

Vocabulary Learning Strategies of Medical English Terminologies: The Case of Foundation
Year Students at Ibn Sina Medical College

Rania Hassen Kabouha

English Language Institute

King Abdul-Aziz University

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Abstract

This study aims to find out which are the most used Vocabulary Learning Strategies by the medical students at Ibn Sina National College of Medical Studies. The study employed a survey method where it used a modified version of the questionnaire prepared by Jones (2006) as well as Seddigh and Shokrpur (2012). The participants of the study included 25 male medical students studying at the intermediate level and taking the Medical English Terminology course. They ranged in age from 19 to 22 years. The students were required to answer a two part questionnaire. The first part required a few background information questions. The second part was a 41-item Likert Scale questionnaire where the students had to mark in terms of frequency of use as well as usefulness of each strategy. The data was analyzed using descriptive statistics. The results indicated that the most used vocabulary learning strategies among the participants were guessing strategies as well as dictionary strategies. The least used strategies were that of selective attention and note taking. The students were seen to prefer learning alone as opposed to groups when learning vocabulary. The most useful strategies was using the dictionary and speaking with natives to acquire vocabulary. The findings of the present study suggest that further research can be conducted concerning how to adapt these strategies in classroom teaching and learning and how to train learners to use vocabulary learning strategies more efficiently.

Key words: Vocabulary Learning Strategies (VLS), Dictionary, Guessing, Study preferences, Memory, Autonomy, Note-taking, Social, Selective attention strategies.

Vocabulary Learning Strategies of Medical English Terminologies: The Case of Foundation Year Students at Ibn Sina Medical College

Introduction

An important aspect of the acquisition of any language is increasing the repertoire of vocabulary in the target language. Vocabulary plays an important role, as pointed out by David Wilkins: ‘without grammar very little can be conveyed, without vocabulary nothing can be conveyed’ (Thornburry, 2002, p.13). There have been several studies conducted to find out the different strategies used by students to learn words like that of (Schmitt, 1997; Oxford, 1990, etc). The current study relates to strategies to learn medical terminology. Medical terminology here refers to medical jargon or specialized language that allows for quick and efficient communication between learners, specialists and experts of medicine and health sciences. It is regarded as one of the most difficult language among all the other specialized languages in different fields (Abdullah, 2013). It is essential for medical students to learn these terms, as they are a prerequisite to them being able to solve problems in their respective careers and disciplines (Duan, 2005). There are several studies that relate to Vocabulary Learning Strategies in relation to medical students such as (Abdullah, 2013; Sinadinovic, 2013; Brahler & Walker, 2007; Arani, 2005; Seddigh & Shokrpur, 2012, etc).

Literature Review

Learning Strategies can be defined as specific actions, behaviors, steps, or techniques used consciously or unconsciously to improve their progress in apprehending, internalizing, and using a second language (Oxford, 1994). Oxford (1990) believes that these strategies can make learning easier, faster, more enjoyable, self-directed, effective, and transferable to new situations. It has been observed that high achievers are effective strategy users (Ahmed, 1989). Therefore, if students are equipped with such strategies like those of Vocabulary learning, it can help them be more successful in learning language or in the case of medical students, understand, comprehend and work in their field more efficiently. Vocabulary learning revolves around five main steps which include encountering new words, getting a clear image of them either audio or visual, learning their meaning, making a memory connection between forms and meanings of the words and using them (Fan, 2003). The different taxonomies developed by different researchers also revolve around these steps like that of (Schmitt, 1997; Oxford, 1990, etc).

Vocabulary Learning Strategies

Schmitt (1997) defines Vocabulary Learning Strategies as "any action which affects this rather broadly-defined process" (p. 203). Similarly, Cameron (2001) defines Vocabulary Learning Strategies as "actions that learners take to help themselves understand and remember vocabulary" (p. 92). Knowledge of Vocabulary Learning Strategies can help students learn better and control their own learning process. It also helps them deal with each new word they encounter in the best way possible.

There have been several classifications of Vocabulary Learning Strategies developed by different researchers. The most noted one is the taxonomy developed by Oxford (1990). She divided all the strategies into *direct* and *indirect* strategies. Direct strategies involve direct

learning and they branch into memory (e.g. associating, using imagery or keywords), cognitive (e.g. repeating, translating, taking notes), and compensation (e.g. getting help, avoiding communication, using mime and gesture). Whereas, indirect strategies contribute indirectly to learning and branch out into metacognitive (e.g. organizing, setting goals), affective (e.g. taking risks), and social strategies (e.g. asking for clarification/verification, cooperating with peers, asking for correction).

Schmitt (1997) developed his taxonomy from the one developed by Oxford (1990). He divided vocabulary-learning strategies as *discovery* strategies and *consolidation* strategies. Discovery strategies are those which are used in discovering the meaning of a new word such as guessing from context, asking others for meaning, guessing from parts etc. In contrast, consolidating strategies deal with retention of a word once it has been encountered. The former consists of determination strategies (guessing based on structural knowledge, guessing from context, using references etc.) and social strategies (acquiring words from communication with native speakers, asking for meaning of new words etc.), whereas the latter includes social strategies, memory strategies, cognitive strategies, and metacognitive strategies.

The taxonomy used in this study is that of Jones (2006) which classifies vocabulary learning strategies in terms of Dictionary Strategies, guessing strategies, study preferences, memory strategies, autonomy, note taking, selective attention and social strategies.

Dictionary strategies deal with the use of dictionaries to find and understand new words. It can be either monolingual dictionaries or bilingual dictionaries. According to Fan (2003), proficient students make use of dictionary strategies more often than less proficient students. Although monolingual dictionaries are better for the students in the long run, as they are forced to depend more on the target language, most students prefer bilingual dictionaries (Baxter (1980)

& Hsien-Jen (2001) as cited in Seddigh & Shokrpur, 2012). Guessing strategies on the other hand cover guessing the meaning of the words from the context or from knowledge of word structure. In Schmitt's (1997) taxonomy, dictionary strategies and guessing strategies come under determination strategies. Gu and Johnson (1996, as cited in Seddigh & Shokrpur, 2012) found out that proficient learners are the ones who make frequent use of these strategies.

Study preferences are the strategies that show how the students like to study vocabulary in terms of group study versus individual study. Memory strategies on the other hand involve relating the new word to some previously learned knowledge (Schmitt, 1997). This is also called mnemonics (Brahler & Walker, 2007). According to Thomson (1987, as cited in Schmitt, 1997) "mnemonics work by utilizing some well-known principles of psychology: a retrieval plan is developed during encoding, and mental imagery, both visual and verbal, is used. They help individuals learn faster and recall better because they aid the integration of new material into existing cognitive units and because they provide retrieval cues". Memory strategies not only involve mnemonics, but also includes strategies such as rote learning, repetitive use, etc. that will help the user to recall the words later.

Autonomy involves motivation of the learner as well as taking responsibility for one's own learning. Note taking strategies are a form of cognitive strategies focusing on mechanical aspects of learning (Seddigh & Shokrpur, 2012). This helps the students to create a personal structure for the newly learned words (Schmitt, 1997). The depth of information the students get out of note taking depend on what they write down regarding the newly learnt word. It could just be as simple as the direct meaning or as elaborate as grammar information, collocation, meaning in both their native language as well as English giving them more deep knowledge of the word. Social strategies are those that involve seeking the help of others in learning vocabulary. This

involves asking someone for the meaning usually teachers or peers. It also includes interacting with native speakers (Seddigh & Shokrpur, 2012).

There are several studies that look at specific strategies and how they help the students in acquiring and retaining medical terms. The study of Al-Jarf (2010) deals with a mind mapping software that will help the students learn terms easily. Here the study employs software that builds mind maps for prefixes, suffixes, common terms etc. Another study is the one conducted by Brahler and Walker (2007) which uses a mnemonic strategy to teach medical terminology. The study posits that facilitating recall and retention of new terms can be done through linking the new material to an existing framework of knowledge which they call “illogical associations”. Muller (2012) introduces a video game that will help students of medicine and related health sciences learn terms easily and have fun at the same time. On a similar vein, Riahipour and Saba (2012) talked about using games in the classrooms to enhance students' vocabulary learning. Their study results support their theory that having different games in the classroom can help students learn terms better.

Several other studies have been conducted to find out which strategies are the most frequently used among students. In a study conducted by Malcolm (2004) to find out which strategies high achievers use to learn English in general, she found out that watching TV in English as well as reading magazines, books and newspapers ranked the highest. There are also several studies that deal with the use of strategies by medical students which is the focus of our current study. Arani (2005) conducted a study among medical students at Kashan University for Medical Sciences in Iran. His findings indicated that most students use written repetition, verbal repetition, and bilingual dictionary strategies. His study also indicated that high achievers use strategies more often than low achievers, but neither category was very good at using social

strategies. Another study conducted along the same lines is that of Seddigh and Shokrpur (2012), which concluded that the most used strategies were dictionary and guessing strategies. It can be seen that social strategies is one of the least used strategies in this study as well. On the other hand, Sinadinovic (2013) found in his study that students often do not use strategies consciously and are not even aware of the different strategies that can be used. He also found out in his comparison of genders that girls tend to be more creative than boys in using strategies to learn medical vocabulary. This finding related to genders is also seen in the study of Seddigh and Shokrpur (2012). Female students seem to be more effective Vocabulary Learning Strategy users.

Our review of literature quite strongly points out that if the students are more aware of the different Vocabulary Learning Strategies, they will be able to utilize them into their study plans thereby making them more efficient in learning complex medical terms. The study conducted by Aktekin and Guven (2013) is a very clear example for this. Their study aimed to find out if teaching strategies to the students would have an impact on their ability to acquire vocabulary. The study results show that the improvement is very significant when compared to those who do not get this training. It is also noted that successful learners are more proficient users of vocabulary learning strategies (Ahmed, 1989; Arani, 2005). When adding this together, we can conclude that if students were more proficient in using Vocabulary Learning Strategies, they would be more successful learners and that a good way to get them to be aware of and use Vocabulary Learning Strategies is to train them.

Statement of the Problem

It is very difficult to learn complex medical terms for non-native English speakers.

Nevertheless, learning these terms are essential for their progress in the study of medicine and in

their work life later on. Exploring the Vocabulary learning strategies of medical students can help the teachers to be more aware of what strategies the students use and their role in improving vocabulary learning. It can also help curriculum and classroom methodology designers to match teaching and learning to the students' learning styles. Therefore, this research will seek to answer the following questions:

- 1- What are the most preferred Vocabulary Learning Strategies that medical students use to help facilitate the learning of medical terminology?
- 2- To what extent do the students believe the strategies help them in the acquisition of the new vocabulary?

Research Methodology

Instrument

This research was conducted using a questionnaire (Appendix A). The questionnaire used in the study was a slightly modified version of the one used by Seddigh and Shokrpur (2012) in their study "Vocabulary Learning Strategies of Medical Students at Shiraz University of Medical Sciences" which was first employed by Jones (2006). This particular questionnaire was chosen because the current study aims to answer the same question as the one the study conducted by Seddigh and Shokrpur aimed to answer in the above mentioned study. The researcher found the questionnaire adequate for the purpose of the current study as the questionnaire covered all the relevant strategies that the researcher addressed in the literature review. The questionnaire consists of two sections. The first section is a set of questions that were used to get some background information of the participants which included their level of studies, their overall grades, grades in English language etc. The second section consists of 41 items in 8 categories which are

dictionary strategies, guessing strategies, study preferences, memory strategies, autonomy, note-taking strategies, selective attention, and social strategies. The number of items under each category varied from 1 to 12. The participants were required to grade each item according to their use of them in terms of 'never', 'rarely', 'sometimes', 'often' and 'always'. As well as based on their usefulness in terms of 'very useful', 'useful', and 'not useful'.

Participants

The participants in this study were 25 students who are taking Medical English Terminology Course, as a compulsory subject in their first academic year, at Ibn Sina National College for Medical Studies. They ranged in age from 19-22 years old. They were all male students.

Administration and Data Collection

The researcher briefly explained the questionnaire to the students and distributed it among the students. They were told to ask if they had any doubts in any of the items. The participants were asked to grade each strategy mentioned according to their use of them in terms of 'never', 'rarely', 'sometimes', 'often' and 'always'. As well as based on their usefulness in terms of 'very useful', 'useful', and 'not useful'. After the students filled up the questionnaires, they were collected back.

Data Analysis

The data was analyzed using SPSS 16.0. In order to find out which strategies is the most used among the students, descriptive statistics was used. The table showed percentage of use, mean, and standard deviation. Another table was drawn to show the percentage of use of the 8 different categories of Verbal Learning Strategies. To find out how useful the students found each strategy to be, another descriptive statistical table was drawn.

Results

Analysis of the data shows that the research sample is aware of and uses most of the vocabulary learning strategies that the researcher has put forth to an extent. All strategies have been used about 60 – 75% by the participants. It can be seen that the most used strategy is to “look up a word in the dictionary if it is of personal interest”. 92% of the students used it frequently. The other strategies that are used frequently include “guessing the meaning” and “looking up in the dictionary if there are words I do not understand a word in the passage” followed closely by using an English-only dictionary. The least used strategy by the students is “write down information about the new words in Arabic” and “keeping records of new words in lists or notebooks”.

Table 1: Descriptive Statistics for Frequency of Use of Strategies

Strategies	N	Mean	% of use	Std. Deviation	Minimum	Maximum	Mean Rank
dictionary strategy 1	25	4.2000	84	.95743	2.00	5.00	28.18
dictionary strategy 2	25	3.6800	73.6	.85245	2.00	5.00	23.04
dictionary strategy 3	25	4.2400	84.8	.96954	2.00	5.00	28.40
dictionary strategy 4	25	4.6000	92	.64550	3.00	5.00	31.86
dictionary strategy 5	25	3.8400	76.8	1.06771	2.00	5.00	24.08
dictionary strategy 6	25	3.9200	78.4	1.15181	2.00	5.00	25.38
dictionary strategy 7	25	3.8400	76.8	1.17898	1.00	5.00	24.60
guessing strategy	25	4.2400	84.8	.83066	2.00	5.00	28.74

study preferences 1	25	4.0400	80.8	.88882	2.00	5.00	26.42
study preferences 2	25	3.1200	62.4	1.26886	1.00	5.00	17.54
study preferences 3	25	2.6000	52	1.25831	1.00	5.00	12.68
Memory strategy 1	25	2.9200	58.4	1.22202	1.00	5.00	16.20
Memory strategy 2	25	3.3200	66.4	1.14455	1.00	5.00	19.20
Memory strategy 3	25	3.2000	64	1.29099	1.00	5.00	18.64
Memory strategy 4	25	3.4400	68.8	1.26095	1.00	5.00	21.32
Memory strategy 5	25	3.3200	66.4	1.18040	1.00	5.00	19.82
Memory strategy 6	25	3.4800	69.6	.91833	2.00	5.00	20.72
Memory strategy 7	25	3.4000	68	1.08012	1.00	5.00	20.50
Memory strategy 8	25	3.4800	69.6	.82260	2.00	5.00	20.26
Memory strategy 9	25	3.0400	60.8	.97809	1.00	5.00	16.32
Memory strategy 10	25	3.5200	70.4	1.00499	1.00	5.00	20.92
Memory strategy 11	25	3.2400	64.8	.83066	2.00	5.00	17.46
Memory strategy 12	25	3.5200	70.4	1.00499	1.00	5.00	21.04
Memory strategy 13	25	3.2000	64	1.00000	1.00	5.00	17.86
Autonomy 1	25	3.6400	72.8	1.07548	2.00	5.00	22.80
Autonomy 2	25	3.7200	74.4	.89069	2.00	5.00	23.82
Autonomy 3	25	3.7600	75.2	.96954	2.00	5.00	24.36
Autonomy 4	25	3.5600	71.2	.76811	2.00	5.00	21.42
Autonomy 5	25	3.4800	69.6	.87178	2.00	5.00	20.64
Note-taking 1	25	3.1600	63.2	1.28062	1.00	5.00	17.56
Note-taking 2	25	3.4000	68	1.29099	1.00	5.00	20.10
Note-taking 3	25	3.6000	72	1.11803	1.00	5.00	22.00
Note-taking 4	25	3.1200	62.4	1.20139	1.00	5.00	17.24
Note-taking 5	25	2.6800	53.6	1.40594	1.00	5.00	13.14
Note-taking 6	25	3.0400	60.8	1.45717	1.00	5.00	16.58
Selective Attention 1	25	3.1200	62.4	1.33292	1.00	5.00	17.36
Selective Attention 2	25	3.2800	65.6	1.17331	1.00	5.00	18.04
Selective Attention 3	25	3.1600	63.2	1.21381	1.00	5.00	17.78

Social strategy 1	25	3.7600	75.2	.92556	2.00	5.00	23.26
Social strategy 2	25	3.3600	67.2	1.11355	1.00	5.00	19.62
Social strategy 3	25	3.8400	76.8	.98658	2.00	5.00	24.10

A paired sample t-test revealed that the most preferred vocabulary study method is to work alone (M: 4.04, SD: 0.89) which is significantly higher (t : 2.82, p : 0.05) than the wish to work in twos (M: 3.12, SD: 1.27) or (t : 4.34, p : 0.05) in groups (M: 2.6, SD: 1.26).

Among the categories of strategies that we formed, the most used category was found to be guessing strategies (84.8%) and dictionary strategies (80.91%) followed by Autonomy strategies (74.2%), Social strategies (73.1%), memory strategies (66.03%) and study preferences (65.1%). The least used category of strategies was note-taking strategies (63.73%) followed very closely by selective attention strategies (63.33%). The following table summarizes the percentage of frequency of using the different categories of strategies.

Table 2: Descriptive Statistics for Categories of Strategies

	N	Mean	% of use	Std. Deviation	Minimum	Maximum	Mean Rank
Dictionary Strategy Overall	25	4.0457	80.914	.54355	2.71	5.00	5.48
Guessing Strategy Overall	25	4.2400	84.800	.83066	2.00	5.00	6.32
Study Preferences Overall	25	3.2533	65.066	.69575	2.00	4.67	3.52
Memory Strategy Overall	25	3.3015	66.030	.59622	2.15	4.38	3.64
Autonomy Strategy Overall	25	3.7120	74.204	.57469	3.00	5.40	5.16
Note-taking Overall	25	3.1667	63.334	.91160	1.00	5.00	3.40
Selective Attention Overall	25	3.1867	63.734	.90308	1.67	5.00	3.36
Social Strategy Overall	25	3.6533	73.066	.72316	2.00	5.00	5.12

Results of the analysis on how useful the participants found the different strategies revealed that the most useful strategy was to “use an English dictionary” at mean percentage of 78.7% followed by “trying to speak to native English speakers as often as possible” and “looking up a word in the dictionary including its form in terms of verb, nouns etc.” at 77.3%. Two other strategies that have been found to be similarly useful is “guessing the meaning of the words” and “watching movies or TV outside of class time” at 74.7%. The least useful strategies includes “selecting which words are important to learn and which are not” at 58.7% followed by “thinking about progress in vocabulary learning” at 61.3%. The rest of the strategies are believed to be useful by 65 – 73% of the participants.

Table 3: Descriptive Statistics for usefulness of Strategies

Strategies	N	Mean	% found it useful	Std. Deviation	Minimum	Maximum
dictionary strategy 1	25	2.3600	78.66	.48990	2.00	3.00
dictionary strategy 2	25	2.2000	73.33	.50000	1.00	3.00
dictionary strategy 3	25	2.2800	76	.45826	2.00	3.00
dictionary strategy 4	25	2.1200	70.66	.33166	2.00	3.00
dictionary strategy 5	25	2.2000	73.33	.40825	2.00	3.00
dictionary strategy 6	25	2.2000	73.33	.40825	2.00	3.00
dictionary strategy 7	25	2.3200	77.33	.47610	2.00	3.00
guessing strategy	25	2.2400	74.66	.43589	2.00	3.00
study preferences 1	25	2.0400	68	.20000	2.00	3.00
study preferences 2	25	2.1200	70.66	.33166	2.00	3.00

study preferences 3	25	2.1200	70.66	.60000	1.00	3.00
Memory strategy 1	25	1.9200	64	.40000	1.00	3.00
Memory strategy 2	25	2.1600	72	.47258	1.00	3.00
Memory strategy 3	25	2.0400	68	.61101	1.00	3.00
Memory strategy 4	25	1.9600	65.33	.53852	1.00	3.00
Memory strategy 5	25	2.0800	69.33	.49329	1.00	3.00
Memory strategy 6	25	2.1600	72	.37417	2.00	3.00
Memory strategy 7	25	2.0000	66.66	.50000	1.00	3.00
Memory strategy 8	25	2.0400	68	.35119	1.00	3.00
Memory strategy 9	25	2.0400	68	.45461	1.00	3.00
Memory strategy 10	25	2.1200	70.66	.43970	1.00	3.00
Memory strategy 11	25	2.0800	69.33	.49329	1.00	3.00
Memory strategy 12	25	2.0800	69.33	.49329	1.00	3.00
Memory strategy 13	25	2.1600	72	.55377	1.00	3.00
Autonomy 1	25	2.0800	69.33	.57155	1.00	3.00
Autonomy 2	25	2.1200	70.66	.43970	1.00	3.00
Autonomy 3	25	2.2400	74.66	.52281	1.00	3.00
Autonomy 4	25	2.1600	72	.47258	1.00	3.00
Autonomy 5	25	2.1600	72	.37417	2.00	3.00
Note-taking 1	25	2.0400	68	.53852	1.00	3.00
Note-taking 2	25	2.1200	70.66	.43970	1.00	3.00
Note-taking 3	25	2.2800	76	.45826	2.00	3.00
Note-taking 4	25	2.0800	69.33	.57155	1.00	3.00
Note-taking 5	25	1.9600	65.33	.45461	1.00	3.00
Note-taking 6	25	2.0400	68	.53852	1.00	3.00
Selective Attention 1	25	2.0000	66.66	.40825	1.00	3.00
Selective Attention 2	25	1.8400	61.33	.47258	1.00	3.00
Selective Attention 3	25	1.7600	58.66	.52281	1.00	3.00
Social strategy 1	25	2.1600	72	.37417	2.00	3.00
Social strategy 2	25	2.1600	72	.47258	1.00	3.00
Social strategy 3	25	2.3200	77.33	.47610	2.00	3.00

Discussion

It can be seen that the research results of the current study indicate that the most used Vocabulary Learning Strategies are guessing strategies and dictionary strategies. They are also seen to have been rated very highly in terms of usefulness. This is in line with the results of the study conducted by Seddigh and Shokrpur (2012) among medical students at Shiraz University. Fan (2003) also concluded that guessing strategies were among the most used strategies. Ahmed (1989) believed that dictionary strategies were among the strategies most used by successful students. As medical students, the participants of the study are some of the best students at the university as the field calls for high achievers. The results suggest that the students prefer a monolingual dictionary over a bilingual one. This goes against results of Jones (2006), Seddigh and Shokrpur (2012) etc. which concluded that most students prefer a bilingual dictionary. Ahmed (1989) on the other hand has identified using monolingual dictionaries as one of the qualities of a successful learner. Monolingual dictionaries, although difficult to comprehend for a non-native speaker, helps the learner to be more efficient in the use of the target language over time as they become less dependent on their native language and more on the target language. As medical students, our participants have to deal with terminology that is quite difficult to properly explain in Arabic with all its technicality. Dealing with the terms in just English would probably help the students better understand the term the way it should be understood. This result can also suggest that the participants of the study have already advances in their learning that they have shifted from using bilingual dictionaries to the use of monolingual ones. This trend can also be seen in the use of note-taking strategies where the students preferred writing down meaning in English as opposed to writing them down in Arabic.

In terms of study preferences, working alone ranked highest and working in groups got the least score. This is in line with the results found in Seddigh and Shokrpur (2012). The Center for Independent Language Learning suggests that working in groups tempts us to learn partially and learning alone prevents this. In addition, learning alone helps us learn what we find important as opposed to what the group wants as others might not have to or want to learn the terms we wish to learn (Fan, 2003).

The least used strategies in the list are keeping records of new words and selective attention. Gu and Johnson (1996) found that selective attention is a good predictor of good scores. This suggests that our participants need to be made aware of the good benefits of using selective attention in studying medical terminology. Although, in terms of usefulness, speaking to native English speakers ranks high, it can be seen that it is not used very often. This is in line with the conclusion of the study conducted by Malcom (2004) which posited that the most used and effective strategy was to interact with natives and study in an English speaking country. Schmitt (1997) suggests that vocabulary acquisition is speeded up when the learners interact with native English speakers. In addition, considered useful are watching English movies and reading English books and magazines. Schmitt (1997) also supported this because he considered exposure to any environment which gives input in English as a good method for studying vocabulary. Nevertheless, in the case of the participants of the current study, it is questionable as to how effective they will find watching movies to learn medical terminology. As a general English learning tool, movies, and magazines may be helpful, but to learn academic terms for a specific subject, such as medicine, its effectiveness has to be researched.

The least used category of strategies was that of note-taking. This reflects the results of the study conducted by Noor and Amir (2009) on Malaysian English language students at

Universiti Kebangsaan Malaysia (UKM). This calls for training the students for effective use of Vocabulary Learning Strategies as suggested by (O'Malley, Chamot, Stewner-Manzanares, Russo & Kupper, 1985; Aktekin & Guven, 2013; Sinadinovic, 2013, etc), which explain that the students can only use the different strategies if they are aware of their use and effectiveness. Not only this, they should know how to use them efficiently.

Limitations

The main limitation of the study is that all the participants are from the same class in the same university thereby not providing much variance in the population and therefore, the results cannot be generalized. In addition, as all the participants are male, no gender variation could be analyzed. It should also be noted that the number of participants in the study are a meager 25 students which is another reason the results cannot be generalized. The results, however, can be used to promote further research in the area.

Conclusion

Through this study, the researcher aimed at finding the top used and useful strategies used by medical students to learn complex medical terms. Previous researches suggested that the top strategies used are using Dictionary and guessing (Seddigh & Shokrpur, 2012), diagnostic approach, generative model for acquisition medical vocabularies (Abdullah, 2013), Practising with native speakers as well as studying in an English speaking country (Malcolm, 2004) etc. The results of the current study is in line with the results of the study conducted by Seddigh and Shokrpur (2012) which concludes that the most used strategies among Iranian medical students were guessing and dictionary strategies. The results also support the conclusion of Malcolm (2004) which suggests speaking with natives as a useful learning strategy for acquiring

vocabulary in the English language. The researcher, however, is not certain as to its applicability in the field of medicine and acquisition of complex medical terms. The results also indicated that the students prefer to study alone to learn vocabulary as opposed to twos or in groups. The research results suggest that if the students were more aware of the different strategies and their varied usage, the students would be more efficient in using them thereby becoming more effective in acquiring complex medical vocabulary. English for Medical Purposes, as a demanding and thriving sub-system of ESP, could make use of language learning strategies, as they could facilitate learning and acquiring some of its aspects, especially vocabulary. Thus, when teaching medical vocabulary, teachers could teach some strategies and guide learners to use these strategies in their learning process. Learners also should try to learn how to use these strategies properly. Moreover, further studies can be conducted regarding how to adapt these strategies in classroom teaching and learning and how to train learners to use Vocabulary Learning Strategies efficiently. Therefore, in light of the research results, the researcher recommends that the instructors should raise the awareness of learners, recognize the suitable strategy for every situation, and suggest a variety of strategies and let learners decide which ones are useful for them.

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Appendix A: Questionnaire for Vocabulary Learning Strategies

Name:

Age:

Level of Study:

Overall Grade:

No. of years Studying English:

Grade in English:

Native Language:

Knowing English for me is: Very Important/Important/Not so Important/Unimportant

My proficiency in English is: Very poor/Poor/Not Bad/Good/Very Good/Excellent

16	I remember words together that have similar spellings.										
17	I remember words by creating mental pictures of them in my mind										
18	I remember words together that sound similar										
19	To help me remember words. I pay attention to the word's prefixes, roots, and suffixes										
20	I remember words buy grouping them together according to subject										
21	I remember words by remembering the sentence I which I saw them or the context in which I saw them										
22	I remember words by testing myself										
23	I remember English words by translating them into Arabic										
24	I remember English words by remembering the English definition										
Autonomy											
25	I read English books, newspapers, and magazines outside of class for my own pleasure										
26	I listen to English music outside of class time										
27	I watch movies or TV in English outside of class time										
28	I try to make opportunities outside of class to use words I've just learned										
29	I learn new words from all kinds of materials										
Note-taking strategies											
30	I write down a word if I think is common										
31	I write down a word that are of personal interest to me										
32	I write down a word or phrases that I think are useful										
33	I write down the definitions of English words in English										

34	I write down information about words Arabic													
35	I write down information about words when I look them up in the dictionary													
Selective Attention														
36	I have a schedule or routine that I follow for studying vocabulary													
37	I think about my progress in vocabulary learning													
38	I decide which words are important for me to learn and which are not important for me to learn													
Social Strategies														
39	I ask my teacher for meanings of new words													
40	I ask other students for meanings of new words													
41	. I try to speak to native English speakers as often as possible													

Legend: N – Never, R – Rarely, S – Sometimes, O – Often, A – Always, VU – Very Useful, U – Useful, NU – Not Useful