| RESEARCH ARTICLE

Vocabulary Learning Strategies Used by Saudi Undergraduate Students at King Khalid University

Ranya Abdulaziz Aldhabaan[1] and Wafa Saud[2] ✉

[12]*Department of Teaching English as a Foreign Language, College of Languages and Translation, King Khalid University, Abha, Saudi Arabia.*
Corresponding Author: Wafa Saud, **E-mail**: wesaud@kku.edu.sa

| ABSTRACT

This study examines the vocabulary learning strategies employed by undergraduate students at King Khalid University in Abha, Saudi Arabia. Its objective is to identify the most prominent strategies used by Saudi undergraduate students at King Khalid University that are concerned with discovering the meaning of new words, vocabulary note-taking, and vocabulary retention and memorization. The research employed a quantitative approach with a descriptive design, collecting data from 84 female undergraduate English students through a structured questionnaire. Statistical analysis was performed using SPSS. The findings demonstrate the prevalence of various strategies, such as contextual guessing, seeking assistance, dictionary use, note-taking techniques, repetition, association, and consolidation. Repetition was the most commonly used strategy, followed by association and practice. The study emphasizes the significance of tailored instructional methods and provides recommendations for improving vocabulary instruction in language education. Ultimately, this research enhances our understanding of vocabulary learning processes and guides evidence-based practices in language education.

| KEYWORDS

1. Introduction

Vocabulary acquisition is one of the most crucial aspects of language learning, which has important implications for understanding, communication, and academic performance (Sun & Yin, 2022). Knowledge of words is central to non-native speakers, especially in academic environments, where command of vocabulary is essential to meaningfully engage with course materials and improve overall linguistic ability (Alrashidi, 2022). Vocabulary learning strategies (VLS) provide learners with systematic methods for the acquisition and retention of vocabulary, encompassing techniques such as mnemonic aids, contextual inference, and frequent exposure. These strategies serve to enhance lexical retention while simultaneously enabling students to tailor their learning experiences, thereby making language acquisition more attainable (Yaacob et al., 2019).

In the Saudi Arabian context, undergraduate students also face unique challenges in learning English vocabulary, often influenced by linguistic and cultural differences, on top of the limited chances of experiential English exposure (Al Roomy & Alhawsawi, 2019). While the effectiveness of vocabulary acquisition strategies has been well established in different educational settings, there remains a gap in existing research regarding preferences and effectiveness of these strategies with regard to Saudi students, specifically at the tertiary education level. This gap highlights the need for more focused research on how Saudi students approach the learning of vocabulary and what strategies work best to support their development.

This would be important because it would seek to understand the VLS preferences of Saudi undergraduates at King Khalid University and assess the effectiveness of the strategies on vocabulary acquisition. Given the importance of English in academic and professional fields, this study will allow educators and policymakers to design curricula and support resources that will more fittingly address the vocabulary learning needs of students.

The goal of this study is to look into the vocabulary learning strategies employed by undergraduate students in Saudi Arabia studying at King Khalid University, with a view to determining how these strategies facilitate acquisition. More specifically, the study seeks to answer the following questions:

1. What are the most prominent strategies related to discovering the meaning of new words used by Saudi undergraduate students at King Khalid University?
2. What are the most prominent strategies related to vocabulary note-taking used by Saudi undergraduate students at King Khalid University?
3. What are the most prominent strategies related to retention and memorization used by Saudi undergraduate students at King Khalid University?

By addressing these questions, this study aims to provide a clearer understanding of effective vocabulary learning strategies among Saudi students, ultimately supporting improved language learning practices and outcomes.

2. Significance of the Study

This research holds several implications for language educators, curriculum developers, and policymakers. By identifying the most effective vocabulary learning strategies used by Saudi undergraduate students at King Khalid University, educators can tailor their instruction to better meet the needs and preferences of their students. The findings of this study can inform the development of evidence-based curricula and instructional materials that promote effective vocabulary learning strategies. By incorporating these strategies into language programs, educators can optimize students' vocabulary development and overall language proficiency.

 Moreover, the findings of this study can contribute to the existing body of knowledge in the field of language learning strategies. While there is a substantial body of research on vocabulary learning strategies, most studies focus on general language learners or specific populations in different contexts. The findings can serve as a valuable resource for researchers interested in exploring vocabulary acquisition and instructional practices in similar contexts. In addition, by addressing the research questions and objectives described in this paper, a comprehensive understanding of students' strategies can be obtained, and their language learning enhanced.

3. Literature Review

3.1. Theoretical Framework

Constructivist theory is one of the major frameworks in psychology and education, since it views individuals as actively constructing their understanding and knowledge of the world based on experiences and reflection. Identified closely with Jean Piaget and Lev Vygotsky, this theory assumes that learning is an active process of meaning-making and not just the simple absorption of information. Constructivism suggests that learners build upon their prior knowledge and existing cognitive structures to make sense of new information and experiences (Waite-Stupiansky, 2022). In the context of vocabulary acquisition, constructivism would suggest that learners are actively involved in the process of acquiring new words and their meanings. Instead of being passive recipients of vocabulary instruction, learners engage actively in the process through various strategies to grasp new vocabulary (Bai, 2018; Suhendi, 2018). For instance, students may guess the meaning of the word by using their previous knowledge and contextual information when they come across unfamiliar words. They may also ask friends or teachers for help in order to be involved in social interaction and make meaning negotiable.

In the constructivist's view, a number of impactful learning experiences would provide learners with the opportunity to actively develop their knowledge of vocabulary. These may include experiential activities, problem-solving assignments, and practical applications that will encourage students to apply their knowledge in real-life situations (Chuang, 2021). This will increase the chances of learners internalizing new words and concepts through active engagement with the vocabulary in meaningful ways.

3.2. Conceptual Framework:

 Wahyudin et al. (2021) explained that vocabulary learning strategies are the different methods, techniques, or approaches used by individuals to effectively learn and recall new words with their meanings. Some of these include contextual guessing, mnemonics, word association, and spaced repetition. These have been formulated to fit the different needs, preferences, and learning styles of language learners, providing them with the tools necessary to cope with the challenges associated with learning vocabulary (Ghalebi et al., 2020).

Another important vocabulary learning strategy involves the use of mnemonic devices—that is, methodologies that establish associations or cues to aid in the retention of vocabulary. Mnemonic devices tap into the cognitive functions of visualization, association, and repetition for retaining information in long-term memory (Meiwei, 2023). For instance, learners might use acronyms, rhymes, or images to successfully store new vocabulary in their memories for future retrieval and use in speaking and writing.

3.3. Empirical Studies on Vocabulary Learning Strategies among EFL Learners.

Al-Bidawi (2018) investigated VLS used by Saudi undergraduate EFL students with a focus on the sub-strategies of Schmitt's taxonomy (1997). The study had a quantitative survey design which relied on a sample of 94 undergraduates recruited from Al Jouf University. A questionnaire based on Schmitt's taxonomy with very minor modifications was used to collect data. The results show that social strategies were most preferable for Saudi undergraduate EFL learners, followed by cognitive, metacognitive, and determination strategies. The memory strategies appeared to be the least preferred among the participants.

In the same vein, Alqarni (2018) carried out a study on VLSs that sought to explore the vocabulary learning strategies employed by Saudi first-year students in the EFL major. The study was conducted at King Saud University. A sample of 81 students, male only, from the first semester in the English Department and Translation at the College of Languages and Translation was selected. The data collection procedure employed a questionnaire designed in line with Rabadi's (2016) study, while the analysis was carried out using SPSS software. The findings demonstrated that participants used different vocabulary learning strategies like determination, memory, cognitive, metacognitive, and social strategies but with percentages of low and high frequencies. More specifically, metacognitive strategies have been the most used and/or preferred ones, followed by social, determination, cognitive and memory strategies, respectively.

Alyami (2018) Investigated and described the use of Vocabulary learning strategies to learn second-language vocabulary from the perspective of Najran University students in Saudi Arabia. It included a sample of 158 students who were studying in the final two years of bachelor's programs at Najran University. The sample includes 82 students who study in English majors and 76 students who study in computer science majors. This study used the mixed methods approach. The instrument was carried out through a questionnaire survey that had questions related to learners' background information and sets of VLSs. Semi-structured interviews were carried out as another instrument. The results indicated that students from both majors utilized translation into their native language as a strategy to comprehend unfamiliar vocabulary. Furthermore, individuals in both fields demonstrated minimal enthusiasm for systematically arranging the words they documented (for instance, organizing terms alphabetically or using index cards). Furthermore, the research indicated that English majors used a much broader range of deep processing strategies than computer science majors, including decomposing the structure of unfamiliar words and recording higher scores for the self-rated efficiency of the vocabulary learning strategies.

On the other hand, Alshammari (2020) conducted a study to identify the factors that affect English language proficiency among college students in Saudi Arabia. The researcher narrowed the scope of the study to vocabulary acquisition in order to determine the relationship between students' vocabulary levels, academic achievements in specialized vocabulary courses, standardized test scores, and their language learning strategies. A total of 85 students, both male and female participants, were involved in this study. They were administered a vocabulary test to determine independent proficiency levels. Their performance in specific classes focusing on vocabulary was compared with their scores on standardized tests, and their language learning strategies were assessed through self-report tools. The main findings revealed some remarkable differences between high and low achievers in the choice of strategies. High achievers adopted a balanced approach, giving equal importance to all language learning strategies, whereas low achievers relied mostly on metacognitive and memory strategies.

Alahmad (2020) investigated vocabulary learning strategies (VLS) employed by Saudi female undergraduate English as foreign language (EFL) learners throughout each stage of the vocabulary learning process (VLP) and investigated their relationship with vocabulary size. This research sought to understand how learners' strategic choices influence their vocabulary acquisition. The sample consisted of 41 final-year undergraduate students majoring in English at an electronic Saudi university. Two instruments were utilised to gather data: a vocabulary size test and a questionnaire about the frequency-of-use based on a learning process-oriented taxonomy of VLSs. Data analysis showed that participants frequently used 17 strategies at different stages of the VLP, with cognitive and metacognitive strategies being the most salient. Furthermore, while some strategies showed positive relations to vocabulary size, other strategies, which are commonly viewed as effective for learning vocabulary, showed negative relations.

Furthermore, Alahmadi and Foltz (2020) conducted a study on vocabulary learning strategies that aimed to investigate the relationship between vocabulary learning strategy usage, proficiency in language domains, and the acquisition of vocabulary among advanced Arabic-speaking learners of English as a second language (L2). In this study, sixty-one participants carried out reading tasks with target words from semi-authentic materials under either a 'guessing' or a 'dictionary' instruction. Both pre- and delayed post-tests measured vocabulary size and retention of knowledge. The results showed that the effectiveness of learning through inferencing was dependent on learners' prior knowledge of the strategy, while using a dictionary had no significant effect on the acquisition of vocabulary. Additionally, complex interactions between note-taking, reading comprehension, and lexical knowledge were revealed by the study, which suggested nuanced influences on vocabulary acquisition among L2 learners.

Hadi and Guo (2020) carried out a study on vocabulary learning strategies with the purpose of investigating "Beliefs about Vocabulary Learning and Vocabulary Learning Strategies" among Afghan EFL Learners at Shaikh Zayed University, Afghanistan, focusing on the identification of the most and least adopted strategies by the learners. A questionnaire developed by Gu (2018) was completed by 177 undergraduate participants, including 155 males and 22 females. The questionnaire consisted of four subscales: beliefs about vocabulary acquisition, metacognitive regulation of vocabulary learning, cognitive strategies in vocabulary acquisition, and affective strategies in vocabulary learning. The findings revealed some important observations: a preference among students for learning vocabulary in context rather than memorization, the ability of the students to identify and understand critical words, a desire for additional readings and feedback that are supportive, a reliance on the use of dictionaries, inferencing, repetition, and auditory processing most predominantly for acquiring vocabulary, and efficiently managed emotional regulation during the learning process, filled with both positive and negative emotions.

To determine the meanings of new words, Saudi undergraduate learners employ a variety of vocabulary discovery procedures. Ali (2020) built his study to explore these research topics. Fifty male students took part in this descriptive and analytical kind of study using purposive sampling. Data were gathered using a vocabulary test and a questionnaire. The results of the study showed that EFL Saudi students usually use a variety of sub-strategies to estimate the meanings of unknown vocabulary when they are reading a document to understand it. The method of social engagement was the least utilized. Furthermore, results showed that there was a strong positive and negative correlation between the strategies that students employed and their vocabulary test scores. The results indicated that more activities in textbooks should be written by teachers to help students practice effective vocabulary learning strategies, like making well-informed assumptions.

Furthermore, Altalhab (2023) conducted a study on vocabulary learning strategies that aimed to evaluate the VLSs that 40 Saudi undergraduate students had utilized for their pair work. The research additionally looks into the possible relationships between the kind of task accomplished and the utilization of particular strategies. Reading comprehension with multiple-choice questions and reading comprehension with "filling in the gaps" were the two tasks that were used. Each chat between the partners was recorded on audio. Based on the outcomes, three VLSs were mainly used in the pair tasks: "using a dictionary", "guessing the meaning from context", and "asking the other student for help". Moreover, a statistically significant association was observed between the type of task and specific strategies, such as seeking assistance and making inferences about meaning based on context.

These studies share a common focus on investigating various aspects of vocabulary learning strategies and vocabulary acquisition among language learners, particularly in the context of English as a Foreign Language (EFL) learning. They employ diverse methodologies, including quantitative surveys, quasi-experimental designs, and qualitative interviews, to explore the usage of vocabulary learning strategies.

In the context of reviewing the aforementioned studies and research, we found that the studies of Alshammari (2020), Al-Bidawi (2018), Alqarni (2018), Ali (2020), Alyami (2018), Alahmad (2020), and Altalhab (2023) are similar in targeting Saudi students at different universities but differ in the methodologies and research tools used. Some of them relied on a single approach and tool, such as tests or questionnaires. This monolithic methodology is not sufficient to study English vocabulary learning strategies. It was supposed to combine two tools or methodologies to reach more accurate and reliable results. Alyami's (2018) study was unique in using interview and questionnaire tools to study the English vocabulary learning strategies of Najran University students, in addition to choosing a sample size that is the largest at the level of previous studies mentioned above. This makes the study of Alyami (2018) distinctive and meets the criteria of accuracy and confidence, and its results in addition to the results of other studies can be taken as a preliminary indicator of the quality of strategies used to learn English vocabulary in the Kingdom of Saudi Arabia. In the same context, at the local level, studies differed in their findings. Alshammari (2020), Alqarni (2018), and Alahmad (2020) agreed on the emergence of the use of meta-knowledge strategies. Conversely, Alyami (2018) and Altalhab (2023) agreed that translation into the first language and the use of the dictionary is the most commonly used strategy.
Al-Bidawi (2018) found that social strategies are the most used. Unlike Al-Bidawi (2018), Ali (2020) found that social strategies are the least used among students.

In the context of critiquing the rest of the studies, Alahmadi and Foltz (2020) used tests as a study tool, while Hadi and Guo (2020) used the questionnaire tool. These two studies do not differ from other studies using a single research instrument. This is generally taken for the studies mentioned. As for the results, the two studies agreed that students prefer contextual learning methods rather than memorization. The study of Hadi and Guo (2020) agreed with Alyami (2018) and Altalhab (2023) in students' usage of translation strategies and dictionary use significantly.
The examination of prior research on English vocabulary learning strategies reveals a consensus on the objective, which is to understand the strategies students employ in vocabulary learning. However, this study is unique in its focus on the student body

of King Khalid University in Abha, a demographic previously unexplored within the Saudi Arabian context. The review of earlier studies has informed the theoretical framework of this investigation, and the forthcoming chapter will delve into the adopted methodology, research techniques, participant selection, and the specifics of the study group.

4. Methodology

The main objective of the current study is to investigate vocabulary learning strategies (VLS) used by Saudi undergraduate students at King Khalid University and to understand their preferences and attitudes toward vocabulary learning. A quantitative research approach was selected to achieve the objective of the present study, specifically descriptive design. This methodological framework provides a systematic exploration and description of vocabulary learning strategies; therefore, it leads to crucial information regarding their frequency and distribution. The choice for a quantitative methodology is motivated by the focus of this research on understanding how students use strategies of vocabulary to better their acquisition of language. This approach will seek to increase the literature base on language learning strategies through the collection of empirical evidence and the use of quantitative data, which will further inform educational practices.

With the focus of the study placed on understanding how students use vocabulary strategies to enhance their vocabulary acquisition, it is proper to have a quantitative approach, as it will bring empirical evidence and quantitative data that can inform practices in education and contribute to the body of knowledge of language learning strategies.

4.1. Participants

The target population of the present study comprises Saudi female undergraduate English students enrolled at the College of Languages and Translation at King Khalid University in Abha. The present study aimed to investigate participants' strategic behavior with regard to their use of different vocabulary learning strategies (VLSs). All participants had studied English for six years in secondary and intermediate school and then for a further two years in the English major.
A cohort of 84 female students was selected from the target population to participate in the research. The participants were in the final two years of their specialization in the English language, with ages roughly ranging from 20 to 23 years. The reason for selecting this group of participants was that they were undergraduate students majoring in English, which helped ensure that their characteristics conformed to the purposes of the study and that an analysis of vocabulary acquisition strategies could be performed in a setting that was already familiar to them.

The method used to collect the sample was random sampling, where participants were chosen based on their availability and suitability for the study. This allowed for the selection of participants who met the specific requirements set out to be included in the study and thus ensured that the sample accurately represented the target population. The recruitment of participants began by selecting potential candidates from the target population of Saudi female undergraduate students studying English at the College of Languages and Translation at King Khalid University in Abha. A random sampling technique was applied to select 84 individuals who met the inclusion criteria of being in the final two years of study in the English language course and being roughly between the ages of 20 and 23 years. Once the potential participants were identified, full information about the study was provided to them, including its purpose, procedures as well as possible risks and benefits. The participants were assured of confidentiality and told about their right to discontinue participation in the study at any time without any repercussions.

4.2. Instruments and Measures

The main data collection instrument used in this study was the Vocabulary Learning Strategies Questionnaire (VLSQ), which was adopted from the study conducted by Alyami in 2018. The VLSQ was chosen because, in previous studies, it has been found to be valid and reliable. That aside, some modifications were made to the instrument to fit the objectives of this research, in which case, it explored the use of VLS among female undergraduate English students in Saudi Arabia at King Khalid University. The VLSQ used in the present study was divided into three main categories each of which was concerned with different aspects of vocabulary acquisition strategies. The first category was a meaning discovery strategy and contained three parts: guessing techniques (five items), consulting others (six items), and types of information learners look up in dictionaries (six items). The second category investigated techniques relevant to vocabulary note-taking, with one dimension: what kind of information learners write down (seven items). Lastly, the third category explored retention and memorization strategies, in which there were three dimensions: repetition strategies (four items), association strategies (seven items), and practice strategies (four items). These dimensions provided a comprehensive scale for analyzing participants' beliefs and experiences about various vocabulary learning strategies (see Appendix A).

The calculated Cronbach's alpha coefficient was 0.922, which is very close to the alpha value in Alyami's study (2018), where it was 0.906. A value of this nature suggests a high and excellent degree of reliability, meaning that the findings are consistent and do not vary greatly from each other. On that line, this result lends an evidence toward the acceptability of the questionnaire regarding

its use for research purposes and data collection. The questionnaire was distributed electronically via Google Forms, and the link was shared primarily with undergraduate students through the WhatsApp application. The participant was guided to complete the questionnaire conveniently within a specified period.

Participants were asked to respond to the questionnaire items based on their personal experiences and preferences related to vocabulary learning. In all, the procedures put in place were aligned with ethical guidelines and standards for research involving human participants. The study attempted to secure the integrity and reliability of the findings it produced by obtaining informed consent from respondents, observing the confidentiality of data, and managing these data rigorously. For the questionnaire, see Appendix A.

4.3. Data Collection and Analysis
Data collection was based on the questions given by the researcher, depending on a questionnaire tool to explore the perceptions of participants toward VLS. After sending the questionnaire via Google Forms and WhatsApp, data collection started once the responses were coming from the undergraduate students studying in the Department of English Language at King Khalid University. During data analysis, the researcher coded the responses collected numerically in order to categorize and organize them. Then, the data were imported into SPSS, version 25, for statistical analysis.

The researcher used descriptive statistics, including frequency, percentage, mean, standard deviation, and relative weight mean rank, in summarizing responses given by the participants with a view to establishing the importance of different vocabulary learning strategies. Furthermore, reliability analysis was conducted to ensure that the items in the questionnaire were consistent and accurate. These analytical procedures were consistent with the research questions and had the capability of making an in-depth examination of the participants' use of VLS.

5. Results
This section discusses the results of a research study conducted at King Khalid University, to identify the vocabulary acquisition strategies used by undergraduate students in Saudi Arabia. The study included data analysis and interpretation to answer some of the most fundamental research questions concerning the ways that students use to determine the meanings of unknown words, their strategies for making vocabulary notes, and their methods for retention and memorization. It further contains sections which give a detailed analysis of the different strategies student use to understand unfamiliar vocabulary, research on their preference and means for recording vocabulary notes, and analyses of their techniques for reviewing and memorizing words with the use of mnemonic devices and repetition techniques.

5.1. Strategies concerned with discovering the meaning of new words
The first objective of this research is to identify the most prominent strategies related to discovering the meaning of new words used by Saudi undergraduate students at King Khalid University. The results obtained from the three sub-categories, VLSD1, VLSD2 and VLSD3, shed light on the frequency of different strategies used by students. The following tables demonstrate the results obtained from the survey responses, including means, standard deviations, relative weights, and rankings relevant to each strategy category related to the investigation of new word meanings.

Table 1. Descriptive Statistics for VLSD1 (N = 84)

VLSD1. Guessing strategies: I guess the meaning of the unknown word by:											Mean	SD	RW	Rank
	Never		Rarely		Sometimes		Often		Always					
Statement	F	%	F	%	F	%	F	%	F	%				
1. Checking if it is similar to Arabic in sound (e.g. shy in English and /shai/ in Arabic "tea")	2	23.8	13	15.5	20	23.8	11	13.1	20	23.8	2.98	1.489	59.60	5
2. Analyzing the structure of the word (e.g. prefixes, suffixes; misunderstanding.	0	0	5	6	22	26.2	18	21.4	39	46.4	4.08	0.984	81.60	2

Statement	F	%	F	%	F	%	F	%	F	%	Mean	SD	RW	Rank
And compounds: sunflower etc.).														
3. Analyzing the word part of speech (e.g. verb, noun, adjective...etc.).	5	6	3	3.6	21	25	24	28.6	31	36.9	3.87	1.138	77.40	4
4. Paying attention to pictures if they accompany the word or text.	2	2.4	9	10.7	11	13.1	20	23.8	42	50	4.08	1.132	81.60	3
5. Reading the sentence or paragraph containing the unknown word.	1	1.2	2	2.4	10	11.9	14	16.7	57	67.9	4.48	0.885	89.60	1
Average											3.90	1.13	77.96	

Table 1 demonstrates the frequency distribution of the guessing strategies used by Saudi Arabian undergraduate students studying at King Khalid University in decoding unfamiliar vocabulary, focusing on mean values. Notably, the top-scoring approach revealed that the most used involves using contextual clues within sentences or paragraphs, with an average score of 4.48, indicating the very important role played by context in determining word meaning. Examination of word structure, such as identification of prefixes and suffixes, was considered important, with a mean score of 4.08. Visual aids, such as accompanying pictures, were also considered necessary, with the same mean score. However, other methods, like comparing with Arabic or parsing the word components based on their speech parts, received lower mean scores, indicating they were not frequently used. The results of this study underscore that learners utilize a combination of contextual, structural, and visual strategies to enhance understanding when faced with unfamiliar vocabulary.

Table 2. Descriptive Statistics for VLSD2 (N = 84)

VLSD2. Asking Others: I request help from (colleagues, friend, teacher, relative, language competent or native speaker) regarding an unknown lexical item by Asking them about

Statement	Never		Rarely		Sometimes		Often		Always		Mean	SD	RW	Rank
	F	%	F	%	F	%	F	%	F	%				
6. Its equivalent Arabic meaning.	3	3.6	4	4.8	19	22.6	20	23.8	38	45.2	4.02	1.097	80.40	2
7. Its definition in English.	3	3.6	9	10.7	23	27.4	20	23.8	29	34.5	3.75	1.15	75.00	4
8. Its spelling or pronunciation.	2	2.4	3	3.6	14	16.7	19	22.6	46	54.8	4.24	1.013	84.80	1
9. An example sentence.	3	3.6	13	15.5	21	25	12	14.3	35	41.7	3.75	1.25	75.00	3
10. Its grammatical category.	6	7.1	8	9.5	21	25	19	22.6	30	35.7	3.7	1.249	74.00	5
11. Its synonym & antonym in English.	6	7.1	17	20.2	21	25	17	20.2	23	27.4	3.4	1.281	68.00	6
Average											3.81	1.17	76.20	

Table 2 presents the frequency distribution of seeking assistance from different sources to understand unfamiliar words. Mean values provide an overview of how prevalent each type of inquiry is. Notably, inquiries about spelling or pronunciation are the most common request, with a mean value of 4.24, indicating the importance of accuracy in pronunciation and writing. Following closely, asking for the Arabic equivalent of unknown words, with a mean score of 4.02, indicating a strong reliance on Arabic translations. Additionally, seeking English definitions is notable, with a mean score of 3.75, emphasizing the importance of clear explanations in the target language. Similarly, students often seek example sentences, as shown by the mean score of 3.75, highlighting the value of contextualization. While requests for grammatical categories and synonyms/antonyms receive lower mean values of 3.7 and 3.4, respectively, they still indicate moderate utilization. Overall, the findings underscore the varied approaches students use to understand new words, encompassing translation, pronunciation, definition, usage examples, and contextual or structural understanding, showcasing the multifaceted nature of vocabulary acquisition.

Table 3. Descriptive Statistics for VLSD3 (N = 84)

VLSD3. Using Dictionary: I look up the unknown word by using Dictionary and check													
	Never		Rarely		Sometimes		Often		Always		Mean	SD	RW	Rank
Statement	F	%	F	%	F	%	F	%	F	%				
12. Its Arabic meaning.	3	3.6	16	19	22	26.2	19	22.6	24	28.6	4.25	1.063	85.00	1
13. Its spelling.	5	6	10	11.9	18	21.4	20	23.8	31	36.9	4.04	1.08	80.80	2
14. Its part of speech (i.e. verb, adjective, noun,..etc).	1	1.2	6	7.1	15	17.9	11	13.1	51	60.7	3.81	1.187	76.20	4
15. Its English meaning.	1	1.2	7	8.3	20	23.8	16	19	40	47.6	3.96	1.103	79.20	3
16. Its synonym or antonym.	1	1.2	14	16.7	20	23.8	14	16.7	35	41.7	3.54	1.197	70.80	6
17. Looking for example sentences.	1	1.2	11	13.1	13	15.5	24	28.6	35	41.7	3.74	1.243	74.80	5
Average											3.89	1.15	77.80	

Table 3 illustrates the frequency distribution of looking up unknown words in dictionaries; the mean values serve as an indication of the prevalence of each action. The most noticeable finding was that searching for the Arabic meaning of unknown words was by far the most frequent activity, scoring an average of 4.25. This reveals a significant trend among students in using dictionaries to translate words into Arabic, thereby reinforcing the notion that understanding terms in one's native language is crucial. Similarly, checking the spelling of unfamiliar words draws heavy attention with an average score of 4.04. This highlights the very important role that correct spelling plays in ensuring that communication remains effective and meaningful. The search for the English meaning of unknown vocabulary has an average score of 3.96, a sign that shows necessity in understanding terms in the target language. Identifying the grammatical category of unknown words is also one of the frequent activities carried out with an average score of 3.81, meaning that the importance of grammatical knowledge is realized in the process of language comprehension. Search for illustrative example sentences was moderately done as reflected by an average score of 3.74. The mean value for the process of searching for synonyms or antonyms is 3.54, which shows a lower rate of use for such a function. The findings bring into light the way students use dictionaries to help them understand unfamiliar words and phrases through translation, orthography, grammatical analysis, and contextual interpretation.

Among the three sub-categories, guessing strategies (VLSD1) were the least used compared to seeking help from peers (VLSD2) and using dictionaries (VLSD3). They also tend to use outside material to help them learn new words. In a nutshell, the results show that Saudi undergraduate students at King Khalid University use various strategies to infer the meanings of unknown words. While guessing strategies, context analysis, and seeking help from other people are very common approaches, the use of dictionaries is one of the most prominent and reliable methods of vocabulary acquisition.

5.2. Strategies concerned with vocabulary note-taking
The second objective of this research is to identify the most prominent strategies related to vocabulary note-taking used by Saudi undergraduate students at King Khalid University. The results from the VLSD4 category provide insights into the frequency of various note-taking strategies employed by students. Table VLSD4 presents the survey responses, including means, standard deviations, relative weights, and rankings for each statement related to vocabulary note-taking strategies.

Table 4. Descriptive Statistics for VLSD4 (N = 84)

VLSD4. When I take vocabulary notes, I write down the English word:														
	Never		Rarely		Sometimes		Often		Always		Mean	SD	RW	Rank
Statement	F	%	F	%	F	%	F	%	F	%				
18. With its Arabic translation.	3	3.6	7	8.3	14	16.7	21	25	39	46.4	4.02	1.14	80.40	1
19. I write down their English definition.	4	4.8	7	8.3	23	27.4	25	29.8	25	29.8	3.71	1.126	74.20	2

											Mean	SD	Weight	Rank
20. I write down synonyms and antonyms beside new words.	7	8.3	13	15.5	17	20.2	18	21.4	29	34.5	3.58	1.328	71.60	3
21. I write down example sentences using the new word.	7	8.3	16	19	13	15.5	20	23.8	28	33.3	3.55	1.348	71.00	4
22. With its pronunciation in the form of transliteration, i.e. transcribing the English word into sounds using the Arabic alphabet. E.g. The word cat is transcribed as / كات /using transliteration.	22	26.2	11	13.1	18	21.4	14	16.7	19	22.6	2.96	1.509	59.20	7
23. I write down the grammatical category of the word (e.g. noun, verb, adjective…etc).	6	7.1	18	21.4	21	25	14	16.7	25	29.8	3.4	1.309	68.00	5
24. with other related words of the same family. E.g. The words manager and management belong to the family of the word manage.	16	19	13	15.5	18	21.4	19	22.6	18	21.4	3.12	1.418	62.40	6
Average											3.48	1.31	69.54	

Table 4 illustrates how students document new vocabulary, with mean values reflecting the prevalence of each method. Translating English words into Arabic is particularly common, with an average score of 4.02, emphasizing students' preference for understanding vocabulary in their native language. Similarly, noting English definitions alongside new words is widely practiced, averaging 3.71, underscoring the importance of clear explanations. Recording synonyms and antonyms also receives moderate attention, with a mean score of 3.58, indicating students' efforts to expand their vocabulary knowledge. Including example sentences is similarly moderately practiced, averaging 3.55, highlighting the value placed on contextualizing words.

In contrast, writing down word pronunciation using transliteration is less common, with a mean score of 2.96. Additionally, noting grammatical categories and related words from the same word family are less frequently used strategies, with averages of 3.4 and 3.12, respectively. Overall, students employ a range of strategies to document vocabulary, encompassing translation, definition, synonym/antonym learning, example usage, pronunciation, grammatical categorization, and exploring word families.

5.3. Strategies for Retention and Memorization
The third objective of this research is to identify the most prominent strategies related to vocabulary retention and memorization employed by Saudi undergraduate students at King Khalid University. The results from the VLSD5, VLSD6, and VLSD7 categories offer insights into the frequency of repetition and association strategies used by students. The following tables present the survey responses, detailing means, standard deviations, relative weights, and rankings for each statement associated with vocabulary retention and memorization strategies.

Table 5. Descriptive Statistics for VLSD5 (N = 84)

VLSD5. Ways I do repetition to remember words:													
	Never		Rarely		Sometimes		Often		Always		Mean	SD	RW	Rank
Statement	F	%	F	%	F	%	F	%	F	%				
25. I say the word aloud several times.	2	2.4	4	4.8	11	13.1	15	17.9	52	61.9	4.32	1.032	86.40	2
26. I repeat the word silently several times.	1	1.2			17	20.2	19	22.6	47	56	4.32	0.88	86.40	1
27. I write the word several times.	3	3.6	5	6	14	16.7	21	25	41	48.8	4.1	1.104	82.00	3
28. I listen to the word several times	7	8.3	6	7.1	13	15.5	17	20.2	41	48.8	3.94	1.302	78.80	4
Average											4.17	1.08	83.40	

Table 5 displays the frequency distribution of repetition strategies employed by students to remember words, with mean values reflecting the prevalence of each method. Notably, saying the word aloud multiple times and repeating it silently both achieved the highest average of 4.32, indicating a strong preference among students for using both vocal and internal repetition as effective memorization techniques. Writing the word multiple times also holds considerable importance, with an average score of 4.1, demonstrating the recognition of tactile reinforcement as a valuable tool for memory retention. Additionally, listening to the word several times is moderately practiced, with an average score of 3.94, underscoring the role of auditory reinforcement in the memorization process. Overall, the findings highlight repetition as a fundamental strategy for vocabulary retention, encompassing vocalization, silent rehearsal, writing practice, and auditory reinforcement.

Table 6. Descriptive Statistics for VLSD6 (N = 84)

VLSD6. Associations I make to help me retain new words														
	Never		Rarely		Sometimes		Often		Always		Mean	SD	RW	Rank
Statement	F	%	F	%	F	%	F	%	F	%				
29. I relate the new word to other English words similar in sound or spelling (e.g. weak & week).	1	1.2	7	8.3	24	28.6	23	27.4	29	34.5	3.86	1.031	77.20	1
30. I relate the new word to synonyms or antonyms in English (e.g. good & bad, specific & particular).	2	2.4	11	13.1	22	26.2	24	28.6	25	29.8	3.7	1.106	74.00	2
31. I associate the new word with a word in Arabic similar in sound (e.g. chock /shoak/-"thorn ", fine/ fine "tissue)	14	16.7	11	13.1	17	20.2	13	15.5	29	34.5	3.38	1.488	67.60	5
32. I use the keyword method (e.g. if I want to memorize the English word 'fine' I may think	18	21.4	15	17.9	20	23.8	10	11.9	21	25	3.01	1.477	60.20	7

Statement	Never F	%	Rarely F	%	Sometimes F	%	Often F	%	Always F	%	Mean	SD	RW	Rank
of an Arabic word that sounds the similar like /fˆin/ which means 'tissue' then I create a mental image of a person who uses tissue and looks fine).														
33. I relate new words to words that usually follow each other in speech or writing (e.g. make a mistake, commit a crime).	3	3.6	7	8.3	33	39.3	20	23.8	21	25	3.58	1.067	71.60	4
34. I associate the new word with a physical action that I do or imagine.	14	16.7	6	7.1	25	29.8	16	19	23	27.4	3.33	1.391	66.60	6
35. I break up the new word according to its syllables or structure (e.g. prefixes Uneducated, suffixes educator, etc.).	3	3.6	10	11.9	26	31	21	25	24	28.6	3.63	1.128	72.60	3
Average											3.50	1.24	69.97	

Table 6 highlights the association strategies students use to remember new words, with mean values indicating the frequency of each method. A notable approach involves utilizing phonetic or spelling similarities with other English words, which scores an average of 3.86, reflecting students' reliance on such resemblances for enhanced retention. Similarly, connecting new words with synonyms or antonyms is a common practice, with an average score of 3.7, demonstrating students' awareness of semantic relationships as a memory aid. Breaking words into syllables or analyzing their structure also plays a significant role, scoring an average of 3.63, highlighting the importance of structural breakdowns in learning.

Additionally, relating new words to commonly associated terms scores an average of 3.58, emphasizing the value of contextual connections in memory retention. Conversely, the keyword technique is less frequently utilized, with an average score of 3.01, suggesting limited adoption of this method. Overall, the findings indicate that students employ a variety of association strategies, including phonetic, semantic, structural, contextual, and visual elements, to enhance their vocabulary retention.

Table 7. Descriptive Statistics for VLSD7 (N = 84)

VLSD7. Practicing or other means of consolidating new words:														
	Never		Rarely		Sometimes		Often		Always		Mean	SD	RW	Rank
Statement	F	%	F	%	F	%	F	%	F	%				
36. I look for opportunities to encounter new words in English	0	0	7	8.3	28	33.3	16	19	33	39.3	3.89	1.03	77.80	3

(reading magazines, watching T.V, using internet, etc).														
37. I quiz myself or ask others to quiz me on new words (answering vocabulary tests).	9	10.7	9	10.7	27	32.1	19	22.6	20	23.8	3.38	1.26	67.60	4
38. I practice saying things in English by myself.	2	2.4	9	10.7	20	23.8	12	14.3	41	48.8	3.96	1.177	79.20	2
39. I use as many new words as possible in speaking or writing.	2	2.4	7	8.3	18	21.4	20	23.8	37	44	3.99	1.103	79.80	1
Average											3.81	1.14	76.10	

Table 7 details the frequency distribution of strategies used by students to consolidate newly acquired vocabulary, with mean values indicating the prevalence of each method. The most frequently employed strategy is the active incorporation of new words into spoken or written communication, which scores an average of 3.99. This reflects students' commitment to integrating newly learned vocabulary into their linguistic repertoire. Following closely is solo oral practice in English, with an average score of 3.96, highlighting the importance of independent speaking exercises in language learning.

Another common approach involves actively seeking opportunities to encounter new English words, such as engaging with English-language media like magazines or television, which averages a score of 3.89. This indicates students' proactive efforts to immerse themselves in English-language contexts to expand their vocabulary. In contrast, self-quizzing or being tested on new vocabulary items, such as through structured vocabulary assessments, is the least frequently utilized strategy, with an average score of 3.38. This suggests a relatively lower focus on self-assessment and evaluation as a means of consolidating vocabulary.

Among the three strategy categories, **repetition strategies (VLSD5)** are the most commonly utilized, followed by **association strategies (VLSD6)**, and lastly, **practice and consolidation strategies (VLSD7)**. In conclusion, Saudi undergraduate students at King Khalid University employ a diverse array of strategies for vocabulary retention and memorization, including repetition, association, and practice techniques. These findings underscore the varied approaches students adopt to reinforce and internalize new vocabulary, ultimately enhancing their language proficiency.

6. Discussion

Learning strategies are pivotal for vocabulary acquisition, retention, and application. Tailoring them to individual learners is crucial for enhancing proficiency. Research explored strategies employed by Saudi undergraduates at King Khalid University. Dimensions investigated were word meaning discovery, note-taking, and retention. Findings showed reliance on external sources, diverse note-taking practices, and repetition for retention. The discussion contextualizes the findings within VLS research, highlighting diverse methods used by students to decipher words and retain vocabulary. Findings align with existing literature and theoretical frameworks, providing valuable insights. The discussion chapter contextualizes the findings within the broader research landscape on vocabulary learning strategies (VLS) utilized by Saudi undergraduate students. These findings shed light on the diverse methods employed by students to decipher unfamiliar words, document new vocabulary, and retain acquired vocabulary, aligning with existing literature and theoretical frameworks.

In examining the strategies for discovering word meanings, the results suggest a predominant reliance on contextual clues, consistent with findings from previous studies (Al-Bidawi, 2018; Alharbi; 2021; Alharbi, 2024; Alqarni, 2018; Alyami, 2018). The emphasis on contextual analysis underscores the importance of contextualized learning environments in vocabulary acquisition. Furthermore, the findings reveal a significant reliance on seeking assistance from external sources, particularly for Arabic translations and pronunciation assistance, corroborating previous research findings (Ali, 2020; Altalhab, 2023). This reliance on translation and pronunciation support highlights the influence of learners' linguistic backgrounds and the role of social and cognitive strategies in vocabulary learning.

Similarly, the findings concerning the utilization of dictionaries align with prior research, emphasizing the prevalence of searching for Arabic meanings and spellings (Alyami, 2018; Alahmad, 2020). Moreover, the prominence of determining the part of speech and seeking English definitions underscores the multifaceted nature of dictionary usage in facilitating comprehensive word understanding. Regarding vocabulary note-taking strategies, the findings indicate a widespread practice of translating English words into Arabic and recording English definitions, consistent with previous studies (Alqarni, 2018; Alahmad, 2020). Additionally, the moderate utilization of recording synonyms, antonyms, and example sentences underscores the importance of contextualization and semantic associations in vocabulary acquisition.

In terms of retention and memorization strategies, the results highlight the significance of repetition-based techniques, such as vocalization, silent rehearsal, and writing practice, which resonate with findings from previous research (Alqarni, 2018; Alyami, 2018). Moreover, the utilization of association strategies, such as phonetic and semantic connections, underscores the role of cognitive and metacognitive processes in facilitating vocabulary retention and retrieval. The findings related to vocabulary consolidation strategies emphasize students' proactive engagement with language input through exposure to English-language media and active usage in communicative contexts (Hadi & Guo, 2020; Ali, 2020). The prevalence of self-quizzing and solo oral practice underscores students' autonomy and agency in language learning, aligning with constructivist principles of active learning and meaning-making.

Overall, the findings contribute to our understanding of the complex interplay between individual learner preferences, linguistic backgrounds, and contextual factors in shaping vocabulary learning strategies among Saudi undergraduate students. By elucidating the diverse strategies employed across different dimensions of vocabulary learning, this research informs pedagogical practices aimed at enhancing students' linguistic proficiency and underscores the importance of tailored instructional approaches that accommodate learners' diverse needs and preferences.

7. Conclusion

This study offers important insights into the VLS used by undergraduate students in Saudi Arabia at King Khalid University, particularly in investigating word meanings, note-taking strategies, and retention strategies. The findings highlight the reliance on a battery of strategies, such as contextual guessing, use of dictionaries, repetition, and associative methods, all crucial for the process of language acquisition. The study highlights the importance of student-centered approaches in vocabulary instruction. Teachers should consider tailoring their practices in consideration of learners' individual preferences, linguistic backgrounds, and situational factors to increase engagement and enhance learning outcomes. Similarly, educational policymakers should consider incorporating such practices into educational curricula by paying more attention to genuinely contextualized, relevant learning experiences that replicate real-life applications of language. By fostering such environments, students can better understand and retain new vocabulary, thereby enhancing their language proficiency.

In addition, the study shows the value of cultivating metacognitive awareness in learners so that students become conscious of their approaches to learning and can assess their progress and move to more effective vocabulary acquisition strategies. Schools can support this by allocating resources and professional development for learners as well as teachers. Teachers should also be equipped with research-based methods and technology that facilitates acquisition (Alharbi, 2020). Despite the positive findings, there are some limitations to this study. The participant population was limited to female students at a single university, which may not allow for generalization of the findings. Future research should go ahead to represent a much more diverse sample of students drawn from a number of universities and different geographies in Saudi Arabia. Furthermore, although the current study utilized a quantitative methodology, subsequent investigations may gain advantages from employing mixed-method designs that integrate qualitative perspectives, thereby facilitating a more comprehensive exploration of the intricate nature of vocabulary acquisition.

Longitudinal research is also advocated in order to monitor the progression of students' vocabulary over time, thereby providing a more thorough understanding of the sustained effectiveness of diverse instructional approaches. Additionally, comparative evaluations of multiple teaching methodologies and the influence of technology on vocabulary learning could enhance instructional techniques and lead to better results for various groups of learners. In summary, this study has documented the varied and evolving characteristics of vocabulary acquisition strategies employed by Saudi undergraduate students. It has shed light on the strong importance of tailor-made, context-oriented teaching methods in language teaching. As educators and policy makers try to find new ways to improve the outcomes of vocabulary learning, the implementation of these strategies will become very fundamental in yielding students' academic and linguistic achievement. Through additional investigation, it is possible to further refine the methodologies employed in vocabulary instruction, thereby guaranteeing that learners possess the essential resources required for successful language acquisition.

ORCID iD: Ranya Abdulaziz Aldhabaan : : https://orcid.org/0009-0004-4830-5695
        Wafa Saud : https://orcid.org/0000-0001-5010-7891
Publisher's Note: All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers.

References

[1] Alahmad, G. (2020). Vocabulary learning strategies and their relation to vocabulary size in Saudi female undergraduate EFL learners. *International Journal of Linguistics, Literature and Translation*, *3*(6), 218-223. DOI: https://doi.org/10.32996/ijllt.2020.3.6.22

[2] Alahmadi, A., & Foltz, A. (2020). Effects of language skills and strategy use on vocabulary learning through lexical translation and inferencing. *Journal of Psycholinguistic Research, 49*(6), 975-991. http/ /10.1007/s10936-020-09720-9

[3] Al-Bidawi, S. A. (2018). Vocabulary learning strategies (VLSs) preferred by Saudi EFL students. *English Language Teaching*, *11*(12), 211-220. doi: https://doi.org/10.5539/elt.v11n12p211

[4] Alharbi, A. S. (2020). Wikis in Language Learning: Merits and Limitations. Journal of English Language Teaching and Applied Linguistics, 2(4), 79-88. https://al-kindipublisher.com/index.php/jeltal/article/view/687/1392

[5] Alharbi, A. S. (2021). Barriers in Implementing Communicative Language Teaching Approach: EFL Learners' Perspective. Journal of Education and Practice, 12(6), 1-20. https://www.iiste.org/Journals/index.php/JEP/article/view/55748

[6] Alharbi, A. S. (2024). Communicative Language Teaching Approach in a Saudi Context: A Critical Appraisal. Eurasian Journal of Applied Linguistics, 10(1), 60-71. DOI: http://dx.doi.org/10.32601/ejal.10106

[7] Ali, M. A. (2020). Investigation of vocabulary learning strategies to identify word meanings for Saudi EFL students in reading context. *Arab World English Journal, 11* (3), 149- 169. DOI: https://dx.doi.org/10.24093/awej/vol11no3.9

[8] Alqarni, I. R. (2018). Saudi English major freshmen students' vocabulary learning strategies: An exploratory study. *International Journal of Applied Linguistics and English Literature*, *7*(1), 141-145. DOI: http://dx.doi.org/10.7575/aiac.ijalel.v.7n.1p.141

[9] Alrashidi, O. (2022). Assessing language learning strategies employed by university English major students in Saudi Arabia. *Cogent Education, 9*(1), 2074935. doi.org/10.1080/2331186X.2022.2074935

[10] Al Roomy, M., & Alhawsawi, S. (2019). Understanding reading strategies of EFL Saudi students. English Language Teaching, 12(6), 33-44. doi: 10.5539/elt.v12n6p33

[11] Alshammari, S. R. (2020). EFL vocabulary learning strategies used by Saudi Arabia university students. *Advanced Education*, 28-38. DOI: https://doi.org/10.20535/2410-8286.202436

[12] Altalhab, S. (2023). Vocabulary learning strategies used by Saudi university students in pair work. *International Journal of Education and Literacy Studies,11*(1), 44-49. DOI: http://dx.doi.org/10.7575/aiac.ijels.v.11n.1p.44

[13] Alyami, N. A. (2018). *Vocabulary learning strategies employed by English and non-English undergraduate Saudi learners: Self-reported uses and perceived usefulness* (Doctoral dissertation, University of Central Lancashire). http://clok.uclan.ac.uk/29779/

[14] Bai, Z. (2018). An analysis of English vocabulary learning strategies. *Journal of Language Teaching and Research, 9*(4), 849-855. DOI: http://dx.doi.org/10.17507/jltr.0904.24

[15] Chuang, S. (2021). The applications of constructivist learning theory and social learning theory on adult continuous development. *Performance Improvement*, *60*(3), 6-14. DOI: https://doi.org/10.1002/pfi.21963

[16] Ghalebi, R., Sadighi, F., & Bagheri, M. S. (2020). Vocabulary learning strategies: A comparative study of EFL learners. *Cogent Psychology, 7*(1), 1824306. DOI: https://doi.org/10.1080/23311908.2020.1824306

[17] Hadi, H. U. R., & Guo, X. (2020). A survey of beliefs and vocabulary learning strategies adopted by EFL learners at Shaikh Zayed University. *Cogent Education, 7*(1), 1829803. DOI: https://doi.org/10.1080/2331186X.2020.1829803

[18] Meiwei, X. (2023). The application of vocabulary learning strategies in college English teaching. *Frontiers in Educational Research, 6*(9). DOI: https://doi.org/10.25236/fer.2023.060916

[19] Suhendi, A. (2018). Constructivist learning theory: The contribution to foreign language learning and teaching. *KnE Social Sciences*, 87-95. DOI: https://doi.org/10.18502/kss.v3i4.1921

[20] Sun, H., & Yin, B. (2022). Vocabulary development in early language education. *Handbook of early language education*, 57-82. DOI: https://doi.org/10.1007/978-3-030-91662-6_3

[21] Wahyudin, A. Y., Pustika, R., & Simamora, M. W. B. (2021). Vocabulary learning strategies of EFL students at tertiary level. *The Journal of English Literacy Education, 8*(2), 101-112. DOI: https://doi.org/10.36706/jele.v8i2.15647

[22] Waite-Stupiansky, S. (2022). Jean Piaget's constructivist theory of learning. In *Theories of early childhood education* (pp. 3-18). Routledge. DOI: https://doi.org/10.4324/9781003288077-2

[23] Yaacob, A., Shapii, A., Saad Alobaisy, A., Al-Rahmi, W. M., Al-Dheleai, Y. M., Yahaya, N., & Alamri, M. M. (2019). Vocabulary learning strategies through secondary students at Saudi school in Malaysia. *SAGE open, 9*(1). DOI: https://doi.org/10.1177/2158244019835935

Appendix A

Category one: Strategies dealing with discovering the meaning of new words:

When I meet ones which teacher or textbook does not give the meaning of new words

	Never	Rarely	Sometimes	Often	Always
VLSD1. Guessing strategies: I guess the meaning of the unknown word by:					
1. Checking if it is similar to Arabic in sound (e.g. shy in English and /shai/ in Arabic "tea")					
2. Analyzing the structure of the word (e.g. prefixes, suffixes; misunderstanding. And compounds: sunflower etc.).					
3. Analyzing the word part of speech (e.g. verb, noun, adjective...etc.).					
4. Paying attention to pictures if they accompany the word or text.					
5. Reading the sentence or paragraph containing the unknown word.					
VLSD2. Asking Others: I request help from (colleagues, friend, teacher, relative, language competent or native speaker) regarding an unknown lexical item by Asking them about					
6. Its equivalent Arabic meaning.					
7. Its definition in English					
8. Its spelling or pronunciation					
9. An example sentence.					
10. Its grammatical category					
11. Its synonym & antonym in English.					
VLSD3. Using Dictionary: I look up the unknown word by using Dictionary and check					
12. Its Arabic meaning					
13. Its spelling					
14. Its part of speech (i.e. verb, adjective, noun,..etc)					
15. Its English meaning					
16. Its synonym or antonym.					
17. Looking for example sentences.					

Category Two: **Strategies dealing with vocabulary note-taking**

	Never	Rarely	Sometimes	Often	Always
VLSD4. When I take vocabulary notes, I write down the English word:					
18. With its Arabic translation.					
19. I write down their English definition					
20. I write down synonyms and antonyms beside new words					
21. I write down example sentences using the new word					
22. With its pronunciation in the form of transliteration, i.e. transcribing the English word into sounds using the Arabic alphabet. E.g. The word cat is transcribed as / كات /using transliteration.					
23. I write down the grammatical category of the word (e.g. noun, verb, adjective…etc).					
24. With other related words of the same family. E.g. The words manager and management belong to the family of the word manage					

Category Three: Strategies for Retention and Memorization

	Never	Rarely	Sometimes	Often	Always
VLSD5. Ways I do repetition to remember words:					
25. I say the word aloud several times.					
26. I repeat the word silently several times.					
27. I write the word several times.					
28. I listen to the word several times					
VLSD6. Associations I make to help me retain new words					
29. I relate the new word to other English words similar in sound or spelling (e.g. weak & week).					
30. I relate the new word to synonyms or antonyms in English (e.g. good & bad, specific & particular).					

31. I associate the new word with a word in Arabic similar in sound (e.g. chock /shoak/- "thorn ", fine/ fine "tissue)				
32. I use the keyword method (e.g. if I want to memorize the English word 'fine' I may think of an Arabic word that sounds the similar like /f^in/ which means 'tissue' then I create a mental image of a person who uses tissue and looks fine).				
33. I relate new words to words that usually follow each other in speech or writing (e.g. make a mistake, commit a crime).				
34. I associate the new word with a physical action that I do or imagine.				
35. I break up the new word according to its syllables or structure (e.g. prefixes Uneducated, suffixes educator, etc.).				
VLSD7. Practicing or other means of consolidating new words:				
36. I look for opportunities to encounter new words in English (reading magazines, watching T.V, using internet, etc).				
37. I quiz myself or ask others to quiz me on new words (answering vocabulary tests).				
38. I practice saying things in English by myself.				
39. I use as many new words as possible in speaking or writing.				