An Exploratory Study of Vocabulary Learning Strategies by Saudi Female First-year EFL University Students

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Abstract

The aim of this exploratory study is to investigate the vocabulary learning strategies (VLSs) used by 55 Saudi female freshmen students studying English as a foreign language (EFL). The participants were enrolled in their second level of English in the university's foundation program. To provide rich detailed data, the study integrated two research instruments to collect the data: a closed/open-ended questionnaire that adapted Schmitt's (1997) taxonomy of VLSs, and a vocabulary diary learning log. The overall results of this study show that the participants used all the different VLSs at different rates. Participants tended to resort more to memory VLSs followed by determination, cognitive, social, and finally metacognitive strategies.

1. Introduction

There is a consensus on the important role that language learning strategies (LLSs) play in successfully mastering a target language – a foreign or second language. Language learning strategies are crucial for learners "because they improve language performance, encourage learner autonomy, are teachable, and expand the role of the teacher in significant ways" (Oxford, 1986, p. 30). Research on LLSs has aimed to understand how language learners learn language, and more specifically, what strategies they use and how they manage their learning. One of the earliest definitions of LLSs was provided by Rubin (1975, p. 43), who viewed them as "the techniques or devices which a learner may use to acquire language". This definition was expanded to reflect the element of not only learning but also recalling information by Chamot (1987, p. 71), who viewed them as "techniques, approaches or deliberate actions that students take in order to facilitate the learning, recall of both linguistic and content area information". From a cognitive perspective, O'Malley and Chamot (1990, p. 1) define them as "special thoughts or behaviors that individuals use to help them comprehend, learn, or retain new information". Lewis (2002, p. 89) that "Lexis is the core or heart of language" which reflects how vocabulary is an active part of language and plays a central role in all our stages of learning. Due to the vital role that vocabulary plays in language, it has been stressed over grammatical accuracy and mastering the sounds of the language (Kaya & Charkova, 2014; McCarthy, 1990; Schmitt, 1997; Wilkins, 1972). This is because it is crucial for language learners to able to communicate and to convey their ideas and feelings for successful communication (Çelik & Toptaş, 2010; Nation, 2012; Takač, 2008). Regarding language learning, vocabulary is a core component of language proficiency and an indicator of how well learners perform in the four language skills (Hinkel, 2015; Richards & Renandya, 2002). Insufficient vocabulary knowledge (i.e., small vocabulary size) is one of the major obstacles that hinder language learners' language performance (Carter, 2012; Hsueh-Chao & Nation, 2000; Nirattisai & Chiramanee, 2014). For these reasons, the use of vocabulary learning strategies (VLSs) is one of the most effective tools that can enhance learners' vocabulary size (Nation, 2012).

2. Literature Review

2.1 Vocabulary Learning Strategies

Learners can enrich and expand their vocabulary knowledge of lexical items by familiarizing themselves with different strategies to learn words (Schmitt, 2008; Tricia, 2000). Vocabulary learning strategies are regarded as a subgroup of LLSs, which are in turn a part of general learning strategies (Carter & Maccarthy, 1988; Nation, 2012; Schmitt, 1997). Takač (2008, p. 52) defines these strategies as "specific strategies utilized in the isolated task of learning vocabulary in the target language". Vocabulary learning strategies are defined by Cameron (2001, p. 92) as "actions that learners take to help themselves understand and remember vocabulary". Catalan (2003, p. 56) describes them as "knowledge about the mechanism 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". In terms of VLSs, empirical evidence has been provided on various aspects: the most frequently used strategies (Schmitt, 1997), strategies

used by good and poor learners (Gu, 1994; Gu & Johnson, 1996), learners' proficiency and the strategies they used (Çelik & Toptaş, 2010; Fan, 2003; Gu & Johnson, 1996). In addition, the role of gender in strategy choice (Catalan, 2003; Okyar, 2021) and the relationship between gender and proficiency (Boonkongsaen & Intaraprasert, 2014) have also been studied. Successful learners utilize and adapt their strategy use in a flexible and adaptive way to suit their needs (Griffiths, 2008; Gu, 1994; Schmitt, 1997). Furthermore, some learners tend to use a combination of VLSs rather than depending on a single strategy (Ahmed, 1988; Gu & Johnson, 1996).

Vocabulary learning strategies are crucial for EFL/ESL learners, as not only do they guide learners to learn lexical items but they also allow learners to continue learning words beyond the classroom walls (indirect/incidental learning) (Schmitt, 1997). Furthermore, they also increase their proficiency and efficiency in using the language (Manukyan, 2020). That is why there have been many attempts to capture, report, and classify these strategies in taxonomies in the language learning literature (Gu & Johnson, 1996; Nation, 2012; Oxford, 1990; Stoffer, 1995; Takač, 2008). The best-known taxonomy and the one most widely adopted/adapted by researchers is Schmitt's (1997) VLSs classification, which was based on his survey of 600 Japanese participants studying EFL in Japan. Expanding on Oxford's (1990) classification of LLSs, Schmitt's VLSs classification revolves around two main sets of strategies, discovery and consolidation. The former are strategies used to gain initial information about new or unknown words from context, while the latter are strategies used to retain (learn) the meanings of words once their meanings are understood. Discovery strategies employ determination and social strategies while consolidation strategies also involve social strategies in addition to memory, cognitive, and metacognitive strategies. Determination strategies aim to uncover the meanings of new or unfamiliar words, either through the words or their structures (part of speech, prefixes, etc.), L1 cognates, analysis of pictures/gestures, inferencing (guessing) from the context, dictionaries, word lists or flash cards. Learners may also determine meaning by interacting with others, their classmates or the teacher, and by asking about or working with unknown words as a social strategy. Memory strategies (also known as mnemonics) represent those strategies that relate the new information to previous learned knowledge of the word (Schmitt, 1997). Cognitive strategies are those which are directly related to the language task; they entail direct manipulation of learning materials, making predictions, translating, and guessing meaning from words. On the other hand, metacognitive strategies involve thinking about the learning process and they are related to self-management/regulation, like planning and monitoring strategies (O'Malley & Chamot, 1990; Phakiti, 2003).

2.2 Research on Vocabulary Learning Strategies in the Saudi Context

There are a few studies in the Saudi context that have attempted to capture the VLSs of Saudi EFL learners at university level. For example, Alhaysony's (2012) study only examined the discovery strategies that 746 university EFL learners used to uncover meanings of new, unfamiliar words. The results showed a stronger preference for social strategies and skipping, while guessing and dictionary strategies were less frequently used. The study also reported that overall, females used a statistically significant greater number of VLSs than males. Another study that focused on discovery strategies, specifically guessing unknown words, was by

Baniabdelrahman and Al-shumaimeri (2014). The participants were 240 students, representing both genders and groups of three proficiency levels (low – intermediate – advanced). The participants were asked to derive the meanings of 20 unknown words, followed by indicating the strategies they had applied from a list of predetermined strategies, including the item 'other'. It was found that learners were thrown off when the target word was similar in shape/form to a word they already knew, which resulted in incorrect guessing. This supports the concept of a word's 'mistaken ID', proposed by Huckin and Bloch (1993) and also Coady's (1979) psychological model of ESL/EFL learners who tend to rely heavily on grapheme–morpheme or grapheme–morphophoneme similarities between unknown and known words. Another explanation of this error could be Saudi learners' limited vocabulary knowledge and learning words through memorization or word lists (Al-Ahmadi, 2020; Alsaif & Milton, 2012), which leads learners to believe that these words are part of their vocabulary stock.

The present study aims to contribute to the existing vocabulary learning strategy literature on Saudi ELF learners and their strategy use. The study focuses on both sets of VLSs; discovery and consolidation. Furthermore, in contrast to previous studies which only used a questionnaire for data collection the present study also implements a vocabulary diary log to capture the VLSs resorted to by the participants when learning taught words to further understand their strategy choice.

3. The Present Study

The current exploratory study aims to answer the following research questions about Saudi university female students in their preparatory program who are enrolled in the second level of an English course in terms of:

1.   What vocabulary learning strategies do students use when discovering the meaning of a word for the first time?

2.   What vocabulary learning strategies do students use when learning taught words in their textbooks?

3.1 Methodology and Data Collection Methods

The study's participants were 55 Saudi first-year university studies who were currently enrolled in the second level of an English course and their ages ranged between 18 and 22 years old. The study implemented several research instruments. First, a questionnaire was used to capture the behavioral aspects related to VLSs. Questionnaires have been widely used for studying the LLSs used, decisions taken, attitudes, etc. (Cohen et al., 2018; Dörnyei, 2010). After obtaining ethical permission, an online closed/open-ended questionnaire was used in which the first part of the questionnaire comprised closed items adapted from Schmitt's (1997) taxonomy of VLSs. The second part was a single open-ended question which asked students if they used other VLSs in order to capture strategies that were not mentioned in the first part of questionnaire, Furthermore, open-ended questionnaire items are useful in exploratory research to generate rich data, especially when the list of possible responses is too long to list as options (Bailey, 2008; Cohen et al., 2018). In order to measure the reliability of the questionnaire, Cronbach's alpha was calculated and this was 0.91, which is a very high level of reliability (Cohen et al.,

2018; Davidshofer & Murphy, 2014).

Finally, a learner vocabulary diary log was used by 33 out of the 55 participants. These participants represented one section/class and were taught by the same teacher. This class was chosen due to the students' high response rate to the questionnaire. These participants were asked to self-report on the VLSs they used while learning lexical items in their course books in preparation for a coming exam. Self-reported data provide more reliable data since they are directly reported while stored in the short-term memory (Matsumoto, 1993). Furthermore, diaries and dialog journals are appropriate when aiming to "identify strategies used on specific tasks over a given period of time" (Oxford, 1996, p. 39).

The participants were guided to write the VLSs used concurrently while studying the selected words. This was in order to further understand why learners use certain vocabulary learning consolidating strategies. Bailey (1990, p. 215) defines a diary study as "a first-person account of a language learning or teaching experience, documented through regular, candid entries in a personal journal and then analyzed for recurring patterns or salient events". Furthermore, diaries offer researchers the opportunity to investigate social, psychological and physiological processes within our everyday life situations (Dörnyei, 2007). In the diary, the learners were instructed to write down the strategies they used to learn the meanings of selected target words. These words were chosen from their current reading textbook. The vocabulary diary was given to learners while preparing for their midterm exam. Throughout the study, the participants were free to use either Arabic (L1) or English when writing their responses so as not to overload their cognitive load by forcing them to use a specific language (Cohen, 1996).

4. Results and Discussion

The data revealed that Saudi EFL learners, regardless of the frequency of usage, preferred to use memory VLSs the most (41.83%) followed by determination, cognitive, social, and finally metacognitive VLSs (9.05%) (see Figure 1).
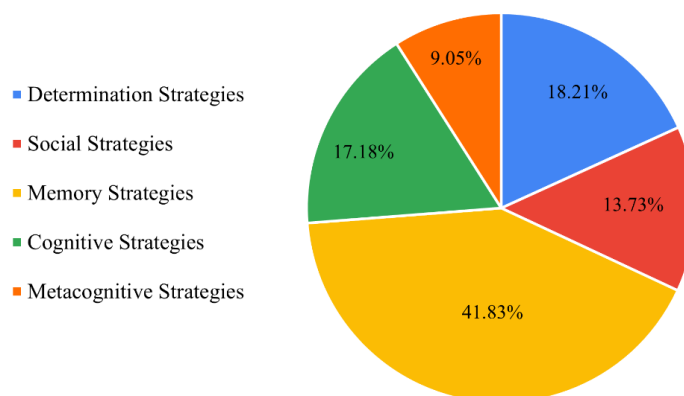

Figure1. Percentages of Vocabulary Learning Strategies used by Learners

This is line with Al-Khresheh and Al-Ruwaili's (2020) study. Their Saudi participants also preferred memory VLSs the most, but in contrast to the current study, cognitive VLS were the

least employed. One proposed explanation is that in their study, the 219 participants (males and females) were majoring in English who represented freshmen, sophomores, juniors, and seniors, while in the current study the participants were first-year foundation students majoring in scientific disciplines while studying general English. Other reasons could be related to gender (Catalan, 2003; Manuel, 2017), learners' motivation (Oxford, 1993) learning autonomy (Oxford & Nyikos, 1989).

This results and discussion section will be divided into two parts in line with the study's research questions; strategies used to discover the meaning of a new word and those strategies used to learn a meaning of the word once it has been encountered (taught).

1. What vocabulary learning strategies do students use when discovering the meaning of a word for the first time?

4.1 Discovery Strategies

In this set of strategies, the most commonly used strategy was guessing an unknown word from context (mean 3.35) – this strategy was selected by all the participants except one (see Table 1). This strategy was also reported in a number of vocabulary studies (Kaya & Charkova, 2014; Schmitt, 1997). The high number of responses can be explained by the factors that have been reported to affect the success of guessing a word from context, such as the ratio of unknown to known words that learners encounter in a text or speech (Hsueh-Chao & Nation, 2000; Nation & Webb, 2011; Schmitt et al., 2011). These factors also include the unknown word's part of speech (Laufer, 1989; Liu & Nation, 1985), the clues surrounding the word (Haastrup, 1991; Haynes, 1993), the learner's background knowledge about the topic of the text (Al-Ahmadi, 2020; Paribakht & Wesche, 2006), learner's depth of vocabulary knowledge (Nation, 2012; Stæhr, 2008, 2009) and proficiency level (Catalan, 2003; Haastrup, 1991; Huckin & Bloch, 1993). Furthermore, it could be a combination of these previous factors (Al-Ahmadi, 2020, Gu, 1994).

Table 1. Frequency of determination strategies used for discovering meanings of new words

Determination strategies	Always	Sometimes	Seldom	Never	Mean	SD
1. Analyze part of speech.	18	22	11	4	3.14	2.59
2. Analyze affixes and roots.	20	19	10	6	3.20	2.61
3. Check for an L1 cognate.	27	17	9	2	3.34	2.84
4. Analyze any available pictures or gestures.	22	21	6	6	3.33	2.70
5. Guess from textual context.	27	19	8	1	3.35	2.87
6. Bilingual dictionary.	22	19	11	3	3.21	2.70
7. Monolingual dictionary.	9	14	18	14	2.78	2.04
8. Monolingual dictionary.	9	12	10	24	2.97	1.91
9. Word lists.	15	23	13	4	3.04	2.50
10. Flash cards.	16	11	17	11	2.98	2.30

The next highest reported strategy used by the participants was checking for an L1 cognate in Arabic, which was used at different rates. Cognates are words that have an etymological origin, come from the same parent word and thus have a similar meaning in the two languages (Schmitt & Schmitt, 2020). L1 speakers of Romance languages (e.g., French, German, Portuguese) have an advantage when learning English due to cognates shared between these languages (De Bot et al., 1997; Koda, 1994; Schmitt et al., 2001; Tavakoli & Hayati, 2011). However, this is not the case with Arabic, which is a Semitic language derived from the Afro–Asiatic language phylum (Huehnergard & Pat-El, 2019). Finally, analyzing any available pictures or gestures (mean 3.33) was the third most useful discovery strategy, in which the learners fell back on their background knowledge of the topic/world to infer the meaning of unfamiliar words. According to the Schema Theory, knowledge of the topic (content schemata) can compensate for learners' limited knowledge of language (linguistic schemata), for example insufficient vocabulary, limited knowledge of grammar or the rhetorical structures of a text/speech (formal schemata), or a low proficiency level (Floyd & Carrell, 1987; Ibrahim, 2015).

In terms of social strategies when trying to uncover the meanings of new unknown words, the students preferred to ask their classmates during group work or their teachers, as seen in Table 2.

Table 2. Frequency of social determination strategies used for discovering meanings of new words

Social Determination Strategies	Always	Sometimes	Seldom	Never	Mean	SD
11. Ask teacher for an L1 translation.	12	25	8	10	3.09	2.62
12. Ask teacher for paraphrase or synonym of new word.	11	23	12	9	2.98	2.53
13. Ask teacher for a sentence including the new word.	13	21	14	7	2.98	2.54
14. Ask classmates for meaning.	24	18	7	6	3.35	2.89
15. Discover new meaning through group work activity.	22	16	9	8	3.28	2.84

Furthermore, working with a classmate on a task and discovering the meanings of words together was the second most preferred VLS. Working together on tasks provides language learners with opportunities to use the language. Swain (2006, p. 98) uses the term 'languaging' to refer to the activity or "process of making and shaping knowledge and experience through language", where language is viewed as a process rather than an object. During a task, learners can seek help from their classmates regarding the meanings of unfamiliar words as they do not feel shy, which they might do if asking the teacher. Such strategies are known as cooperative learning strategies, a social process where students work together to complete a task or solve a problem to achieve shared learning goals (Miyake & Kirschner, 2014; Zhang, 2010). Research on cooperative learning has revealed positive outcomes: it enhances student achievement (more

so for low-achieving students), enhances the depth of content understanding, and it promotes positive social relationships, motivation and speaking skills (Ehsan et al., 2019; Kagan, 1985). However, seeking help from another learner could also give rise to misinformation, which could impact a learner's vocabulary learning process (Al-Khresheh & Al-Ruwaili, 2020). Finally, asking the teacher for the L1 translation was the third most used VLS in this category. The use of L1 in an English classroom is still the subject of ongoing debate. Empirical evidence has reported that translating helps learners acquire the four language skills, especially vocabulary, idioms, and phrases (Liao, 2006). However, learners' proficiency plays a role in the effectiveness of translation, as it is useful for low and intermediate levels but not for advanced ones (Husain, 1995). In contrast, some researchers advocate that translation is useful for advanced learners since they have reached a high proficiency in the target language and alternatively can use the differences been their L1 and English to learn vocabulary and apply grammatical rules (Liao, 2006; Prince, 1996).

2. What vocabulary learning strategies do students use when learning taught words in their textbooks?

Learners reported using various strategies to learn previously encountered/taught words in their textbooks. The learners' vocabulary diary logs provided insights to justify their strategy use when learning words for their exam.

4.2 Consolidating Strategies

4.2.1 Social Strategies

In terms of social consolidation strategies used, the learners reported studying and practicing word meanings in a group, followed by using flash cards (see Table 3). Studying and practicing meaning is another example of cooperative learning, and one that was especially employed before quizzes and exams, as the diary data showed.

Table 3. Frequency of social consolidation strategies used to learn previously taught words

Social Consolidating Strategies	Always	Sometimes	Seldom	Never	Mean	SD
1. Study and practice meaning in a group.	14	18	11	12	3.07	2.63
2. Teacher checks students' flash cards or word lists for accuracy.	12	11	20	12	2.81	2.41
3. Interact with native-speakers.	8	15	14	18	2.84	2.40

Although research has found positive vocabulary learning/retrieval though the use of flashcards and word lists, they do have some serious weaknesses (Altiner, 2019; Komachali & Khodareza, 2012; Oxford & Crookall, 1990). Both flashcards and word lists are detached from any context. They depend heavily on memorization without the need to produce/use the word in context and

learning words with these methods may lead to a 'list effect' phenomenon. The list effect occurs when learners remember the order/position of the words and thus find them easy to remember but find it challenging to do so when encountering the word outside the flashcards/word list (Nakata, 2008). Interestingly, there was no reference to using flashcards or word lists in the participants' diary logs. One proposed explanation is that flashcards and word lists are the least used teaching technique in the Saudi context (Al-Seghayer, 2014; Fareh, 2010; Osman & Al-Homoud, 2015). An interesting finding in the study was that participants reported high responses for never learning words by interacting with native speakers of English. One possible explanation is that learners are not exposed to L1 speakers of English around them. Another rationale maybe to the status of English as a foreign language in Saudi Arabia. However, the diary data revealed that some learners worked with either friends or relatives when learning the target words but not L1 speakers of English. Some explained the words to friends or family members or practiced using the target word in a sentence with them to enhance their learning of the word.

4.2.2 Memory Strategies

Saudi female university learners favored memory VLSs the most (41.83%). They preferred simple and direct low-level mental processing strategies, which might be due to not being acquainted with deeper, more complex ones (Al-Khresheh & Al-Ruwaili, 2020). This is supported by a number of studies in the Saudi context, which report that Saudi EFL learners tend to focus on memorization and rote learning mainly for evaluation (exam) purposes (Alrabai, 2018; Elyas & Picard, 2010; Fareh, 2010). The current study also supports this finding. In terms of memory strategies, studying the sound of the word was used slightly more than saying the word aloud, followed by connecting the word with their personal experience (see Table 4). Uttering the sound of the word aloud is a VLS that has been cited in a large number of VLS studies (Catalan, 2003; Schmitt, 1997). However, the diary data revealed that the learners studied the sound of the word and repeated it aloud (cognitive strategy) while studying to facilitate recalling its meaning upon uttering it when encountering the word on tests.

Table 4. Frequency of memory strategies used to learn previously taught words

Memory Strategies	Always	Sometimes	Seldom	Never	Mean	SD
4.Study word with a pictorial representation of its meaning.	23	16	13	3	3.07	2.69
5. Image word's meaning.	28	18	5	4	3.27	2.87
6. Connect word to a personal experience.	37	11	3	4	3.47	3.06
7. Associate the word with its coordinates.	29	18	5	3	3.33	2.91
8. Connect the word to its synonyms and antonyms.	30	16	5	4	3.31	2.91

Memory Strategies	Always	Sometimes	Seldom	Never	Mean	SD
9. Use Semantic maps.	17	14	19	5	2.78	2.43
10. Use 'scales' for gradable adjectives.	9	19	20	7	2.55	2.18
11. Group words together to study them.	26	20	5	4	3.24	2.83
12. Group words together spatially on a page.	28	14	9	4	3.20	2.82
13. Use new word in sentences.	31	17	5	2	3.40	2.97
14. Group words together within a storyline.	15	13	16	11	2.58	2.30
15. Study the spelling of a word.	26	18	8	3	3.22	2.82
16. Study the sound of a word.	43	6	6	0	3.67	3.20
17. Say new words aloud when studying.	43	6	5	1	3.65	3.20
18. Image word form.	32	14	6	3	3.36	2.95
19. Underline initial letter of the word.	13	8	9	25	2.16	2.01
20. Use Keyword Method.	23	15	9	8	2.96	2.64
21. Affixes and Roots (remembering).	22	17	10	6	3.00	2.65
22. Part of Speech (remembering).	23	17	6	9	2.98	2.66
23. Paraphrase the words meaning.	24	14	15	2	3.09	2.70
24. Learn the words of an expression/idiom together.	17	20	11	7	2.85	2.51
25. Use Physical action when learning a word.	33	11	7	4	3.33	2.94

Connecting words to a personal experience was reported in the diary data by some participants. For example, one student explained that when learning the word 'fireworks' she tied it to her experience of hearing the word when she attended events and celebrations, in addition to hearing the word a lot in movies. Another interesting example is what one learner wrote regarding the target word 'expensive'. She wrote: "Once we were travelling aboard and my mother wanted me to inform the shop assistant that the item is expensive. So, I translated the word into English and was able to communicate to the shop assistant. So, every time I meet this word, I remember what happened". The previous examples are a form of incidental vocabulary learning in which learners are introduced to words indirectly as opposed to direct

approaches like teaching. This supports the claim that vocabulary learning is an incremental process in which each encounter adds more knowledge about the word (Nation & Webb, 2011; Schmitt, 1998, 2010).

4.2.3 Cognitive Strategies

Regarding cognitive VLSs, the most frequently used strategy in this group was verbal repetition, followed by listening to the word and written repetition of the word (see Table 5). This finding in in line with Schmitt's (1997) study; his Japanese EFL learners tended to favor shallow processing strategies like written and verbal repetition. "Repetition is the key way of combatting forgetting" (Schmitt & Schmitt, 2020, p. 172). Some researchers regard verbal repetition as a retrieval strategy than a VLS, where learners recall the meanings though the word's phonetic or graphic features (Al-Ahmadi, 2020; Paribakht & Wesche, 1999; Rahbarian & Oroji, 2014). In their diary logs, a handful of participants explained that they used online dictionaries, Google and YouTube to listen to the target words. They rationalized this by saying it helped them to recall the meaning of the words by uttering them quietly during exams.

Table 5. Frequency of cognitive strategies used to learn previously taught words

Cognitive Strategies	Always	Sometimes	Seldom	Never	Mean	SD
26. Verbal repetition.	44	8	2	1	3.78	3.25
27. Written Repetition.	32	11	11	1	3.39	2.93
28. Word Lists.	23	15	12	5	3.22	2.66
29. Flash Cards.	16	11	18	10	2.96	2.31
30. Take notes in class.	22	18	13	2	3.17	2.69
31. Use the vocabulary section in textbooks.	22	16	11	6	3.22	2.64
32. Listen to the word.	40	12	12	0	3.44	3.00
33. Put English labels on physical objects.	10	9	17	19	2.81	1.94
34. Keep a vocabulary notebook.	18	7	18	12	3.00	2.31

4.2.4 Metacognitive Strategies

Finally, regarding metacognitive VLSs, the current study found that these were the least

favored among all the strategies (9.05%). The learners preferred to use English media to practice using the learned vocabulary (see Table 6). There are a number of explanations for this. First, English media is easily accessed via mobile phones, which participants always have access to, ranging from YouTube to social media platforms like Instagram, Snapchat, and TikTok. This provides EFL learners with an opportunity to be exposed not only to authentic language material but also to learn other vocabulary aspects related to the target words (e.g., form, usage, synonyms), thus adding to the incremental nature of vocabulary learning (Nation, 2012; Schmitt, 2010; Stoffer, 1995). Furthermore, using media is a source of learning motivation, as one learner explained: "a lot of words I learn in class I have heard before through watching movies, watching movies, it is an interesting way to learn". Another participant said that she learned the target word '*gift*' by following Snap or TikTok influencers, where she repeatedly heard the word.

Table 6. Frequency of metacognitive strategies used to learn previously taught words

Metacognitive Strategies	Always	Sometimes	Seldom	Never	Mean	SD
35. Use English-language media (songs, movies, etc.).	32	17	4	2	3.44	3.00
36. Testing oneself with word tests.	20	18	14	3	3.00	2.61
37. Use spaced word practice.	19	19	16	1	3.02	2.61
38. Skip or pass new word.	6	8	11	30	1.82	1.61
39. Continue to study word over time.	14	27	11	3	2.95	2.53

Next, using spaced practice was a strategy used by most of the participants The findings of vocabulary studies report that spaced learning leads to greater revelation of word knowledge than mass learning, in which learning occurs without an interval between repeated encounters (Durrant et al., 2022; Kim & Webb, 2022; Nakata, 2015). Spaced practice was mentioned in the diary entries. One student explained that she tried to use the new word on the same day as it was presented in class, throughout the day, as this helped her to remember the word. Another explained that she first translated the word into Arabic, then used the word in different sentences so it would be easy for her to identify the meaning when she met the word. Finally, testing themselves on the learned words was the third most resort to strategy. Learning words in a foreign/second language is a gradual process that requires a great deal of repetition (Pellicer-Sánchez & Schmitt, 2010; Webb, 2007; Webb & Nation, 2017). Testing learned words is a type of retrieval practice which strengthens the learning and retention of words (van den Broek et al., 2018).

5. Implications of the Study

To allow deeper processing of lexical items, teachers need to expose and teach Saudi EFL learners to a range of VLSs. Explicit instruction has a positive impact on language learners' vocabulary acquisition. One implication of the study is that teachers need to teach and train learners to use VLSs. This could raise learners' awareness about these strategies since few of them may use/adopt these strategies automatically or they may not even know of the existence of some of them. This requires informed teachers for successful VLS training for students (Takač, 2008). This can be achieved by gaining knowledge about learning strategies from training courses, workshops, and seminars. Furthermore, Saudi EFL learners need more direct teaching of metacognitive strategies. Learners who lack metacognitive strategies in their learning are "learners without direction or opportunity to plan their learning, monitoring their process, or review their accomplishments and future learning direction" (O'Malley & Chamot, 1990, p. 8).

6. Limitations and Further Research

This is a small exploratory study that aimed to discover and understand the VLSs, both discovery and determination, that Saudi EFL university learners employed. However, caution is needed in the interpretation of the data due to some limitations of the study. First, sample size was a limitation. Although it was sent to five randomly chosen classes (150 participants) only 55 responses to the questionnaire were received. Second, learners' proficiency level plays a role in their choice of VLS usage (Al-Ahmadi, 2020; Alyami, 2011; Griffiths, 2003). Students' proficiency level was not part of this study, so the frequency of strategies reported might be affected to a certain extent by the varying proficiency levels of the sample. Therefore, future studies should include proficiency level in their research when profiling their sample. Third, strategies are sometimes used in combination, which the questionnaire used in this study did not capture (Cohen, 2014; Cohen & Macaro, 2007; Schmitt, 2007). Although diary logs were used to capture these combinations, they were not used by the whole sample due to time and financial restrictions. However, this method could be applied to larger samples with research teams and it will provide interesting qualitative findings.

7. Conclusion

The current study aimed to identify and explore the VLSs that first-year Saudi EFL learners employed to uncover the meaning of unknown words and learning previously encountered words. The questionnaire results showed that the learners used memory strategies the most, followed by determination, cognitive, social and finally metacognitive strategies. The vocabulary diary log provided some further insights into the reasons why learners used certain strategies when learning previously encountered words. In the present study, the learners reported a preference for simple mechanical VLSs like memorization and repetition, which do not require manipulation of information like complex strategies such as inferencing and imagery. Vocabulary research has proved evidence that the more involvement and effort that learners engage/put in, whether deriving the meanings of unknown words in a text or learning previous encountered (learned) words, the stronger/better the retention of these words is (Craik & Lockhart, 1972; Craik & Tulving, 1975; Hulstijn & Laufer, 2001). A vital element in learning

a language is vocabulary, and the use of VLSs has a positive effect. It expands students' vocabulary size and develops their metacognitive awareness when they reflect on their own learning (Bornay, 2011; Nirattisai & Chiramanee, 2014; Oxford & Scarcella, 1994), In the classroom, teachers can provide aid and expose language learners to a variety of VLSs, including their application in the classroom, taking into account that such strategies should be adapted to the students' proficiency level.

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Data sharing statement

No additional data are available.