

**INVESTIGATING STUDENTS' LEARNING STRATEGIES OF  
MEDICAL VOCABULARY: CASE STUDY OF THE FACULTY OF MEDICINE,  
KARARI UNIVERSITY- SUDAN**

**Dr Abdul-Gayoum M. A. Al-Haj**

College of Graduate Studies, University of the Holy Qurān-Wadmadani, Sudan  
alhajabdulgayoum66@gmail.com

**Dr Ibrahim Ahmed Ibrahim Ali**

School of Languages-Karari University- Sudan  
ibrhim1997@gmail.com

**Dr Al-Rafeea Suliman Al-Fadil Dafaallah**

Faculty of Sciences and Arts at Muhayle Assir- Kku- Saudi Arabia  
aalfathal@kku.edu.sa

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**ABSTRACT:** *The aim of this study is to examine the students' learning strategies of medical vocabulary at the faculty of medicine, Karari University- Sudan. The researchers use a questionnaire and an interview for collecting the data. Then, they adopt the descriptive analytical method to analyse it by utilising the SPSS programme. Some findings are as follows: Most students of medicine (87%) at the above faculty rarely employ cognitive, memory and determination strategies. Moreover, they never use metacognitive and social strategies in learning medical vocabulary. The following are some of the researchers' recommendations. First, programmes of learning medical vocabulary in an integrated way, that is to say learning content through the target language, should be developed for the benefits of the students of medicine at Karari University. Second, regarding the students of medicine weakness in the productive medical vocabulary attention should be paid to the teaching of such vocabulary.*

**KEYWORDS:** learning strategies, medical vocabulary, case study, descriptive analytical method, SPSS programme.

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## **INTRODUCTION**

Learning vocabulary has been given attention in recent years. Since the late 1970s there has been an interest in such matter. Hence, a large amount of ESP vocabulary learning strategies was done on the subject. Usually or in most situations, the main goal of learning strategies is to get students to become more effective learners. In this study, the researchers are particularly interested to investigate students' learning strategies of medical vocabulary at the faculty of medicine, karari university- Sudan.

In Sudan, students enter tertiary education after having learnt general English for eight years, in other words students have nothing to do with ESP in their general education. However at this elevated level and for these particular students the syllabus should be

tailored to the needs of these learners. The present study concentrates on Vocabulary Learning Strategies (VLS) within the broader framework of language learning strategies. In other words, the study is about how medical students learn specific vocabulary and not what specific vocabulary is.

The use of suitable strategies makes a distinction between experienced learners and beginners in many learning areas. Medical students at faculty of medicine, Karari University need to use strategies to help them acquire new lexical items and to have rich vocabulary. It is a necessity for them to increase their vocabulary knowledge and to understand words to use them correctly. In order to achieve this purpose, emphasis has to shift from language instructors and teaching to language learners and learning.

Giving attention to medicinal vocabulary is necessary to make medical students engage in activities that can ultimately lead them to master the new items of this vocabulary. Consequently, for the purpose of providing empirical evidence on the effect of using language learning strategies at the preceding setting the students' learning strategies of medical vocabulary will be investigated.

### **Statement of the Problem**

The learning of medicine poses vocabulary problems as it is more extensive and difficult than the learning of a mere foreign language. A student of medicine is encountered with a mass of new complicated concepts symbolized in words that their structure is unfamiliar to most college graduates of today. Medical vocabulary presents a formidable task to these particular learners; this is on the one hand. On the other hand, most students are not fully aware of how to use vocabulary learning strategies efficiently to gain and retrieve ESP vocabulary such as medical vocabulary items.

Regarding the above problems, many studies of learning vocabulary strategies were conducted, for instance, Ahmed (1988) studied vocabulary learning strategies which were used by Sudanese learners and he investigated the relationship between strategy use and four learners' factors. Also, Fatima, Mohamed and Ashinida (2015) and Elbadri (2016) explored the types of vocabulary learning strategies used by learners of EFL in Sudanese universities. While the above-mentioned studies have clearly investigated learning vocabulary strategies, they have not addressed the strategies that suit medical students. Consequently, this study is an attempt by which the researchers will fill the gap between understanding the current theories of learning vocabulary strategies and their application in learning medicinal vocabulary by medical students of the faculty of medicine at Karari University.

### **Questions of the Study**

The researchers try their best to present vivid and apt research questions that permit them to review the literature in a proper manner. These questions will, also, enable them to generate and write clear hypotheses for their study. To carry out the above issues the underneath questions are brought up:

1. How often do Karary University Medical students employ cognitive strategies in learning medical vocabulary?
2. How frequently do Karary University Medical students make use of determination strategies in learning medical vocabulary?
3. How commonly do Karary University Medical students use memory strategies in learning medical vocabulary?
4. How ordinarily do Karary University Medical students employ social strategies in learning medical vocabulary?
5. How generally do Karary University Medical students make use of metacognitive strategies in learning medical vocabulary?

### **Hypotheses of the Study**

Knowing that a hypothesis should clarify the problem of the study, come up with a solution to it and propose a result; the researchers present the following hypotheses:

1. Karary University Medical students can often employ cognitive strategies in learning medical vocabulary if they have practical guidelines.
2. Karary University Medical students can frequently be able to make use of determination strategies in learning medical vocabulary if they have intrinsic motivation.
3. Karary University Medical students do not commonly make use of memory strategies in learning medical vocabulary unless they cleave to mnemonics.
4. Karary University Medical students do not ordinarily employ social strategies in learning medical vocabulary unless they establish cooperation.
5. Karary University Medical students can generally use metacognitive strategies in learning medical vocabulary if they control their learning processes.

### **Significance of the Study**

This study is expected to have a great value to medical syllabus designers if they respond positively to its outcomes. In addition, it will provide a number of activities that ESP learners can perform in and outside their classes. Furthermore, it can bridge the gap in the literary sources concerning medical vocabulary learning and pave the way for further studies in the field.

### **Limitations and Delimitations of the Study**

The consideration- in this study- will be on investigating students' learning strategies of ESP vocabulary at medicine faculty, Karari University- sudan. So far, the researchers state the delimitations of the study, i.e. the boundary line or outer limit. In short, the researchers decide what the limits of the research are.

Regarding the limitations, the questionnaire is not as good as it should be since its validity and reliability are not certain. The researchers claim that the deficiency of the questionnaire is because the respondents may try to please the responsible, flatter themselves and be lazy or not displaying concern for such matter. Also, there are differences between respondents in tackling the questionnaire as Ary ,et al (2010) stated that “Studies have shown that there

are usually systematic differences in the characteristics of respondents and nonrespondents to questionnaire studies.” (p. 385). Over and above, the interviews are partly incomplete processes, mentally disturbing and interviewers' personality and mood are subjective items, that is to say the interviews are snap judgments and done without allowing time for careful thought or preparation.

## **LITERATURE REVIEW**

### **2.1 What Is Meant by Vocabulary Learning Strategies (VLSs)?**

Vocabulary, in general, is considered as the main communication device, and frequently classified as demanding area by language learners. So, vocabulary learning task, in particular, is to some extent problematic and influenced by various factors.

VLSs are a division of Language Learning Strategies which are also a part of the overall learning strategies. There are researchers such as Rebecca Oxford and David Crookall (1989) and Schmitt N. & McCarthy M. (1997) who acknowledge that in addressing vocabulary learning strategies, one should not forget its correlation with language learning strategies.

Oxford (1990, p. 8) defines VLSs “as ‘the operations employed by the learner to aid the acquisition, storage, retrieval, and use of information (vocabulary)’. Cameron (2001, p. 92) defines vocabulary learning strategies (VLSs) as ‘the actions that learners take to help themselves understand and remember vocabulary items’.” (Cited in Rabadi R. I. 2016, p. 48).

To describe Schmitt's strategies definition, Baskin S., et al. (2017) declared that, “Schmitt's strategies are divided into two groups in the form of discovery and consolidation. In discovery strategies; students determine the meaning when they meet new words for the first time, and in reinforcement strategies; students reinforce meaning when they meet words again. Determination strategies and social strategies are in the discovery group; cognitive strategies, metacognitive strategies, memory strategies and social strategies are in the consolidation group. Since social strategies can be used in both groups, they are included in both.” (p.127)

Alhaysony M. (2017) proposed that, “since the 1970s... learning strategies (LSs) have received increasing attention from researchers and educators in the fields of English as a Second Language (ESL) and English as Foreign Language (EFL) in relation to how languages are learned differently by individual learners.” (p.18). This idea was clearly shown by Rabadi I. R. (2016) who declared that, “vocabulary learning strategies vary from one learner to another in terms of different variables such as age, gender, language proficiency level, etc.” (p. 48). Serkan Ç. and Veli T. (2010) indicated that “patterns of strategy usage can change over time as a learner either matures or becomes more proficient in the target language. The study by Ahmed (1989) found some evidence of a progression in strategy usage as the learners became more experienced. In addition, it was found that

many of the strategies reported by the mature respondents as useful involved (deeper) processing and greater cognitive effort. Therefore, the mature learners seemed to realize the value of those strategies.” (p. 64).

Liu Leile (2016) argued that “vocabulary learning result is directly related to students’ own effort. It’s even more important for students to enhance the ability of vocabulary learning. Now as the science and technology is developing, many a useful learning methods coming into being. For these reasons, getting familiar with the vocabulary learning strategies and making them useful in their actual vocabulary learning activities both in and out of class is of top priority.” (p.56).

### **Types of Vocabulary Learning Strategies**

In classifying learning strategies, scholars have different types of classification. The following seven strategies are classified, by Rebecca Oxford and David Crookall (1989), as follows:

- “Cognitive Strategies; skills that involve manipulation or transformation of the language in some direct way, e.g., through reasoning, analysis, note taking, functional practice in naturalistic settings, formal practice with structures and sounds, etc.
- Memory Strategies; techniques specifically tailored to help the learner store new information in memory and retrieve it later.
- Compensation Strategies; behaviors used to compensate for missing knowledge of some kind, e.g., inferencing (guessing) while listening or reading, or using synonyms or circumlocution while speaking or writing.
- Communication Strategies; typically taken to mean only those compensation strategies used while speaking; however, communication occurs in the three other language skill areas (reading, listening, and writing) as well as in speaking, so the popular term communication strategies is a misnomer.
- Metacognitive Strategies; behaviors used for centering, arranging, planning, and evaluating one’s learning. These “beyond-the-cognitive” strategies are used to provide “executive control” over the learning process.
- Affective Strategies; techniques like self-reinforcement and positive self-talk which help learners gain better control over their emotions, attitudes, and motivations related to language learning.
- Social Strategies; actions involving other people in the language learning process. Examples are questioning, cooperating with peers, and developing empathy.” (p.404).

The researchers will empirically investigate five types of strategies for this study. They select four from the above Rebecca and David's strategies, namely; cognitive, memory, social and metacognitive strategies. Then, they take the fifth one which is the 'determination strategies' from Schmitt's (1997) taxonomy. “Schmitt's taxonomy (1997) is a comprehensive inventory of VLSs. Schmitt took social, memory, cognitive and meta-

cognitive strategies established by Oxford, and invented a new category that is determination strategies. Learners use this category to discover the meaning of new words without asking from another person.” (Cited in Rabadi R. I. 2016, p. 48). The researchers are going to investigate these five strategies to know whether the students, of the faculty of medicine- Karari University, adopt them in their vocabulary learning strategies or not. Adding a vocabulary learning strategies constituent is necessary to facilitate acquiring the needed vocabulary for a particular field of knowledge. Learners have to be encouraged to acquire specific vocabulary on their own after developing a fundamental level of vocabulary. Yet, Yongqi G. and Robert K. J.(1996) stated that “ how different learners combine different strategies and how this affects their learning outcomes warrant studying as much as, perhaps more than, the effects of individual strategies.” (p. 647).

VLSs (Vocabulary learning strategies) have a vital role in (VL) in general. For ESP learners, the lack of vocabulary of the target language may affect their studies and their career later. The use of VLSs simplifies vocabulary learning task and helps students to become autonomic learners.

### **Studies on Relevant ESP / Medical Vocabulary Learning Strategies**

Considering the complexity of the task of medical vocabulary learning, it is an unreasonable expectation for the teacher to explicitly teach all facets of medical vocabulary and an entire set of words of a list to learners. Also, due to time limits with direct instruction, teachers cannot teach all words explicitly. Therefore, adding a vocabulary learning strategies component is necessary to facilitate acquiring the infrequent ESP words incidentally. Instead, learners have to be encouraged to acquire specific vocabulary on their own after developing a fundamental level of vocabulary.

Dudley-Evans, A. and M. J. St John. (1998) asserted that “ESP has generally been concerned with procedures and practical outcomes. It has been in the vanguard of the developments in ELT, moving from grammatical, functional and notional syllabuses to a more eclectic and task-based approach. EST was the dominant movement for many years, but ESP today is a much broader activity in which English for Business Purposes (EBP) has become increasingly important. There is an impressive amount of research, particularly in the target events of the academic world, and this becoming increasingly interdisciplinary.” (p.32). Akbari Z. (2017) claimed that, “with regard to the relationship between ESP content and the students’ training courses, the more students are required to use the specialized vocabulary they had already learned in their ESP course in their training sessions, the more motivated they become to learn them and use them as the need arises. On the other hand, the simultaneous presentation of ESP and training courses can help ESP students to experience the practical use (application) of the specialized vocabulary items in authentic (real) contexts such as clinics, hospitals or drugstores. Prior presentation of training courses to ESP courses also raised the ESP students’ consciousness about the importance and necessity of learning specialized vocabulary in satisfying their academic needs.” (p.103).

Medical students have to contemplate learning medicinal terminology to advance their profession. Medicinal Terminology is an essential skill for a variety of jobs within the medical field. Whether medical students have a feeling of interest in clinical administration, medical records administration, optometry, etc. or not, having knowledge of the terms will be essential for their success. There are various methods to learn this skill, but taking online courses can give them many added benefits, including the might to get knowledge in their own way and at their own time.

## **MATERIALS AND METHODS**

This section of the study is about the field research, that is to say it concerns with the collection of data by making use of two tools in a physical environment of the above-named medicine faculty. The procedure of gathering and utilising the data (empirical examination) is a significant part in this study. Here, the researchers aim at evaluating the students' behaviours towards VLSs while they are learning vocabulary.

### **Instruments**

Researchers use different processes to get the data for their study. Then, they make use of the descriptive analytical method to term, test, arrange and sum the data by making use of two tools:

- a questionnaire with close-ended questions ,
- guided interviews.

The researchers use these guided interviews to strengthen the questionnaire and to come out with authentic results. In sum, they combine these two tools in three manners: to prove the findings of each other, to use each of them as a base for the other, and to use them in mutual way to discover different features of the study questions. This methodology is called by Ary, et al., (2010) a mixed method research. This method research comes out with findings that may be more dependable and provide a more complete explanation of the research problem than either method alone could provide. (p. 23)

### **Population and Selection of Sample**

The researchers choose a sample of 87 students to respond to the questionnaire. This sample is taken from the whole population of the faculty. With this sampling, the researchers represent the population with this separated small group as it is impossible to survey, choose, interview, etc. the whole population of the faculty. Moreover, they pick and choose eight ESP teachers - as interviewees- from three different Sudanese universities. These instructors are professional teachers of English language who used to teach ESP to university students.

### **Procedure**

This section of the study contains all the activities to be tackled in order to fulfill the objectives of the research and to provide some suitable solutions to the problem. It offers

detailed description and perfect information on the preparation of the questionnaire and the interview.

### **Procedure for Conducting the Questionnaire**

The researchers have constructed the questionnaire in order to collect data for investigating the students' strategies in learning medical vocabulary. The questionnaire consists of (20) statements which are categorized into five domains:

1. To measure cognitive strategies.
2. To measure determination strategies.
3. To measure memory strategies.
4. To measure social strategies.
5. To measure metacognitive strategies.

The questionnaire is selected, constructed and carefully modified to ensure its maximum degree of validity and reliability. Its statements are written in the light of study questions and hypotheses to reflect the practice and attitudes of the respondents towards how often vocabulary learning strategies are used in enhancing learning medical vocabulary. Respondents will respond to the questionnaire statements indicating how often they employ these strategies. (See the questionnaire below).

### ***Questionnaire***

**Name:** Is not required.

Would you please, note that the purpose of this questionnaire is merely to help in writing a research paper, and that there are no right or wrong answers. Please, respond to each of the statements below, immediately, by making a (✓) in the appropriate box as an immediate response is generally best.

*With best regards*



No.	Questions	Always	Often	Sometimes	Rarely	Never
<b>First Domain→Cognitive Strategies</b>						
1	Do oral repetition for medical words					
2	Do written repetition for medical words					
3	Put medical words on objects					
4	Take note in class on medical word					
<b>Second Domain→Determination Strategies</b>						
5	Analyze affixes of medical words					
6	Analyze parts of speech					
7	Use bilingual dictionary					
8	Use medical dictionary					
9	Figure out the meaning from textual context					
<b>Third Domain→Memory Strategies</b>						
10	Learn the spelling of medical words					
11	Connect the medical word to its similar and opposite meaning					
12	Deliberately learn collocates of medical words					
13	Memorize unanalyzed chunks					
<b>Fourth Domain→Social Strategies</b>						
14	Ask each other for meaning of medical words					
15	Learn medical words through family words					
16	Translate the meaning of medical word into Arabic					
17	Work in pair using the new medical word					
<b>Fifth Domain→Metacognitive Strategies</b>						
18	How often do you work in pair using the new medical word?					
19	How frequently do you ask each other for meaning of medical word?					
20	How often do you ask your ESP teacher to translate the meaning of medical word into Arabic?					

### Procedure for Conducting the Interview

The researchers state the purposes of the interview and avoid too much explanations and unnecessary elaborations about the study in order not to make the respondents biased or even bored. To collect data relevant to the topic, the researchers make use of guided interviews. These interviews have been developed for ESP teachers in order to give their views on the following:

- Vocabulary Learning Strategies are employed in teaching that help in learning medical vocabulary.
- What types of VLSs are frequently used by ESP teachers?
- Students of medicine are accustomed to employ VLSs in learning medical vocabulary.

The interview schedule which contains three spaces for an open response is employed to collect detail information from the ESP teachers who have been mentioned earlier. (See this interview schedule).

***Interview Schedule***

- This interview schedule is set to obtain as much information as possible and record answers, to the items, onto it during the interview.
- These three items below are interview guides which help the researchers to make sure that the important topics have been covered during the interview. (Open-ended responses).

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**Teacher's number:** (    ) -**Faculty:** ..... -**Specialization:**  
*English*

**1.** Vocabulary Learning Strategies should ALL be employed in teaching medicine vocabulary. ***Confirm or deny with reasons.***

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**2.** According to your vision, what types of vocabulary learning strategies are frequently used by ESP teachers?

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**3.** Students of medicine are accustomed to employ vocabulary learning Strategies in learning medical vocabulary. ***Confirm or deny with reasons.***

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***With Best Regards***

## RESULTS AND DISCUSSION

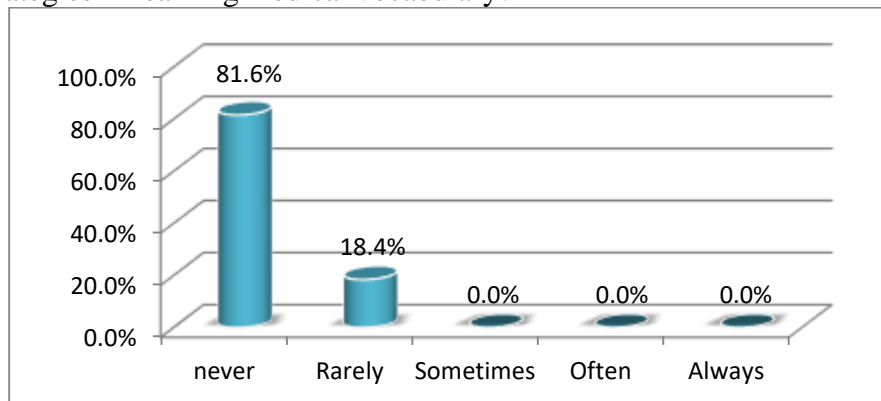
This part of the study is for explaining and describing the rate of the results in a manner convenient to what is already known about the research problem under investigation. The researchers organize and present the results around the hypotheses of the study. By way of explanation, they discover that the simplest way is to present the study results and fabricate them around the hypotheses of the research which they have framed already, that is to say they restate the first hypothesis and submit the findings of it, and then they repeat the same process for each hypothesis, that is to say they inspect the hypotheses one at a time in an agreed order.

Researchers are often interested in matching two percentages to know the significant difference between them. Bearing the above information in their minds, the researchers use percentages to make calculations of this study easier and to know the significant difference between the percent saying yes and the percent saying no. Then, the researchers will apply this method to the five hypotheses of the study one after the other.

### 4.1 Interpretation of the First Hypothesis

Answer	Frequency	Percentage
Never	71	81.6%
Rarely	16	18.4%
Sometimes	0	0.0%
Often	0	0.0%
Always	0	0.0%
<b>Total</b>	<b>87</b>	<b>100.0%</b>

**Table (1):** How often do Karary University Medical students employ cognitive strategies in learning medical vocabulary?



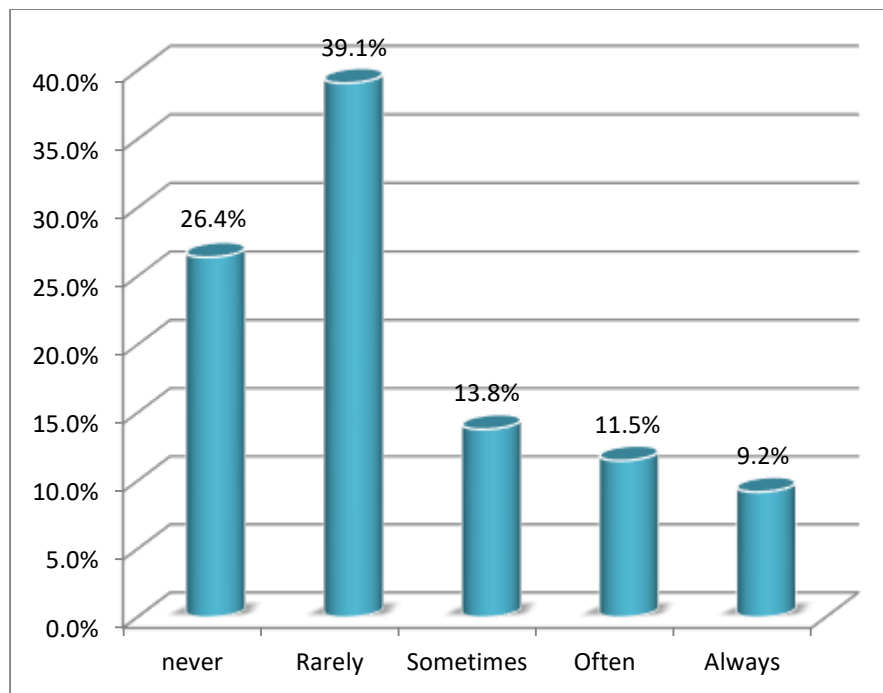
**Figure (1):** How often do Karary University Medical students employ cognitive strategies in learning medical vocabulary?

Table (1) and Figure (1) show significant differences between the five options. The high value stands for (never) with the percentage of 81.6. This result does not support the first hypothesis: “Karary University Medical students can often employ cognitive strategies in learning medical vocabulary if they have practical guidelines.” Since the answer for question one is 'never' then the first hypothesis is confirmed to be **valid**.

#### 4.2 Interpretation of the Second Hypothesis

Answer	Frequency	Percentage
Never	23	26.4%
Rarely	34	39.1%
Sometimes	12	13.8%
Often	10	11.5%
Always	8	9.2%
<b>Total</b>	<b>87</b>	<b>100.0%</b>

**Table (2):** How frequently do Karary University Medical students make use of determination strategies in learning medical vocabulary?



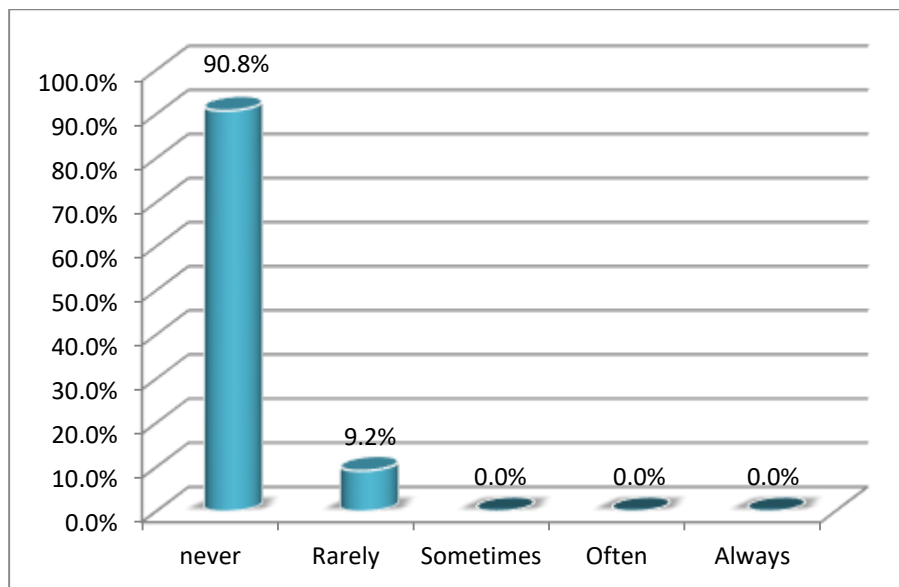
**Table (2):** How frequently do Karary University Medical students make use of determination strategies in learning medical vocabulary?

According to table (2) and figure (2) above, all the items show significant differences between the five choices in consonance with (rarely) which is 39.1%. This outcome does not agree with the second hypothesis: “Karary University Medical students can frequently be able to make use of determination strategies in learning medical vocabulary if they have intrinsic motivation.” As the answer for question two is ‘rarely’ thence the second hypothesis is **based on facts**.

### Interpretation of the Third Hypothesis

Answer	Frequency	Percentage
Never	79	90.8%
Rarely	8	9.2%
Sometimes	0	0.0%
Often	0	0.0%
Always	0	0.0%
<b>Total</b>	<b>87</b>	<b>100.0%</b>

**Table (3):** How commonly do Karary University Medical students use memory strategies in learning medical vocabulary?



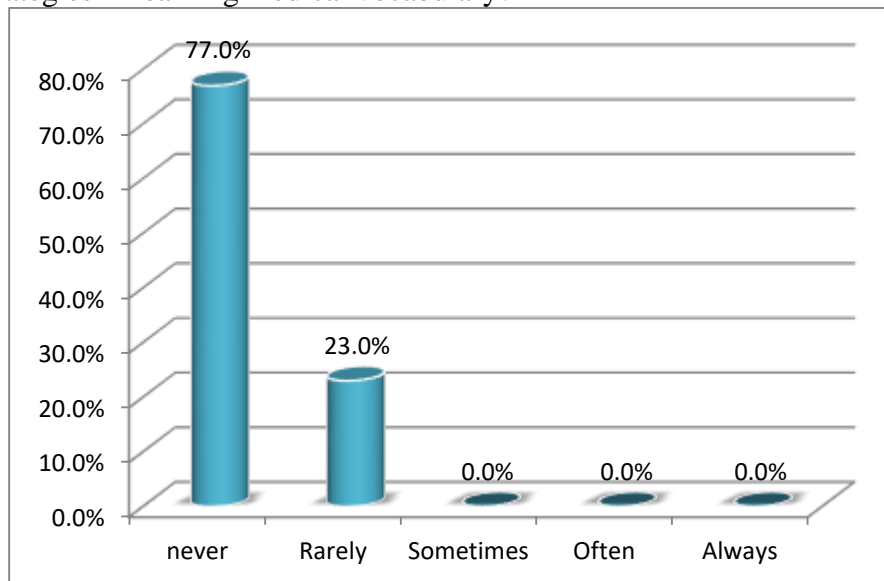
**Table (3):** How commonly do Karary University Medical students use memory strategies in learning medical vocabulary?

As stated in table (3) and figure (3) there are significant differences between the five selections, yet (never) reflect the highest percentage of 90.8%. This issue disagrees with the third hypothesis: “Karary University Medical students do not commonly make use of memory strategies in learning medical vocabulary unless they cleave to mnemonics.” Because the answer for the third question is ‘**never**’, then the third hypothesis is recognized to be **authentic**.

### Interpretation of the Fourth Hypothesis

Answer	Frequency	Percentage
Never	67	77.0%
Rarely	20	23.0%
Sometimes	0	0.0%
Often	0	0.0%
Always	0	0.0%
<b>Total</b>	<b>87</b>	<b>100.0%</b>

**Table (4):** How ordinarily do Karary University Medical students employ social strategies in learning medical vocabulary?



**Table (4):** How ordinarily do Karary University Medical students employ social strategies in learning medical vocabulary?

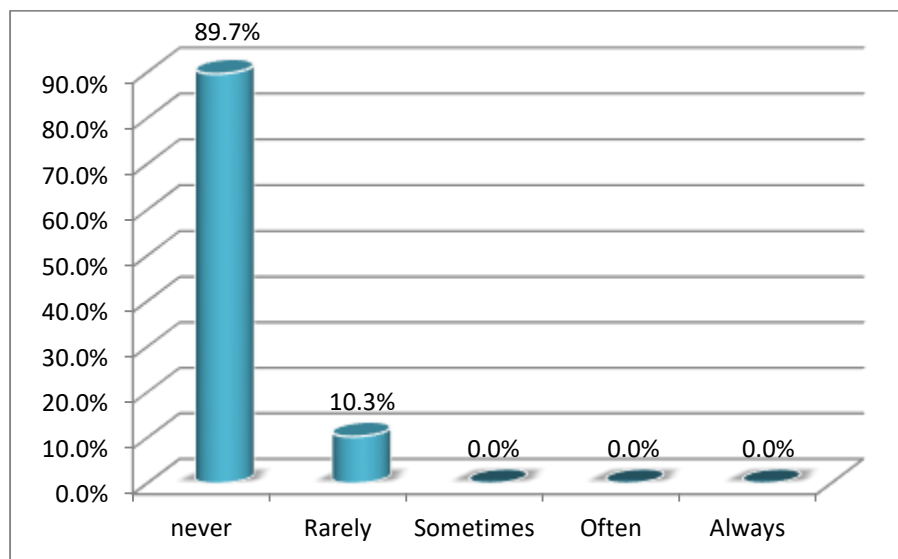
Considering table (4) and figure (4) above, there are significant differences between the five options, but the greatest value is (never) with the percentage of 77.0. This conclusion

does not prove the fourth hypothesis: “Karary University Medical students do not ordinarily employ social strategies in learning medical vocabulary unless they establish cooperation.” As the answer for question four is **'never'** then the fourth hypothesis is **credible**.

### Interpretation of the Fifth Hypothesis

Answer	Frequency	Percentage
Never	78	89.7%
Rarely	9	10.3%
Sometimes	0	0.0%
Often	0	0.0%
Always	0	0.0%
<b>Total</b>	<b>87</b>	<b>100.0%</b>

**Table (5):** How generally do Karary University Medical students make use of metacognitive strategies in learning medical vocabulary?



**Table (5):** How generally do Karary University Medical students make use of metacognitive strategies in learning medical vocabulary?

As reported by the above-mentioned table (5) and figure (5) there are significant differences between the five options, however the option (never) has the top percentage of 89.7. This case does not represent the fifth hypothesis: “Karary University Medical students can generally use metacognitive strategies in learning medical vocabulary if they control

their learning processes.” In light of the answer for question four is 'never' thus the fifth hypothesis is **sound**.

### **Interview Analysis**

As stated before, the researchers have adopted open-ended interview as another tool for collecting data. The interview three main questions are responded by eight ESP university teachers. Then, the interview contents are analyzed and came out with some suggestions to facilitate learning of medical vocabulary:

- ESP teachers have to train their medical students on how to employ various strategies in vocabulary learning.
- ESP teachers should prepare their students to outside classrooms interactions using medical terms.
- Medical students have to watch some movies and listen to tapes containing medical vocabulary items.
- Medical students should be skilled, at least, in using some types of VLSs such as; determination strategies, memory strategies and cognitive strategies.
- All ESP teachers who respond to the interview recommend that medical students should master utilising all vocabulary strategies. Yet, they propose that medical students should tend to use determination strategies more than the other ones since the analysis of prefixes and suffixes are necessary in learning medical terms.
- ESP teachers have intrinsic motivation and interest to improve their students' medical language levels.

These results agree with the questionnaire results and strengthen them. Moreover, they assert that the five study hypotheses are valid.

## **SUMMARY OF RESULTS, RECOMMENDATIONS AND FURTHER RESEARCH**

### **Summary of Results**

The results obtained from the data analysis are discussed under the scope of the study questions and hypotheses. Then, a number of recommendations and some suggestions for further studies are derived from the following findings: Most medical students at the faculty of medicine, Karari University;

1. never employ cognitive strategies in learning medical vocabulary.
2. rarely use determination strategies learning medical vocabulary.
3. not ever practice memory strategies for learning medical vocabulary.
4. certainly not use metacognitive strategies learning medical vocabulary.
5. surely not use social strategies in learning medical vocabulary.

Based on these findings the researchers conclude that the majority of medical students are not aware of the importance of VLSs in facilitating and consolidating medical vocabulary learning, that is to say these students do not appreciate vocabulary learning strategies and their effectiveness on learning medical words. The condition of not using proper strategies in teaching and learning medical vocabulary is the factor that justified the lack of it. As a



matter of fact, there are more than 20 strategies of which students of medicine apply only two of them. The only strategy they use adequately is the bilingual dictionary. Most of the neglected strategies are really effective in enriching the students' medical vocabulary which is the base of success in this field of study.

As for the ESP teachers:

- They are fully aware of students' great needs and demands for such strategies.
- They are aware of the special nature of medical words which requires special learning strategies.
- They have a strong belief that not all VLSs have the same degree of importance in learning medical vocabulary.
- Some of them do not employ the proper strategies when they introduce new medical words.

### **Recommendations**

According to the above-mentioned results, the researchers recommend the following:

1. Students of medicine should be provided with both definitional and contextual information about medical words.
2. Students of medicine should be encouraged to process information about medicinal vocabulary by making use of technology.
3. Vocabulary could be related to the students' often-felt need for dictionary access.
4. VLSs could be reflected in the current emphasis on authentic communicative activities.
5. Students of medicine need multiple exposures to medical vocabulary and extensive reading in the field is the most often cited remedy for this lack.
6. To get to an effective amount of medical vocabulary, ESP teachers should apply all recommended vocabulary learning strategies explained throughout this study.
7. Students should be taught how to train themselves on using effective word learning strategies.
8. ESP teachers should employ proper vocabulary teaching strategies, and determination strategies should be stressed.
9. Some VLSs, such as social strategies, are needed to cater for students' medical vocabulary particularly after graduation.
10. Due to the unique nature of medical vocabulary, teaching medical words should be accompanied by proper tasks and activities for fostering students to use these medical terms.
11. Vocabulary learning strategies can empower students with skills and knowledge of medical words to communicate effectively in various medical contexts.

### **Further Research**

The importance of VLSs in learning and mastering medical vocabulary is vividly presented while investigating the students' learning strategies of medical vocabulary at the faculty of medicine, Karari University. Therefore, further investigation is needed in order to know

the causes of students' awareness absence of the role of; metacognitive vocabulary learning strategies, cognitive vocabulary learning strategies, and social vocabulary learning strategies.

In actuality, a great number of ESP teachers, in Sudan, who teach medicinal vocabulary deal with a number of problems including mainly: the absence of training, the lack of available and suitable teaching materials, large size of classes, etc. Being that the case, the researchers have very satisfactory reasons to think that this paper will be an attempt by which they can help the specialized audiences particularly in their home country in which English language is taught as a FL. Besides, audiences such as; interested readers, teachers who are concerned with ESP, and those whose career is LT and applied linguistics- to carry on further researches in this area of knowledge.

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