An investigation of the effectiveness of vocabulary learning strategies by foreign language students

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Abstract: The significance of vocabulary in language acquisition has been acknowledged, as inadequate vocabulary proficiency among learners can impede their progress in acquiring a second language. The primary objective of this study is to analyze and explore the implementation of contemporary techniques for instructing and acquiring vocabulary across students that study foreign language in diverse undergraduate courses. The research goals prompted the selection of a quantitative analysis design as the optimal approach to comprehensively examine the utilization of VLS among the targeted student population. This research employed a questionnaire to examine the circumstances surrounding the acquisition of foreign language vocabulary among an aggregate of 230 undergraduate students. The participants for the study were chosen using a randomized method, and the survey was conducted via an online platform. The findings suggest that this research's respondents would benefit from additional instruction in Vocabulary Learning Strategies in order to enhance their proficiency with various types of foreign language vocabularies. It is imperative to integrate efficacious strategies for both the acquisition and instruction of vocabulary into the vocabulary learning process of learners.

Keywords: vocabulary learning, foreign language students, vocabulary proficiency

1. Introduction

Vocabulary is crucial in the acquisition of a second or foreign language. It's the glue that holds together the four pillars of communication: listening to, talking, reading, and writing. Despite its fundamental role in communication, it has been consistently undervalued. Regardless of the fact that students generally recognize the importance of building up their vocabulary, most students still passively absorb new words. The primary objective of learning vocabulary at the undergraduate level is to increase the students' lexicon and fluency in using it. The teacher could evaluate the students' vocabulary acquisition techniques either shortly after or prior to when the vocabulary is taught. Learning vocabulary is an important aspect of language acquisition

techniques since it helps students improve their ability to understand and use the target language (Nation, 2001; Nosratinia et al., 2015).

Vocabulary learning methods, according to Hamzel et al. (2017) are used by students to better grasp and retain new words on their own. This implies that students acquire a lexicon tailored to their own interests, needs, goals, and levels of knowledge and ability. Vocabulary achievement is most strongly correlated with students' ability to create an individual and systematic approach to language acquisition (Goundar, 2015). The lecturer's ability to figure out effective, inventive, and pleasant suggestions, strategies, and learning material to help students overcome their obstacles in acquiring vocabulary will depend on his or her familiarity with each student's preferred learning style. Undergraduate students studying foreign languages (EFL) find it most difficult to expand their vocabulary (Ghazal, 2010; Alfadil, 2020).

Strategies for learning new words in foreign language are widely used by undergraduates within and outside the foreign language classroom (Ghalebi & Mohammed, 2020). They learn to seek out unfamiliar words in order to grasp the meaning of what they are reading. Vocabulary development requires individualized approaches to accommodate diverse student demands. Researchers have proposed a diverse set of categories for organizing vocabulary-study methods. Considering the foregoing, this study's overarching goal is to determine which vocabulary learning strategies are particularly commonly employed as well as important by undergraduate learners across three proficiency levels: beginner, intermediate, and advanced.

2. Literature Review

A. Vocabulary Learning Strategy

Following an evaluation of recent literature, various endeavors have been undertaken to categorize strategies learning a foreign language. Notable examples include the works of Ghazel (2010), Guo and Zhu (2018), Manuel (2017), Mustapha and Hatta (2016), and Schmitt (2000). For instance, Schmitt (2000, p 44-45) established "metacognitive", "cognitive", alongside social/affective" as the fundamental three types of learning strategies. In accordance with the aforementioned perspective, Lachini (2008) proposed a classification of strategies that encompasses two overarching types: direct and indirect. The first category encompasses strategies related to memory, cognition, and compensation, whereas the second category encompasses strategies related to metacognition, affect, and social interaction. Ghazal (2010) identified metacognitive regulation and cognitive strategies as the primary dimensions of vocabulary learning strategies. These dimensions encompass six subcategories, namely "guessing, using a dictionary, note-taking, rehearsal, encoding, and activating" (Ghazal, 2010, p 81), each of which was additionally subcategorized. Schmitt (2000, p 84) proposed two distinct categories of second language vocabulary learning strategies, namely discovery and consolidation

strategies. The former category encompasses "determination" and "social strategies," while the latter category comprises "social, memory, cognitive, and metacognitive strategies" (Schmitt, 2000, p 61), totaling forty strategies. These strategies are deemed compatible with the widespread of second language vocabulary learning.

According to Kafipour's (2011) assertion, the acquisition of vocabulary by students as independent learners necessitates the acquisition of appropriate strategies. In the past, there was a prevalent belief that learners acquire vocabulary primarily through supplemental interaction with language input, rather than through explicit instruction (Wu, 2019).

The research conducted in this particular field has been centered on the identification of the various categories of strategies that are associated with effective learning. Additionally, efforts have been made to apply these strategies to particular areas of language learning, such as the enhancement of second language vocabulary, as highlighted by Schmitt (2000). The research pertaining to instructional strategies was centered on proficient learners as opposed to those who struggle. The objective was to identify the attributes and methodologies employed by proficient language learners, with the aim of comprehending and imparting them to those who are less successful in language acquisition (Asgari & Bin-Mustapha, 2010; Bookong & Jones, 2014; Gounder, 2015; Hendrawaty, 2015). According to Gounder's (2015) findings, proficient learners demonstrated a conscious awareness of their ability to acquire new vocabulary, exhibited greater attentiveness towards writing and form, and were able to effectively learn from context-specific signals. Conversely, learners who were less successful exhibited a reluctance to consult a dictionary and disregarded unfamiliar vocabulary and contextual indicators during the learning experience. The literature suggests that passiveness was a common trait among these individuals in regards to their learning style (Schmitt, 2000; Jaferi & Kafi, 2013; Rahimy & Shamee, 2012; Zou et al., 2021).

B. Vocabulary Learning Strategies as Proposed by Schmitt (2000)

Schmitt (2000) has attempted to synthesize the results of studies on general learning and vocabulary acquisition into three overarching assumptions, which are as follows.

1. Since most students place a high priority on acquiring new words, they use more ways to do so than for any other part of their language education.

2. The learners choose shallow processing techniques like rote memorizing and note-taking over more sophisticated methods like guesswork, visualization, and the keyword approach.

3. They use a number of methods, a key feature of a successful learner who takes charge of her or his vocabulary acquisition.

While students are being advised on vocabulary acquisition techniques, Schmitt (2000) emphasized the need of calling their awareness to the occurrences of their selected terms. Following this realization, Nation (1990) and Schmitt (2000: 122) argued that high-frequency words should be appropriately incorporated during the process of vocabulary teaching and learning because they primarily require strategies for review and consolidation. In contrast, low-frequency words are more likely to be encountered incidentally in reading or listening, and so require "strategies for determining their meanings, such as guessing from context or using word parts" (Guo & Zhu, 2018, p 81). However, actual evidence has not corroborated these speculations. Below is a summary of the basis of the vocabulary learning strategies proposed by Schmitt (2000):

i.Determination Vocabulary Learning Strategies: Learners may figure out the meaning of unfamiliar terms on their own with the support of "determination strategies," which emphasize independent study. Using these methods, students are required to look up words in dictionaries, infer meaning from context, and recognize grammatical constructions and their component pieces.

ii. Social Vocabulary Learning Strategies: In this approach, students may improve their vocabulary by using social methods, which include interacting with others or seeking the help of a teacher or a peer outside of the classroom.

iii. Memory Method of Vocabulary Learning: Memory methods encourage students to build connections between new vocabulary and cognitive processes by linking it with familiar concepts.

iv. Cognitive Vocabulary Learning Strategy: Mechanical considerations rather than abstract thought underlie cognitive techniques. You may build your vocabulary via drills, note-taking, a master list, a vocabulary journal, and the use of English labels on familiar things.

v. Metacognitive Vocabulary Learning Strategy: Strategies for monitoring, deciding, and evaluating one's own progress in acquiring a new language are all part of the metacognitive framework. The components include music, the internet, television shows, movies, and dictionaries (both printed and electronic).

The implementation of vocabulary learning strategies enables learners to exercise greater authority over their learning process and enhance their capacity for learner self-determination, self-reliance, and self-guidance, as posited by Nirattisai and Chiramanee (2014) and Manuel (2017). Within the realm foreign language learning, the implementation of explicit instruction is regarded as a highly effective approach for augmenting learners' vocabulary and lexical proficiency. As such, the acquisition of vocabulary learning strategies is deemed to be of paramount significance (Manuel, 2017). Consequently, the implementation of vocabulary learning strategies has proven to be a pragmatic, productive, and beneficial approach in enhancing the lexical aptitude

of undergraduate students (Lestari, & Wahyudin, 2020). The degree of proficiency in vocabulary is not solely contingent upon the acquisition of new words, but also the utilization of effective learning strategies. The significance of learning strategies in the acquisition of vocabulary proficiency in the future cannot be overstated.

C. Objectives of the Study

The primary focus of this study is to pursue an in-depth quantitative analysis of the impacts of the various vocabulary learning strategies, and compare the findings with the result of existing studies in this regard. The following objectives are specifically attended to:

1. To analyze the vocabulary learning strategies that are frequently used and the ones that are rarely used by undergraduate students.

2. To assess the impact of each of the learning strategies on the overall lexicon of the foreign language learners.

3. To compare the findings of this study with what other recent publications have discovered.

D. Significance of the Study

Researchers have primarily directed their attention towards the development of foreign language learning theories, with a tendency to overlook other components or aspects of foreign language teaching and learning. There is a dearth of research that has delved into the characteristics of vocabulary acquisition and the corresponding techniques employed. Undoubtedly, the contributions of Schmitt (1998, 2000) and other contemporary publications continue to serve as foundations. However, further research is clearly required in this area. The role of vocabulary in language acquisition is paramount and has been widely acknowledged as an essential element of language proficiency. The attainment of satisfactory language learning outcomes is contingent upon learners possessing a requisite level of proficiency in vocabulary. The acquisition of a foreign language involves an enormous task for FL learners, particularly in "the learning of vocabulary" (Ahmadi et .al, 2012, p 71). Paradoxically, despite its significance, the vocabulary has remained an overlooked factor for a considerable duration. In recent times, certain scholars have been endeavoring to raise awareness regarding vocabulary. This study adds to the current body of literature on vocabulary learning strategies in foreign language education in higher education institutions.

3. Research Methodology

A. Research Design

This research utilized a quantitative research methodology, employing questionnaires as the primary tool for examining the attitudes of students towards vocabulary learning strategies. In order to enhance the accuracy of the data and prevent potential misinterpretations or incomplete articulations of participants' perspectives as a result of their limited proficiency in the foreign language, they were granted the

option to respond to the inquiries in either their first language or in the foreign language, as suggested by Lachini (2008) and Manuel (2017). In order to obtain dependable information, the responses were transcribed and rendered into English language for ease of analysis.

B. Participants

The research cohort comprises 230 undergraduate students from various academic institutions. The study's sample was primarily composed of female participants, accounting for 75.7% of the total sample size. The age range of the participants spanned from 20 to 39 years. The third and final year undergraduate students were selected. The total number of students in the language-related programs was 230, comprising 150 students in Foreign Language Teaching, 50 students in Translation Studies, and 30 students in Linguistics and Literature. The individuals were enlisted from the foreign language departments of multiple academic institutions. The study involved voluntary participation, and the respondents exhibited a willingness to provide truthful responses during the research. The individuals in question comprehended that the outcomes derived from the gathering of data were exclusively meant for scholarly investigation.

C. Instrument of the study

The present investigation employed Schmitt's (2000) "Vocabulary Learning Strategies Questionnaire" (VLSQ), which has been utilized by previous scholars (Ghalebi & Mohamme, 2020; Guo & Zhu, 2018; Hamza et al., 2017). The study utilized a Likert-scale questionnaire consisting of twenty items, which demonstrated an accuracy coefficient of 0.86. The participants provided their feedback using a five-point Likert scale, where the response options ranged from "1" indicating "never" to "5" indicating "always". The scale was comprised of the following categories:

i. (1) denoting "never",

ii. (2) denoting "seldom",

iii. (3) denoting "sometimes",

iv. (4) denoting "often", and

v. (5) denoting "always".

The utilization of a 5-point scale facilitates the acquisition of comprehensive and insightful data. The survey was subjected to a pilot test involving a limited number of students who shared comparable traits with the subjects of the principal investigation. The objective was to ensure that the questionnaire comprehensively encompassed the techniques associated with acquiring foreign language vocabulary while ensuring the learners possessed a complete understanding of the questionnaire. Despite the fact that the questionnaire required a time commitment that was roughly 45-55 minutes, the investigators communicated to the respondents that there was actually no predetermined duration for its completion.

D. Procedure for Analysis

The outcome of the questionnaire administered online was analyzed using quantitative analysis tools such as frequency, percentage and mean. The findings were presented in different tables, and a summary of the usage of the learning strategies was presented using a pie chart with relevant percentile values.

4. Result and Discussion

Three strategies suggested by Schmitt (2000) are employed in the study questions to analyze the most popular vocabulary acquisition techniques. The study's participants, who are learning a foreign language, use them to assess the value of each of the five vocabulary acquisition procedures. The three vocabulary acquisition techniques, comprising determination, cognitive, and meta-cognitive strategies, are summarized and evaluated in Tables 1 to 3.

A. Results

Table 1

Result of Metacognitive Strategies

Metacognitive strategies	Frequency of response	Percentage
Learning vocabulary through utilization of a pre-established compilation of words.	196	85.21%
Engaging in a discourse with an instructor regarding challenges and necessities pertaining to the learning of vocabulary.	39	16.95%
Acquiring lexicon through unrestricted reading.	209	90.86%
Learning new vocabulary via structured reading activities.	180	78.26%
The acquisition of vocabulary through the use of graded reading materials.	52	22.60%
Perusing newspapers.	82	35.65%
Browsing the internet	221	96.08%
Attempting building up knowledge solely through the use of a dictionary.	194	84.34%
Engaging with auditory broadcasts.	68	29.56%
Viewing television channels	154	66.95%
Learning vocabulary through the use of published flashcards.	33	14.34%

In summary, table 1 provides results of the usage of different metacognitive process in learning vocabulary in the foreign language. It is pertinent to reiterate that in the first section of the questionnaire, there is a section on metacognitive techniques. These strategies relate to taking a deliberate assessment of the procedures of learning and making choices on the planning, monitoring, or assessing of the most effective approach to study. Metacognitive techniques comprise 11 sub-strategies. The greatest percentage of people using their own unique metacognitive methods was 96.03%. The employment of specific metacognitive methods was reported at a frequency of 14.34%, which was the lowest frequency.

Over 96% of the study population affirm that they result to the use of internet in the learning of vocabulary of the foreign language. The use of internet has become useful in foreign language, including the use of translation tools for better building of vocabulary in the foreign language. Similarly, 90% of the participants affirm that they prepare to use unrestricted sources to learn vocabulary of the foreign language. These

unrestricted sources may also include the internet dictionaries and translation tools. About 85% affirm the use of established word compilation list, 84% prefers the use of dictionary, while 78% uses structured reading materials. These findings are in consonance with the findings of the study by Schmitt (2000), Hamza et al. (2017), Ghalebi and Mohammed (2020), Manuel (2017), Wu (2019), Gounder (2015) among other researchers.

It is strange to discover that less than 17% of the 230 undergraduate participant wants to consult their lecturers in building their vocabulary in the foreign language. This finding may be a pointer that foreign language teachers may need to be more friendly. The implication is that over 80% of the undergraduate students seldomly consult their teachers in learning vocabulary of the foreign language. Less than 36% accept that they read newspapers to improve their foreign language skills. The least is people that use flashcards, at 14.34%, closely followed by consulting teachers, and using audio broadcast.

Table 2

Results of the Determination Strategies

Determination strategies	Frequency	Percentage
Check out an English-Arabic dictionary for clarification.	188	81.73%
Examine visual aids, such as photos or videos, to decipher written text.	98	42.60%
Try to deduce the meanings of unknown words by examining their component parts.	169	73.47%
Word meanings may be guessed by looking at their parts of speech (verb, noun, adjective, adverb, etc.).	44	19.13%
Determine the meaning of words based on the context of the text.	212	92.17%
Consult a French-English dictionary for definitions	101	43.92%
Check out an Arabic-English dictionary for clarification.	227	98.70%

Table 2 indicates that the undergraduate students are strongly determined to use Arabic-English dictionary in learning new vocabularies. The Arabic-English dictionaries contain lexical entries that are used in context in both Arabic and English. This strategy helps the learns to be more determined in learning the foreign language. This statement is supported by over 98% of the 230 participants that often and always use the strategy of Arabic-English dictionary. There is also the idea of understanding vocabularies based on context. Over 92% of the study sample employs this strategy, which is also connected to the use of Arabic-English dictionary. Similarly, over 81% also use the English-Arabic dictionary, and 73% seek the meaning of lexical units based on the grammatical component of the surrounding expressions. The least is actually the action of checking the part of speech of the expressions to learn it, which is at 19.13% of the total sample. Over 43% and over 42% use French-Arabic dictionary and pictures and videos respectively to improve their vocabulary. The implication is that the dictionaries are fundamental tools in the learning of vocabulary.

Table 3

Result of the Cognitive Vocabulary Learning Strategies

Cognitive Vocabulary Learning Strategies	Frequency	Percentage
Words may be learned by oral repetition.	59	25.65%
Learn the foreign language through reading magazines, novels, articles, and newspapers.	182	79.13%
Create a new word by changing only one letter.	39	16.95%
Words may be picked up from the context of a text.	220	95.65%
Create a vocabulary list.	218	94.78%
Make notes or underline key phrases.	201	87.40%
Words may be memorized by writing them again and over again.	228	99.13%

Cognitive vocabulary learning strategy is prevalent is in the acquisition of new lexical expressions in the foreign language. The data in table 3 indicates that over 99% of the study population, which is 228 out 230, frequently memorize vocabulary items my repeating them again and again. This method is strategic in foreign language, even in learning other components of the foreign language. Over 94 and over 95% respectively create vocabulary list and learn words as used in context. These strategies are clearly fundamental in the vocabulary learning strategies by the study participants. The least strategy is actually the process of changing letters of some words, followed by oral repetition. Making notes and reading novel and other publications in the foreign language are also good strategies as seen in the table. The cognitive learning processes or strategies are fundamentally employed in connection with a degree of memorization. The above findings is in connection with the findings of Wu (2019), Kafipour (2011).
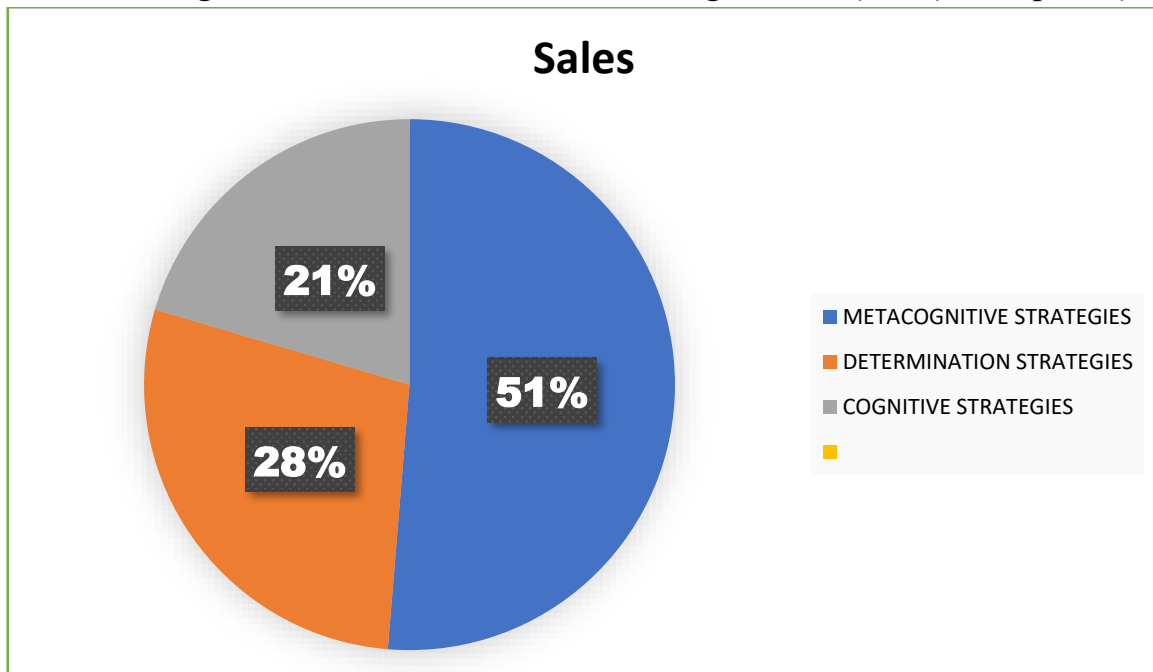

Figure 1: Comparison of the Vocabulary Learning Strategies

Part of the content of the questionnaire was to validate the strategy that is mostly used by the study participants. The undergraduate students clearly indicated that they prefer the metacognitive processes, especially the use of dictionaries to improve their vocabulary competence. The graph above indicates that the participants prefer the use

of metacognitive strategies in the learning of vocabulary in the foreign language. This is closely followed by the determination strategies and the least is the cognitive strategies.

B. Discussion and Implications

This analysis has gone through the use of different vocabulary learning strategies by the participants who are undergraduate students. The analysis indicates that in each main category, there are strategies the participants prefer to use. In the metacognitive strategies, over 96% of the participants use the internet to improve their vocabulary learning skills. In the determination strategy, over 98% prefer the use of Arabic-dictionary to learn vocabularies. Then, in the cognitive strategies, over 99% of the participants prefer memorizing the vocabulary terms by writing them repeatedly.

The metacognitive method was the most often used by students at all levels of skill in the undergraduate program. The results were consistent with those of other studies (Asgari and Mustapha, 2011; Jafari and Kafipour, 2013; Hendrawaty, 2015; Manuel and Wu, 2017; Wu and 2019). The majority of the undergraduate students were using metacognitive methods, which demonstrated that they were actively participating in their vocabulary acquisition. As members of the younger generation, they used tactics that were relevant to their interests and passions. The majority of students studying Arabic at the undergraduate level said that accessing the internet, dictionaries, and translating terms from Arabic to English or both ways, using paper and electronic dictionaries were the most helpful study tools. The findings suggested that students' vocabulary competence levels might be greatly improved by the use of various learning mediums.

Undergraduates of all levels found the determination method to be the second most successful technique they could utilize. It was identical to the prior study that Asgari and Ghazali (2011) had carried out. Undergraduates were very interested in examining suffixes, root systems, and prefixes, as well as elements of speech in order to determine the implications of the terms. Additionally, they were interested in evaluating any imagery or gestures that would help them comprehend the meanings of the terms. In addition to this, they utilized other methods, such as attempting to deduce the meaning of words based on the context of the text or searching up terms in an English-Arabic dictionary or the other way around.

Undergraduate students who just had a minimum degree of lexical competency employed cognitive methods the least often. It was comparable to the study that Jafari and Kafipour (2013) had carried out. The low-strategy utilization category included three out of the seven cognitive techniques. Since some new learners didn't read very much, getting another term from the same word, studying English novels, magazines, journals, and newspapers, and acquiring new phrases from the context of text appeared tedious to them. As a consequence, their vocabulary competency was at a low level.

5. Conclusions

The study concludes that metacognitive strategies, followed by determination strategies, were the most commonly employed strategies, while cognitive strategies were with the lowest frequency. By understanding the approaches to learning vocabulary by undergraduate students at varying levels of proficiency at the outset of a Vocabulary class, instructors can make informed decisions regarding how to effectively and engagingly teach vocabulary in a diverse classroom setting. The development of engaging vocabulary modules and appropriate instructional media is within their capacity. In the interim, it is expected that undergraduate students will be inclined to enhance their aptitude in vocabulary.

The findings of this research indicate that language educators ought to cultivate a sense of recognition among their students regarding the importance of Vocabulary Learning Strategies (VLSs) in enhancing their academic progress through the implementation of strategic instruction. Teachers have the potential to encourage their students to effectively utilize VLSs through additional instruction on the least commonly employed techniques, including English language media strategies. Consequently, learners would have the opportunity to attain fruitful educational outcomes in their educational pursuits.

Potential avenues for further research on VLSs include exploring their efficacy among diverse student populations in varying educational settings, employing alternative methodologies for data gathering, and identifying potential barriers that may impede students' utilization of Vocabulary Learning Strategies in their educational pursuits. Future research could focus on the use of different learning strategies to improve students' vocabulary storage.

Acknowledgments

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