with mean of (2.46) indicating they are medium (moderate) strategy users of vocabulary learning strategies. This result is compatible with obtained results in other EFL contexts such as Park (1997), Wharton (2000), Shamis (2003), and Jafari and Kafipour (2013) where EFL learners were medium strategy users.

Table 1. Overall strategy use by participants

Number of Participants	Mean	Std. Deviation	Frequency Category
110	2.46	1.12	Medium use

Table 2 depicts the descriptive statistics of the five categories of VLSs used by the participants. It is clear that of all the five strategies on the questionnaire Memory ( $M = 2.83$ ,  $SD = 1.22$ ) was the highest mean score followed by Determination ( $M = 2.73$ ,  $SD = 1.26$ ). The other two mean scores were Social ( $M = 2.52$ ,  $SD = 1.10$ ) and Cognitive ( $M = 2.30$ ,  $SD = 1.03$ ). Whereas Metacognitive ( $M = 2.10$ ,  $SD = 1.00$ ) was the least mean score of the five categories of the VLSs employed by the participants.

Table 2. Descriptive statistics for the frequency of the five categories of VLS used by participants

Strategy Category	Mean	Std. Deviation	Frequency Category	Rank
Memory	2.83	1.22	Medium use	1
Determination	2.73	1.26	Medium use	2
Social	2.52	1.10	Medium use	3
Cognitive	2.30	1.03	Medium use	4
Metacognitive	2.10	1.00	Medium use	5

The descriptive statistics show that the most frequent employed vocabulary learning strategies by undergraduate Jordanian students studying English Language and Literature in Jordanian universities was Memory strategies. This result is consistent with the findings of Huang and Naerssen (1987) in which it reported that memory strategies were highly used by learners as opposed to other strategies. While this finding of the present study contradicts Wharton's (2000) findings in which the least frequently used were memory strategies. Determination strategies came in the second place, Social strategies were found in the third place, and Cognitive strategies were found in the fourth place. Finally, Metacognitive strategies were found to be the least frequent strategies of the VLSs to be used by the participants. The reason why Metacognitive strategies were the least frequent strategies might be that learners have much exposure to English in classes so they learn it consciously. Another reason might affect their usage of this strategy is that they rely on language instructors in classes. It might also be that learners are aware of the learning process even if language instructors adopt the communicative approach in classes. As mentioned earlier, in relation to scoring system the VLSs were used moderately by the participants.

The following sections report the findings acquired from VLSQ to answer the research question: What are the vocabulary learning strategies (VLS) used by undergraduate Jordanian students studying English Language and Literature in Jordanian universities? In addition to find the most and the least vocabulary strategies employed by the participants in this study. Mean scores, standard deviations, and frequency category of each vocabulary learning strategy are shown in tables.

### 7.1 Memory Strategies Employed by Participants

Table 3 below uncovers the frequency of Memory strategies employed by the participants in order to learn new vocabulary items. Table 3 indicates the frequency of eight individual vocabulary learning strategies under the Memory strategies.

Table 3. Memory strategies employed by participants

Memory strategies employed by participants	Mean	SD	Frequency category
Categorize new words according to their synonyms and antonyms.	3.51	1.40	High use
Group new words in relation to similar pronunciation and spelling.	3.42	1.38	High use
Group new words together to learn new vocabulary.	3.40	1.31	High use
Connect pictures to the meanings of new words.	2.93	1.27	Medium use
Observe the parts of speech of the new vocabulary items.	2.67	1.22	Medium use
Examine the new words' affixes (prefixes and suffixes).	2.51	1.14	Medium use
Use new vocabulary items in sentences repeatedly.	2.42	1.09	Medium use
Use semantic maps to learn new words.	1.81	1.01	Low use

Table 3 represents the mean frequency scores of eight individual vocabulary learning strategies under Memory strategies. The Memory strategies were reported being employed at the high frequency level were “categorize new words according to their synonyms and antonyms” ( $M = 3.51$ ,  $SD = 1.40$ ), “group new words in relation to similar pronunciation and spelling” ( $M = 3.42$ ,  $SD = 1.38$ ), and “group new words together to learn new vocabulary” ( $M = 3.40$ ,  $SD = 1.31$ ). These are essentially good ways of learning new lexical items.

Memory strategies include mental techniques to imagine the situation in which the word might be used as grouping them into parts of speech as nouns and verbs, and into synonyms and antonyms (Oxford, 1990). It is obvious that the participants were familiar with these techniques in Memory strategies. According to Nation (1990), language learners have to learn, store and use new vocabulary items by using several kinds of VLSs. Additionally, Oxford (1990, p.71) suggests that “have a highly specific function: helping students store and retrieve new information”. Based on Schmitt's (1997) VLS for associating meaning, connect lexical items with synonyms or antonyms and study spelling of these new words are preferred strategies. Nation (2005) proposes a list of knowing a word that include word meaning, word use, and word form. Word form knowledge includes the knowledge of word's parts, spelling, and sound. While word usage knowledge includes the grammatical aspects of the word such as parts of speech, word's collocation. Regarding word meaning knowledge refers to the concept of the word, what it refers to, which words can be associated with. This list of word knowledge can be achieved by using Memory strategies. Whereas, the least used strategy was “use semantic maps” ( $M = 1.81$ ,  $SD = 1.09$ ). The rest of the VLSs were reported being employed at the medium use.

### 7.2 Determination Strategies Employed by Participants

This section reveals the Determination strategies employed by the participants in order to discover or learn new vocabulary items. Table 4 indicates the frequency of eight individual vocabulary learning strategies under the Determination strategies.

Table 4. Determination strategies employed by participants

Determination strategies employed by participants	Mean	SD	Frequency category
Use an English–Arabic dictionary to discover the meaning of new words.	3.31	1.36	High use
Use an Arabic–English dictionary to discover the meaning of new words	3.29	1.33	High use
Use an English–English dictionary to find the meaning of new words.	2.72	1.28	Medium use
Guess the meaning from context to discover the meaning of new words.	2.95	1.30	Medium use
Guess the meaning from word classes, such as noun, verb, adjective, adverb, to discover the meaning of new words.	2.70	1.26	Medium use

Guess the meaning by analysing the structure of words (prefixes, roots, and suffixes) to discover the meaning of new words.	2.57	1.22	Medium use
Guess the meaning from grammatical structure of a sentence to discover the meaning of new words	2.41	1.20	Medium use
Guess the meaning from aural features, such as stress, intonation, pronunciation, to discover the meaning of new words.	1.95	1.10	Low use

As indicated in Table 4, the mean frequency scores of eight individual vocabulary learning strategies revealed that two VLSs were reported being employed at the high frequency level, “use an English-Arabic dictionary” ( $M = 3.31$ ,  $SD = 1.36$ ) and “use an Arabic-English dictionary” ( $M = 3.29$ ,  $SD = 1.33$ ). On the other hand, the only VLS was reported being employed at the low frequency level was “guess the meaning from aural feature” ( $M = 1.95$ ,  $SD = 1.10$ ). The rest of the VLSs were reported being employed at the medium use.

It is obvious that the frequency level of strategy use in the Determination strategies implied the usage of dictionaries; participants reported using both bilingual and monolingual dictionaries to discover and find the meanings of new vocabulary items. This is quite true to EFL learners, wherein dictionaries are the vital resource for obtaining information about lexis items according to Walz (1990). Additionally, EFL learners are advised to refer to dictionaries to find and learn new lexical items as Hayati and Fattahzadh (2006) suggested. Miyanaga (2006) added that using a dictionary helps language learners to be more independent in learning a language as they can find proper explanation of new vocabulary items in sentences without relying on teachers’ explanations.

### 7.3 Social Strategies Employed by Participants

Concerning Social strategies employed by the participants, Table 5 exposes the frequency of eight individual vocabulary learning strategies under the Social strategies. Four strategies are used in the classroom and the other four are used outside the classroom.

Table 5. Social strategies employed by participants

Social strategies employed by participants	Mean	SD	Frequency category
Ask instructors of English for Arabic translation of new lexical items.	3.27	1.16	High use
Communicate with instructors of English in English to use a new lexical item in a sentence to increase the knowledge of vocabulary.	3.24	1.20	High use
Communicate with instructors of English in English to ask for a synonym of a new word or to explain it.	3.21	1.13	High use
Look for extra English information through the Internet to learn new vocabulary items.	2.67	1.01	Medium use
Discuss in English with classmates to know and expand the meaning of a new vocabulary item.	2.58	1.10	Medium use
Communicate with foreigners in English through different types of media to develop new vocabulary.	2.40	1.00	Medium use
Play English games, such as scrabble, crossword puzzles to find meaning of a new vocabulary item through group work activity.	1.46	1.22	Low use
Study and practice meaning of new vocabulary items in-group to expand lexical knowledge.	1.30	1.01	Low use

The highest frequency level for the Social strategies reported by the participants were “ask instructors of English for Arabic translation of new lexical items” ( $M = 3.27$ ,  $SD = 1.16$ ), “communicate with instructors of English in English to ask for a synonym of a new word” ( $M = 3.24$ ,  $SD = 1.20$ ), and “communicate with instructors of English in English to use a new lexical item in a sentence” ( $M = 3.21$ ,  $SD = 1.13$ ). These strategies are used inside the classrooms indicating that the participants’ learning methods are quiet dependent on the instructors of the language. Language learners need to learn lexical items in isolation as well as in context. These employed strategies by the participants will help them to achieve their learning purposes. This kind of vocabulary learning is direct or explicit vocabulary learning as Laufer and Hulstijn (2001) refer to it. This vocabulary learning strategy is considered a conscious learning; language learners through the meaning of words in isolation or in context learn vocabulary. As for the role of language instructors, they can help language learners use the direct or explicit vocabulary learning by providing them with paired translation equivalents and synonyms of the words.

On the other hand, the lowest frequency level for these strategies being employed by the participants were “play English games, such as scrabble, crossword puzzles to find meaning of a new vocabulary item through group

work activity” ( $M = 1.46$ ,  $SD = 1.22$ ) and “study and practice meaning of new vocabulary items in group” ( $M = 1.30$ ,  $SD = 1.01$ ). This discloses that the participants’ vocabulary learning methods outside the classroom are not quiet dependent on the sources available outside the classroom. The rest of the VLSs were reported being employed at the medium use.

#### 7.4 Cognitive Strategies Employed by Participants

With respect to Cognitive strategies employed by the participants, the frequency of eight individual vocabulary learning strategies under the Cognitive strategies is shown in Table 6.

Table 6. Cognitive strategies employed by participants

Cognitive strategies employed by participants	Mean	SD	Frequency category
Use a new lexical item by writing it repeatedly in sentences.	3.20	1.35	High use
Repeat orally a single word with its meanings to learn it.	3.18	1.38	High use
Revise previous English lessons and take notes in class to learn the new vocabulary items.	2.70	1.59	Medium use
Practice orally new words with their lexical sets.	2.60	1.14	Medium use
Keep a notebook for a vocabulary list with meanings and examples to learn the new vocabulary items.	2.51	1.40	Medium use
Associate new vocabulary items with physical objects to learn the lexical items.	2.04	1.11	Medium use
Listen to vocabulary CDs to learn new vocabulary items.	1.19	1.08	Low use
Write new lexical items with meanings on flash cards to learn them.	1.05	1.04	Low use

Table 6 reveals the mean frequency scores of eight individual vocabulary learning strategies under Cognitive strategies. The strategies were reported being employed at the high frequency level were “remember a new lexical item by writing it repeatedly in sentences” ( $M = 3.20$ ,  $SD = 1.35$ ) and “repeat orally a single word with its meanings” ( $M = 3.18$ ,  $SD = 1.38$ ). These strategies are preferred ones according to Schmitt (1997); they are strategies for vocabulary development by language learners such as say lexical items aloud, verbal and written repetition of words, and note taking in class. These strategies include analyzing, writing, or summarizing as Oxford (1990) proposes. In addition, Weaver and Cohen (1997) classify repetition as one of the six strategies for vocabulary acquisition. According to Oxford (1990, p.37), these strategies “enable learners to understand and produce new language by many different means”.

The least used strategies were “listen to vocabulary CDs” ( $M = 1.19$ ,  $SD = 1.08$ ) and “write new lexical items with meanings on flash cards” ( $M = 1.05$ ,  $SD = 1.04$ ). The rest of the VLSs were reported being employed at the medium use.

#### 7.5 Metacognitive Strategies Employed by Participants

The last section reveals the Metacognitive strategies employed by the participants with the aim of learning and expanding new vocabulary knowledge. Table 7 presents the frequency of eight individual vocabulary learning strategies under the Metacognitive strategies.

Table 7. Metacognitive strategies employed by participants

Metacognitive strategies employed by participants	Mean	SD	Frequency category
Expand the knowledge of lexical items by listening to English songs.	2.69	1.20	Medium use
Learn new words by watching English-speaking movies with subtitles.	2.60	1.18	Medium use
Study new vocabulary items from advertisements, written signs, written notices, etc.	2.58	1.07	Medium use
Learn new lexical items by reading articles from several sources as magazines, newspapers, brochures, etc.	2.50	1.14	Medium use
Expand the knowledge of vocabulary items by testing your vocabulary knowledge with word lists.	2.39	1.10	Medium use
Learn new words by listening to English radio programmes.	1.90	1.00	Low use
Expand the knowledge of lexical items by doing extra curriculum exercises from different sources, such as articles, texts, internet, etc.	1.10	1.11	Low use
Learn new words by relating newly-learned words with previously learned ones.	1.04	1.16	Low use

Table 7 uncovers an interesting information regarding the mean frequency scores of eight individual vocabulary learning strategies under Metacognitive strategies. There were no high frequency level for these strategies, the



strategies were reported being employed at the medium frequency level were five in total. They were: “listening to English songs” ( $M = 2.69$ ,  $SD = 1.20$ ), “watching English-speaking movies with subtitles” ( $M = 2.60$ ,  $SD = 1.18$ ), “learning from advertisements, written signs, written notices, etc.” ( $M = 2.58$ ,  $SD = 1.07$ ), “reading articles from several sources as magazines, newspapers, brochures, etc.” ( $M = 2.50$ ,  $SD = 1.14$ ), and “testing vocabulary knowledge with word lists” ( $M = 2.39$ ,  $SD = 1.10$ ). Whereas, the rest of the VLSs were reported being employed at the low use. The least used strategy was “relating newly-learned words with previously learned ones” ( $M = 1.04$ ,  $SD = 1.16$ ).

Rasekh and Ranjby (2003) indicate that Metacognitive strategies affect positively vocabulary learning of EFL learners. Language learners according to Hedge (2000) are involved in regulating language-learning process as they take control of their learning without the interference of a language instructor. They will be involved in planning for learning, setting goals, deciding on and employing learning strategies, and assessing the usefulness of strategy use and learning. They will make themselves self-directed learners as they employ various VLSs which will help them to facilitate vocabulary learning, more pleasant and more efficient. In other words, Metacognitive strategies will help language learners to be in an executive function that involves taking into consideration the learning process to direct their attention to employ VLSs. This will lead them self-management learning process and self-evaluation (Oxford, 1990).

## 8. Conclusion

The findings of the present study showed that undergraduate Jordanian students studying English Language and Literature in Jordanian universities were medium strategy users. Based on the holistic mean score (2.46), it is of medium frequency of strategy use as shown earlier in Table 1. A frequency of use of the five vocabulary learning strategies can be seen as well, with the highest mean frequency score (2.79) for the Memory strategies and the lowest mean frequency score (2.10) for the Metacognitive strategies as described previously in Table 2.

With the purpose of drawing a clear picture of the individual strategies, the ten highest and the nine least frequently used strategies were ranked in Table 8 and Table 9.

Table 8. Ten highest used strategies by participants

Strategies employed by participants	Mean	SD
Categorize new words according to their synonyms and antonyms. (Memory)	3.64	1.40
Group new words in relation to similar pronunciation and spelling. (Memory)	3.42	1.38
Group new words together to learn new vocabulary. (Memory)	3.40	1.31
Use an English–Arabic dictionary to discover the meaning of new words. (Determination)	3.31	1.36
Use an Arabic–English dictionary to discover the meaning of new words. (Determination)	3.29	1.33
Ask instructors of English for Arabic translation of new lexical items. (Social)	3.27	1.16
Communicate with instructors of English in English to use a new lexical item in a sentence to increase the knowledge of vocabulary. (Social)	3.24	1.20
Communicate with instructors of English in English to ask for a synonym of a new word or to explain it. (Social)	3.21	1.13
Use a new lexical item by writing it repeatedly in sentences. (Cognitive)	3.20	1.35
Repeat orally a single word with its meanings to learn it. (Cognitive)	3.18	1.38

As Table 8 depicts, out of the 10 highest mean frequency scores employed strategies by the participants, three were Memory strategies. This was in consistency with the ordering for the frequency of the five categories of VLSs used by the participants, where Memory strategies had the highest mean. Strategies such as, “categorize new words according to their synonyms and antonyms”, “group new words in relation to similar pronunciation and spelling”, and “group new words together to learn new vocabulary” are all mental techniques that help learners to be aware of their vocabulary learning strategies of the target language and consciously planning their learning. These are one of the preferred vocabulary learning strategies according to Schmitt (1997). This high usage of these strategies might indicate that the participants are familiar with such important learning techniques and their language instructors might emphasize on using such strategies.

As for the remaining seven highest strategies, three social strategies appeared in the table indicating the participants’ involvement in language usage and interaction in the class. Cohen (1998, p.15) defines the term learning style as “general approaches to learning” as it is commonly known that students majoring in English Language are affected by the nature of their study. They have to be engaged in different social strategies as being

active in the class and to interact in the real world as stated by Ehrman and Oxford (1989), Oxford and Nyikos (1989).

With respect to the nine least frequently used strategies, Table 9 below reveals them.

Table 9. Nine least used strategies by participants

Strategies employed by participants	Mean	SD
Guess the meaning from aural features, such as stress, intonation, pronunciation, to discover the meaning of new words. (Determination)	1.95	1.10
Learn new words by listening to English radio programmes. (Metacognitive)	1.90	1.00
Use semantic maps to learn new words. (Memory)	1.81	1.01
Play English games, such as scrabble, crossword puzzles to find meaning of a new vocabulary item through group work activity. (Social)	1.46	1.22
Study and practice meaning of new vocabulary items in-group to expand lexical knowledge. (Social)	1.30	1.01
Listen to vocabulary CDs to learn new vocabulary items. (Cognitive)	1.19	1.08
Expand the knowledge of lexical items by doing extra curriculum exercises from different sources, such as articles, texts, internet, etc. (Metacognitive)	1.10	1.11
Write new lexical items with meanings on flash cards to learn them. (Cognitive)	1.05	1.04
Learn new words by relating newly-learned words with previously learned ones. (Metacognitive)	1.04	1.16

It is obvious from Table 9 that among the nine least mean frequency scores employed strategies by the participants three were Metacognitive strategies. The existence of Metacognitive strategies as the highest number in Table 9 indicate that the participants are not highly exposed to the target language (English) outside the class and they do not have a good opportunity to practice it outside the class. As referred to Oxford (1990) before that Metacognitive strategies will lead language learners to self-management learning process and self-evaluation which they lack. In addition, the presence of the Cognitive and Social strategies in this table might be because of the lack of not being exposed to the target language outside the class and they are not considerably considered with communicating in English outside the class.

It is worth mentioning that the results of the study are related to individual strategies as it can be seen from Table 9. Two out of these nine strategies belong to relatively one of the highly used strategies, i.e. Social strategies. This emphasizes the significance to consider the individual strategies as well as the overall strategies and strategy category use. Despite the fact that the participants employed the five VLSs at a medium level, all of the five strategies included some individual strategies used at a low level. This indicates that in studying vocabulary learning strategies use by language learners not only overall strategy use should be addressed and strategy categories; the language learners' individual strategy use should be addressed too.

The findings of the present study may be helpful for language instructors, language learners, and curriculum designers as they are informative regarding the preferable vocabulary learning strategies used by Jordanian EFL students. Hence, English instructors may emphasize more on vocabulary learning strategies by drawing the attention of the language learners to these strategies. Additionally, language learners have to be aware of the vocabulary learning strategies to be motivated to learn the target language and to manage their learning process themselves effectively. Moreover, English instructors may arrange and offer applicable situations and activities in their classes to make language learners use these somewhat neglected vocabulary learning strategies. As for curriculum designers, they can adapt different language exercises in English language pedagogical books and make them suitable for language learners to deal with unfamiliar lexical item regarding remembering the word, its meaning or spelling, etc. by making use of suitable learning strategies.

It is recommended that a reproduction of this study to be conducted in different settings as to investigate the usage of vocabulary learning strategies by Arab EFL learners in universities or schools, or using different testing instrument. Additionally, the limitations of this study have to be explored in future study to gain insights on how vocabulary learning strategies are employed by different language learners. Other variables as gender, the participants' level of vocabulary proficiency could have an effect on such study.

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