

ROLE OF VOCABULARY LEARNING STRATEGIES IN EFL LEARNERS' WORD ATTRITION

Thamer Alharthi

Department of European Languages and Literature, King Abdulaziz University, Jeddah, Saudi Arabia

Correspondence: P.O. BOX 80200, Jeddah 21589, Saudi Arabia.

ABSTRACT: *The use of vocabulary learning strategies (VLS) by foreign language (FL) learners has been described as steps taken by learners to enrich their word growth which would eventually enable them to function effectively in English. Research has shown fruitful outcomes of VLS, supporting the significant role it has in effective vocabulary learning, but whether VLS prevents English as a Foreign Language (EFL) learners' attrition of vocabulary knowledge has been under-researched. To help close this research gap, the current study attempted to shed more light on the role of VLS in memorisation of vocabulary, both word attrition and retention, of 41 Arabic learners of English before and after completion of a B.A. course. Questionnaires and semi-structured interviews were used to indicate patterns of VLS use. Vocabulary achievement tests were used to examine the attrition of receptive and productive knowledge of learned words. The results showed that the use of rote learning (repeating an English item with its Arabic translation) led to more attrition in receptive word knowledge, while note taking strategies (writing an English item with its synonym and definition) emerged as a positive predictor of learners' retention in receptive and productive word knowledge. The findings have significant implications for adoption and teaching effective VLS that prevent or minimize vocabulary attrition by L2 learners.*

KEYWORDS: Attrition, vocabulary, memory strategies, quantitative, qualitative, repetition, note taking

INTRODUCTION

One longstanding topic and a fundamental one at that, in L2 studies is vocabulary learning. As the most relevant linguistic component of L2 learning, L2 vocabulary is of considerable value in improving L2 learners' reading, listening, writing and speaking skills (Ediger, 1999; Laflamme, 1997; Manning, 1999; Zhang & Li, 2011). In FL learning, vocabulary instruction and learning can be influenced by vocabulary input and vocabulary learning strategies. This is because learning and retaining vocabulary is one of the most challenging tasks that any learner encounters while acquiring another language. In their tertiary education, it is expected that EFL learners build up a much larger lexical repertoire not only to cope with English studies but also to learn and retain a large number of unfamiliar words. EFL learners might be fortunate because English input is widely available from different sources. Learners of other foreign languages may not have as much L2 input outside the classroom as the learners of English. One way of tackling a large number of unknown words is through VLS. In the last few decades, many researchers have examined the effects of VLS on voc

abulary learning, such as Ahmed (1989), AlQahtani (2005), Alyami (2011), Anderson (2003), Chamot, O'Malley, Kupper, & Impink-Hernandez (1987), Gu (2003), Marin (2005) and Schmitt (1997).

By applying VLS as a specific language learning domain appropriately, language users can make progress in their use of language as well as in communicative competence. Typically in foreign language environments, for instance at King Abdulaziz University (KAU) in Saudi Arabia, attrition may emerge mainly in lexical knowledge soon after the end of learning sessions (Alharthi, 2014). Thus, it is true to assume that a variable such as VLS could enhance long-term maintenance of FL vocabulary knowledge beyond the classroom setting. Again, it is unlikely that EFL learners will use VLS unless there is a degree of use of the language. In other words, if learners do not use the language receptively (listening and reading) and productively (speaking and writing), then they have no chance to use a wide variety of VLS to facilitate the completion of learning words. Because the appropriate use of vocabulary strategies can greatly facilitate and enhance vocabulary retention (Catalán, 2003), it can be claimed that more vocabulary attrition is to be expected in Saudi EFL graduates who have less opportunity to use VLS than their peers who regularly engage in the use of VLS. By the same token, strategizing about the learning and use of vocabulary can help keep some of it alive. When attrition sets in, it can be ruthless, so we would not know what to make of such strategies in the face of what for some is inevitable attrition. Therefore, there is no doubt that the use of language can help vocabulary to be retained and VLS are certainly a part of that.

To the best of the researcher's knowledge, this is the first study to investigate whether VLS may cause or prevent EFL learners' attrition in lexical knowledge outside a formal English course. This study aims to fill a gap in the literature by exploring the effectiveness of memorisation VLS in terms of short- and long-term attrition and / or retention in vocabulary knowledge. The current study also aims to examine how stable participants' self-reported use of memorisation strategies has remained over time, a neglected area in attrition research. The following sections will discuss the VLS that are expected to be employed by the research subjects when dealing with their target language. Considering the limited scope of VLS research concerning vocabulary attrition, the literature review below focuses on learners whose language learning primarily takes place in classroom settings.

LITERATURE REVIEW

Most language teachers and language learners are convinced of the centrality of vocabulary knowledge in various pedagogical tasks, and know that learning English involves acquiring and remembering a large number of words (Nation, 2001; Schmitt, 1997; 2010). However, it is very challenging for a learner to acquire a wide vocabulary in the classroom, and so researchers have been looking for effective techniques to achieve that goal. McCarthy (1984) argues that vocabulary learning should involve both the developmental stages through which language learners go from the situation in which they encounter a new word to the level where they can effectively and automatically employ it in a wide range of language contexts when the need arises. Therefore, vocabulary learning refers to both recalling/remembering words and achieving a level of competency that allows them to use them.

If a learner first meets a new word, s/he might guess its meaning from context clues. Also, learners may access a large number of new words via dictionary use. Moreover, making notes in the margins, between lines or in a separate vocabulary notebook is an effective strategy to find and remember the meaning of new words. Some learners will take advantage of simple repetition, thus making words stay in memory. Based on Oxford's (1990) classification of learning strategies and the discovery/consolidation distinction, Schmitt (1997) provides a very useful taxonomy of vocabulary learning strategies, referring to consolidation strategies as social strategies where group work can be used to learn or practise vocabulary. Memorization strategies encompass relating the word to be retained to some previously learned knowledge, using forms of imagery, or grouping of pictures, related or unrelated words and word forms. Certain cognitive strategies are of most relevance to memorization, including repetition and use of mechanical means to learn and remember vocabulary, such as note taking, word lists and flash cards.

Cognitive strategies

Among other strategies frequently discussed in the literature are cognitive strategies, which are similar to memorisation strategies. These include identifying, remembering, storing and retrieving words and sounds (O'Malley & Chamot, 1990). Note taking and repetition are popular strategies in many parts of the world and are often suggested as ways of improving memory. These types of strategy are of most relevance in the current study as they assist a learner to commit a large number of foreign words to memory. We may argue that the more Saudi EFL graduates use these strategies, the better words they retain the words. Such strategies, along with information the learner considers when taking notes and repeating words, will be addressed in the following sections.

Note taking

Ideally, the next stage after getting information about a new word from different sources of English vocabulary, such as teachers or textbooks or via the above discovery strategies, is to take notes in a vocabulary notebook, on a piece of paper, a card, or simply along the margins or between lines. Oxford (1990, p. 47) defines note-taking strategies (NTS) as "writing down the main idea or specific points". Another definition of note-taking, by O'Malley and Chamot (1990, p. 138), is that note-taking is "writing down key words and concepts in abbreviated verbal, graphic, or numerical form to assist performance of a language task". It should be noted that research in language learning strategies considers NTS as a cognitive strategy rather than as central to language learning like guessing or translation. Furthermore, NTS were found to be among the most frequent cognitive strategies used by L2 learners (White, 1996).

Information noted about a new word

In using this aid, learners write different information when memorizing learned words. Schmitt and Schmitt (1995) suggest that learners may write an L1 translation for the L2 target word, so they keep reviewing the L2 target word by remembering its L1 translation. Besides, providing an L2 synonym, definition or example sentence may be adopted by learners to facilitate the long-term retention of a new word. Leake and Shaw (2000) note that learners claim often to give an indication of meaning by translation and somewhat less often by providing context or an English synonym. In AlQahtani's (2005) study, English words with their Arabic translation and English words along with their English definitions and Arabic translation are shown to be the most frequent information Saudi EFL students take down when learning new vocabulary. This was attributed to the notion

that students want to secure their understanding as well as English teachers translating most new words and students keeping recording the information they receive from their teachers (AlQahtani, 2005). The results obtained in Alyami's (2011) research were consistent with AlQahtani's that the information about the new lexical item most note-taken is its Arabic equivalent.

In a similar context to the current study, although somewhat different, is that as the study participants are graduates, and a note-taking strategy may receive little attention following formal instruction. This is possibly because of the participants' attention being directed primarily to using the language rather than to learning it. The present study intends to seek further information about the use of note-taking by EFL graduates and to account for the possibility that their note-taking might influence their vocabulary attrition.

Retrieval (repetition strategies)

One of the first problems an FL learner encounters is how to commit a large number of foreign words to memory and the first and easiest strategy people pick up and use naturally is, simply, repeating new words until they can be recognized (Gu, 2003). A word may be encountered and its meaning comprehended in textual input to a task, through teacher explanation or dictionary use. If that word is subsequently retrieved during the task then the memory of that word will be strengthened. Repetition, whether verbal or written, as one of the cognitive strategies is important because not only would we expect students to learn a word fully on first exposure to it but also repeated words strengthen the path linking form and meaning and strengthen the word's retention. Regarding the benefit of repetition in vocabulary retention, Milton (2009, p. 227) indicates that, "Multiple repetition may not help the initial learning of words, but may help them stay in the memory after learning". Most forgetting occurs immediately after initial learning and then as time passes, the rate of forgetting decreases (Bahrick, 1984; Weltens et al., 1989). Taking this into account, the general principle that lies behind the repetition of new words should be that they are repeated right after being initially studied, before too much forgetting occurs, and then followed by spaced rehearsals at further intervals. Nation (1990) notes that, "if recycling is neglected, many partially-known words will be forgotten, wasting all the effort already put into learning them" (p. 45). Also, Nation (2001) points out that the benefit of repetition is that it adds to the quality of knowledge and also to the quantity of this knowledge. The possible assumption is made that since repetition is an effective technique in enhancing FL vocabulary retention, the disregard of such a strategy by Saudi EFL graduates will result in vocabulary attrition.

Information about a new word being repeated

A variety of information related to the target word can be repeated by learners, either verbally or in written form. This ranges from repeating the item alone, to L1 translation, L2 synonym or words occurring in a new sentence context, which in turn leads to faster and longer retention. Alyami's (2011) research suggested that repeating the English word alone was most practised by EFL majors. This was not in line with AlQahtani's (2005) conclusion, who found that Saudi EFL learners opted to repeat the English word with its Arabic translation probably because it is easy and does not require much effort on their part. This scenario might not be typical in the context of the present study where EFL learners have no subsequent formal instruction as the subjects did in the research by AlQahtani (2005) and Alyami (2011). That is, our KAU graduates may show little tendency towards adopting repetition strategy, especially in the absence of further evaluation and

assessment. Again, the current study hopes to shed light on the use of a rote learning strategy and whether it plays a role in EFL graduates' vocabulary attrition, positively or negatively.

Gaps in the literature

Much previous research has investigated the role of VLS in developing L2 lexical knowledge, including measuring the frequency of use of these strategies in the classroom setting (AlQahtani, 2005; Alyami, 2011; AlSaif, 2011; Marin, 2005; Nakamura, 2002; Schmitt, 1997). The nature of the relationship between VLS and degree of lexical attrition is still far from clear. Interestingly, no published study has compared the effects of using memorisation strategies on forgetting or recalling vocabulary after course completion. Hence, the present study intends to collect information in relation to the use of memory strategies from adult Saudi English learners before and after graduation. Most importantly, the study seeks to delve into the patterns of memorisation strategies of those who are either successful in maintaining their lexical knowledge and/or experiencing any symptoms of lexical attrition after being away from FL classroom environments. In light of the findings of the literature review and the context of the study, I adopted the following research questions:

1. Are there any differences in claimed memorisation VLS used by Saudi EFL learners before and after graduation?
2. Are there any significant effects of memorization VLS on the Saudi EFL learners' word attrition or retention scores?

METHODOLOGY

Research design

In order to enrich the data from different angles, a triangulated multi-methodological approach labelled 'sequential two-phase design' (Creswell, 2003) was adopted. While quantitative data were collected by means of vocabulary tests and questionnaires, qualitative information was gathered through retrospective semi-structured interviews. According to Dörnyei (2007), conducting a study through mixed methods is preferable so it can generate meaningful and comparable results. Moreover, incorporating a longitudinal element in this study is particularly important as it allows insight into the cumulative effects of VLS on the attrition of vocabulary knowledge over time. Given the availability of participants over sustained periods, the present study was longitudinal one, conducted over a period of seven months.

Participants

Initially, 52 full-time male students took part in the study but the information of 11 participants was removed from the data analysis because of absenteeism during the second phase of the study. At the end, 41 participants were present. The participants were homogeneous with respect to social environment and type of instruction, so these intervening variables were controlled in the study. They were all from the western region of Saudi Arabia and their home language was Arabic. All had received six years of English language instruction at school, following the same syllabus, before entering university, and none had lived in an English-speaking country. All the participants had pre-intermediate or intermediate level mastery of English. They scored 60% on Version 1 of the Vocabulary Level Test (Schmitt et al., 2001) at the 2000-word level. Their average raw score was 22.2/30 ($SD=6.70$), indicating that they had sufficient receptive knowledge of almost all of

the 2000 most frequent words. However, their average raw score on Version C of the Productive Vocabulary Level Test (Laufer & Nation, 1999) at the 2000-word level was 8.5/18 ($SD=4.96$), suggesting that they had poor productive knowledge of nearly 1000 of the 2000 most frequent words.

Instruments

Questionnaires

Written self-reports, for example, questionnaires can be valuable for discovering the subjects' attitudes, opinions, ideas and experiences of language learning. According to Bardovi-Harlig and Stringer (2010), a questionnaire survey is a very commonly used research method for data collection in language attrition contexts. Questionnaires may be of various forms in which the subject is required to choose between limited ranges of answers after reading each question. This type is known as structured or closed questionnaire. It produces uniformity of data obtained with regard to the issues under study (Oppenheim, 1992). However, closed questionnaires have some drawbacks. For instance, the design carries the risk of limiting the quality and the depth of information elicited from the respondent. In addition, it is difficult to ensure whether it is taken seriously and answered objectively. If it is not completed in the presence of the researcher, the question may also be asked who has actually completed it? On the other hand, open questionnaires are often given to informants to get them to elaborate and clarify his/her description of language use behaviour. Nevertheless, regarding their analysis, Oppenheim (1992) pointed out that a researcher needs to draw up and adopt a system of categories, which is extremely painstaking and time consuming. For the main data gathering instrument in the present research, I decided to use primarily the closed questionnaire type. Since the limitations of this type could negatively affect the research method, I included open-ended items at the end of each section to gain much more precise information that targeted our purposes.

The questionnaire comes in two versions, used before and after the participants' graduation. The key constructs were operationalised in the form of a closed set of items about the use of VLS inside and outside of the classroom. I used five-point Likert scales, with options ranging from *never* to *always*. The first part elicited general background information: student's name, age, contact number, email address and number of years of learning English. This section aimed to assist in selecting a representative sample from the population. Also, a personal contact address for each participant was crucial in this longitudinal study so that, in each round of testing the same participants could be invited to take part in the same measures. The second part intended to find out vocabulary learning behaviours in the process of memorizing new vocabulary, namely note-taking and rote learning. Establishing content validity was an essential step during the construction of the two versions of the questionnaire. Hence, the corresponding items of memory VLS were slightly adapted from well-developed VLS questionnaires, e.g. by Schmitt (1997) and Oxford (1990), and in addition by AlQahtani (2005) and Alyami (2011) who had conducted research in the same EFL context as the current study.

Vocabulary tests

Vocabulary tests constituted the second main instrument of the present study. For the pretest and posttest, receptive vocabulary test and productive vocabulary test (modelled on Schmitt et al. (2001) VLT and Laufer & Nation (1999) PVLTL) were employed to assess the attrition of receptive

and productive vocabulary knowledge before and after formal instruction. Both tests comprise the first three frequency levels, namely, 1000, 2000 and 3000 word bands. The target words were based on the contents of the participants' instructional materials. Of the list of 1294 items compiled by the researcher from the textbooks, 120 items were selected and included in the analyses. Thus, each test had originally 60 items adopted a form-recognition matching and a form-recall fill in blank formats respectively.

Interviews

Retrospective semi-structured interview served as the third data gathering method. In these interviews, a set of questions and prompts which centred on certain topics related to the ones in the questionnaires were asked to encourage the interviewee to provide deeper insights in respect of each question. The interview sections were parallel, to a great extent, to the questionnaire ones, that is, the interview questions were constructed and arranged according to the questionnaire sections while the content differed according to each interviewee's responses to the questionnaire items.

Procedure

At Time 1, self-reported pencil and paper questionnaires were administered to the sample of initial participants just before their formal study. Students were given instructions on how to complete the questionnaire in Arabic. They were given the option of selecting an English or Arabic version of the questionnaire but all opted for the English version. Immediately afterwards, the participants were administered pretests measuring prior receptive and productive knowledge of the meaning of the target words. On a random basis, 14 participants were selected for retrospective semi-structured interviews, conducted at their convenience. To create a relaxed atmosphere and to put the interviewee at ease there was a brief exchange of pleasantries before starting. Initially the researcher gave a short warm-up question in relation to the subject's name and age. Each student's oral responses were delivered in Arabic in order to give him the best chance to explain his thoughts and opinions of his current study of English vocabulary and the VLS he handled at that time, i.e., before the course completion. At Time 2, approximately seven months after the end of formal instruction, the final sample was invited again to perform the same tasks as at Time 1. However, the order of the tasks and measurements was counterbalanced to control for as well as to reduce practice effects. Therefore, different orders of the tasks were devised and randomly assigned to the participants. Participation in the follow-up interview sessions included eight individuals who showed their willingness to take part. It is noteworthy that all tasks except the personal interview had a time limit which was based on a pilot study. It was impossible to set a strict time limit for the interview sessions so as to further elicit richer information on the interviewees' use of VLS.

Data Analysis

Analysis of questionnaires

The quantitative data sources, namely, questionnaires and vocabulary tests in the present study, were performed using SPSS (Statistics Package for Social Sciences). The alpha level for all statistical decisions was set at $<.05$.

The demographic information on the subjects' age and number of years of learning English was transformed into numerical codes and inserted into the SPSS. Descriptive statistics were also

calculated to reveal the mean score and frequency of the responses to each questionnaire VLS item on a five-point scale. Repeated measures analysis of variance (ANOVA) was computed to identify the changes in VLS over time. Finally, correlation statistics were performed to examine the relationship between the questionnaire responses on the changes of mean scores in receptive and productive lexical knowledge that had taken place. I used Multiple Regression analysis (MR) to assess the relative effect of each question item in the questionnaire on attrition scores, controlling for correlation between them. Regarding the open-ended items, I extracted and grouped all respondents' information for each relevant section.

Analysis of vocabulary tests

The receptive and productive vocabulary pre-post tests were scored dichotomously. Scoring was based on the scoring operationalisation by Schmitt et al. (2001) and Laufer and Nation (1999). A correct answer received one point and an incorrect answer zero points. Answers containing minor spelling mistakes such as 'dozin' (instead of dozen) were scored as correct. A T-test was conducted to investigate any significant difference between attrition and retention of pre-post scores.

Analysis of interview

Responses in the sets of semi-structured oral interviews were recorded with an MP3 player and subsequently transcribed. I then analysed all responses by grouping the similarities and differences in interviewees' answers question-by-question, following their order in the questionnaire.

RESULTS AND DISCUSSION

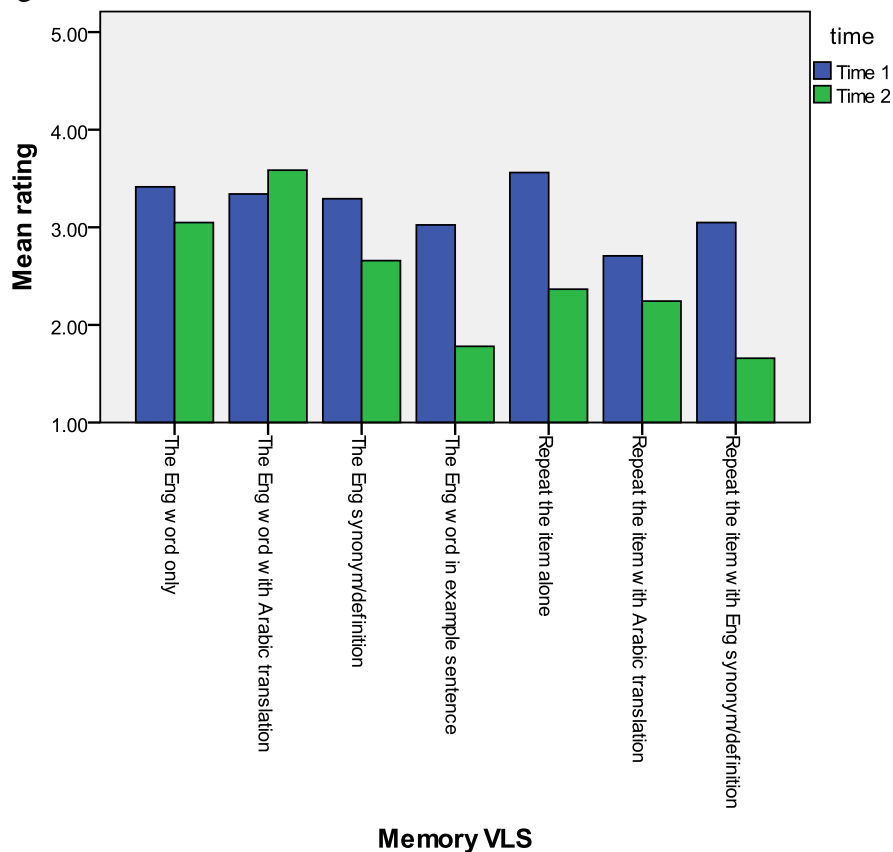
Quantitative results

Are there any differences in claimed memorization VLS used by Saudi EFL learners before and after graduation? Table 1 and Figure 1 summarise the participants' change in ratings related to note-taking and repetition strategies along with their contents between Time 1 and Time 2. Data shown in Table 1 and Figure 1 reveal that in general the participants' self-ratings of how often they make notes of new vocabulary items were somewhat lower at Time 2 than at Time 1, and while in two instances the drop was significant, as expected from EFL graduates, the direction was slightly higher in the mean ratings of notes about vocabulary with Arabic translation. Although the participants reported less noting of new words alone ($dif=-0.37$) and slightly more with their Arabic translation ($dif=+0.24$), the differences were not significant. The trend of decline can be seen from comparisons of taking new words along with their synonyms/definitions 3.29 at Time 1 and 2.65 at Time 2 ($dif=-0.64$) which is in the range of *seldom* to *moderately*. A paired sample *t*-test indicates ($df=40$, $t=2.685$, $p<.011$) that the change in participants' noting of a new word with its synonym/definition is significant over time. The same picture is evident where the means of writing new words in example sentences has dramatically declined ($dif=-1.24$) from Time 1 = 3.02 to Time 2 = 1.78. Also, the *t*-test analysis result reached a level of significance ($df=40$, $t=5.795$, $p<.001$). This perhaps reflects the concept that once the formal training stops, there would be fewer strategies demanding extra information apart from the meanings of the new words. That is, the significant drops might be explained as these strategies requiring more time and effort and EFL graduates no longer having exams or assessments to need such information to be memorized or revised.

Table 1: Comparison of memory VLS between Q at Time 1 and Time 2

Memory VLS	Descriptive statistics		Inferential statistics	
	Time 1	Time 2	<i>T</i>	<i>p</i>
Write English word only	3.41	3.04	1.683	.100
Write English with Arabic translation	3.34	3.58	-1.239	.223
Write English synonym/definition	3.29	2.65	2.685	.011
Write English word in example sentence	3.02	1.78	5.795	< .001
Repeat English item alone	3.56	2.36	5.034	< .001
Repeat item with Arabic translation	2.70	2.24	2.021	.050
Repeat item with synonym/definition	3.04	1.65	5.475	< .001

EFL graduates also show significant lower ratings for their use of all three types of rote repetition after the end of the English course, i.e. repeating English words alone, with their Arabic translation and their synonyms/definitions. It should be noted that word repetition means that learners repeat the words in spoken or written forms. One might expect that the study participants experienced a clear pattern of change in rote memorisation as they became more mature after the end of the English course.

**Figure 1 Students' memory VLS at Time 1 and Time 2**

Another important reason for the reduced use of repetition could be the fact that EFL graduates used to pay more attention to repetition strategies during their English course in the classroom and

preparing for exams or quizzes. However, they fall off as many graduates go directly into employment such as teaching or searching for a job where there are no longer any goals such as assessments prompting the need to memorize. Looking at each individual repetition strategy and the information to be included with it, the data shown in Table 1 and Figure 1 reveal that while subjects' ratings of repetition of the English item alone was 3.56 at Time 1, the corresponding figure dropped to 2.36 ($dif=-1.2$) at Time 2. A paired sample t -test indicates the participants' ratings did change significantly ($df=40$, $t=5.034$, $p<.001$) over time.

It seems that reduced attention to repetition of an item alone might be influenced by the subjects' change in purposes for learning L2. That is, they are less motivated to use this strategy as it no longer is a part of their academic evaluation after graduation. Another explanation might suggest that some sorts of words are more important to memorize, such as high frequency ones. The following comment made in the retrospective protocols illustrates the change in this type of strategy.

"I feel that repeating the word alone at this stage is not necessary because you would memorize a word that occurs much and you think it is going to be examined."

This statement shows that by Time 2 the subject has become more selective in what words to memorize, presumably because there is no longer pressure of an exam or assessment which demands all words to be memorized.

The mean for repeating the English items with their synonyms/definitions, reported in Figure 1, was remarkably low and revealed that they no longer do much repetition of English items along with their synonyms/definitions. The paired sample t -test revealed that the decline between Time 1 = 3.4 and Time 2 = 1.6 ($dif=-1.39$) was statistically significant ($df=40$, $t=5.475$, $p<.001$). One reason may be that the nature of the program and the instruction they receive at KAU might encourage L2 use to include other aspects of vocabulary knowledge in order to strengthen the retention of meaning. However, after the end of formal instruction, the subjects think this extra information is unimportant, especially when they will not be expected to go through any further assessment. The following explanations were given in the interviews:

"Repeating the word attached with its synonyms/definitions is a very useful technique as we have been encouraged by our instructors in the classroom to use it. After graduating from KAU, it became unnecessary because I will not be examined about such knowledge."

The self-report concerning repeating of the English words with their Arabic translation showed the least decline ($dif=-0.46$) among other modes of repetition from Time 1 (mean 2.7) to Time 2 (mean 2.4) and was only ($df=40$, $t=2.021$, $p=.50$) borderline significant. The smaller drop in the mean frequency rating of this type of repetition than others suggests that participants still occasionally repeat the word with its L1 equivalent. One possible reason for the smaller drop in this type of strategy is the classroom situation in which many of the participants are EFL teachers who might repeat the lexical item with its Arabic translation for students since it may be difficult to repeat the words with their synonyms/definition for a class with a very low level of vocabulary knowledge, such as intermediate or secondary public school students. This indicates that the approach used in

the teaching of English is still the grammar translation method (GTM), in the sense that EFL classes are based on the integration of L1 in teaching vocabulary.

“For me repeating the English word with its equivalent in Arabic is very much practised in Saudi EFL classrooms, thus I still repeat the word with Arabic translation.”

This is an EFL teacher’s response in the retrospective protocols concerning the L2-L1 vocabulary instruction being a dominant approach in classroom which then reflects the small change in using this strategy.

Are there any significant effects of memorization VLS on the Saudi EFL learners’ word attrition or retention scores?

The graph of the mean attrition of the RVT and PVT pre-post scores (Time 1-Time 2) shown in Figure 2 provides a clearer picture of the attrition pattern in the present study.



Figure 2 The mean difference score for RVT/PVT

The mean difference scores between Time 1 and Time 2 for RVT and PVT (T2-T1) were analysed separately using *t*-tests. The findings from the *t*-test show that the drop in PVT ($M=5.85$) scores is about twice that of the RVT ($M=2.44$). A *t*-test confirms ($df=40$, $t=2.20$, $p=.034$) that this 5.85% difference for PVT is significantly greater than the 2.44% loss for RVT.

It is expected that less use of making notes and rote repetition as reported by EFL graduates at Time 2 will result in attrition in RVT/PVT (T2-T1). Even though the trend is always in the direction of lower ratings between Time 1 and Time 2 in terms of recording different information with the target words, participants’ ratings on the content of note taking, namely writing an English word with its synonym/definition, had a strong effect on the amount of retention in RVT and PVT.

Moreover, the Beta value (.480, $p=.003$) for writing English words with their synonyms/definition at Time 2 in relation to RVT attrition scores and the Beta value (.490, $p=.002$) of the corresponding category on the attrition of PVT reached the level of significance (see Table 2). It appears that making notes by EFL graduates more or less contributed to retention in the achievement scores. Note-taking strategies are considered one of the effective strategies by Schmitt (1997, 2000), Gu and Johnson (1999), Kojic-Sabo and Lightbown (1999) as learners who use such strategies presumably would find it easier to review and remember the words once encountered. If this is the case for vocabulary learning, it may also be true that a high degree of retention strategies such as note taking would lead to the maintenance of already known words over time as shown in the present study. This result indicates that some participants are motivated to broaden some elements of lexical knowledge such as synonyms and definitions, which aid the retention of recognition and recall word knowledge. It could probably be assumed that as the study participants are English majors they need to write the words along with their synonyms and definitions as they become more experienced with learning the language. We can conclude that this result confirms the benefit of this VLS for learning compared with other strategies which incorporate different information in the EFL graduates' notes and this simply implies that some target words in our RVT and PVT are maintained after graduation.

Table 2 The effect of memory VLS on attrition for RVT and PVT

Explanatory variables	Dependent variables	Standardized coefficients Beta	<i>p</i>
Writing English word with synonym / definition	RVT (T2-T1)	.480	<.003
	PVT (T2-T1)	.490	<.002
Repeating English word with its Arabic translation	RVT (T2-T1)	-.497	<.002

Looking now at the repetition strategies, interestingly, the only significant outcome obtained from the regression analysis was that repeating an English item with its Arabic translation at Time 2 had a negative effect on the participants' RVT scores (Beta=-.497, $p=.002$). This means that the more they tend to repeatedly write or say the word with its Arabic translation, the more attrition occurs in RVT. It seems reasonable that a reduced amount of English in rote learning may produce low scores in their receptive word knowledge. In other words, repetition of this form, i.e., saying/writing the word with L1 translation many times, failed to reinforce the EFL graduates' word retention. This seems to confirm the view of researchers such as Cohen and Apeh (1981) and Schmitt (1997, 2000) that such surface or shallow strategy is not based on deep mental processing on the learner's part, so there is little chance to ensure the best result for its memorisation. This point will be taken up in the following section.

Qualitative results

This section looks at participants' responses to the open-ended questions and interview protocols which sought further information regarding the types of VLS they use to memorize new vocabulary. In brief, two participants claimed to memorize new words by employing the technique of rhyme or rhythm. They used chanting of L2 words with their L1 translation in a poem which in turn prompted the target words as we see in the following extracts from the interviews:

“I sometimes memorize the new word by creating certain music and repeat the group of words in L2 and L1 rhythmically.”

“I try to alliterate the new English words with similar sounds in Arabic and write a poem to repeat them together which helps me to memorize the words and meanings.”

One participant mentioned that he tended to memorize the words through productive tasks such as speaking or chatting with friends. Indeed, Schmitt (1997) classified this as a metacognitive strategy in which L2 learners review the encountered words through interacting with native speakers. Another participant reported that he read magazines, newspapers and short stories to help him recall the existing known words. It might be reasonable to assume that such situations enhance word retention especially when learned words are revisited afterwards. The participants believed that such techniques are effective in helping them retain the words to which they are exposed. The following interview comments illustrate this:

“I usually contact people speaking English to improve my vocabulary retention.”

“I rely on reading magazines, newspapers and short stories as I find I have a good chance of remembering the already known words.”

It is clear from these extracts that participants no longer have vocabulary learning as a separate goal and mostly are not engaged in language courses or taking language exams. Rather they are concerned with using language communicatively, employing it to practise vocabulary. Two other respondents indicated the usefulness of connecting the English item with certain personal experiences or familiar places. These observations were reflected in the interviewees' protocols below:

“I often use the association between the new words and the specific context in which they appear. For example, I had a number of conversations with some good English speakers at restaurants where they corrected some mistakes in word form, meaning and pronunciation. These words I now always remember as they appeared in these situations.”

“I connect the already known words to previous situations where I met these words; for example, I learned the word booking when I was at the travel agency office.”

In general, the participants moderately use cognitive and metacognitive VLS some of which seem to be easy and quick to use, e.g., repetition and taking notes, while others are a bit difficult to use, e.g., integrating a word into a personal experience or place, interaction with friends and reading. Clearly the present situation reflects the statement of Schmitt (1997, p. 215) that “written and verbal repetition, repeatedly writing or saying a word over and over again, are common strategies in many parts of the world”. However, they do not make use of other strategies which require complex manipulation of knowledge, for instance, the keyword method and semantic mapping method. A possible reason could be that simpler strategies do not require much effort which in turn makes them more favoured by language learners. This is confirmed by Schmitt (2000) who points out that learners tend to use strategies requiring less effort though they might be less effective than more effortful activities. It is widely held that memory strategies that involve deeper manipulation and generation processing such as the keyword approach or imagining techniques would promote retention (Cohen & Aphek, 1981; Hulstijn, 1997; Nakamura, 2002; Schmitt, 1997). Nevertheless, our results suggest a lack of the full range of effective techniques and strategies to

aid vocabulary retention. This may suggest that the students had more difficulty in applying memory strategies which are widely regarded by experts as beneficial. More importantly, this could also be attributable to the instruction they receive at KAU, i.e. that they were not trained in more effective strategies or, less likely, that they were not encouraged by their teachers to use these. In classrooms teachers often incorporate strategies instruction such as rote learning and keeping vocabulary notebooks but do not actually emphasise deep/complicated memory strategies more strongly. The following extracts from the interviews provide some evidence of this:

“Our teachers only used to encourage us to keep a vocabulary notebook to help us retain the learned words.”

“I don’t remember that our teachers trained us to memorize English words by the keyword method or via creating mental images. They just emphasized keeping a vocabulary notebook and rote repetition.”

We might also take learning culture into consideration (Schmitt, 2000). This is consistent with O’Malley et al.’s (1985) findings that their Asian participants had opted for simple rote repetition in memorizing vocabulary. It may thus be suggested that the study participants took advantage of this strategy which is influenced by individual differences particularly cultural background.

CONCLUSION AND IMPLICATIONS

We have given an account of the quantitative and qualitative evidence for a narrower range of memory VLS at Time 2 than Time 1. In particular, it was found that note taking and repetition are less practised by the EFL graduates. We have seen the maintenance of very basic early used memory strategies such as note taking and rote repetition at Time 2 to some extent. The pattern of strategy use observed seems to be that what is first used or learnt is last forgotten, for instance, recording and repeating the word with its L1 equivalent. More complicated information included in note taking, repetition and association techniques, though beneficial, were learned later and were the first to go. The tendency towards increased use of writing the English word and its Arabic translation, though not far from the frequency of repeating the English item with its Arabic equivalent, was rated *moderately* on the Likert-scale. This shows that providing L1 information, either accompanied by a vocabulary note or being repeated, is a practical strategy compared with other categories. Obviously, the way learning and teaching was carried out in class, for example, by relying on the L1 equivalent rather than any other kind of information, impacted on the extent to which the EFL graduate still use Arabic to take notes and repeat the English words.

In terms of practical pedagogy, it is a fact that the limited time of classroom instruction may not be enough for students to gain a great amount of L2 vocabulary input, especially that which is necessary to reach the desirable level of language mastery. To enhance their vocabulary learning, students at an advanced level should adopt strategies for learning beyond the classroom (Mizumoto & Takeuchi, 2009; Nation, 1995, 2001; Schmitt, 2000). However, they cannot effectively do this unless they are trained and guided by their teachers. The results revealed that the study participants used only shallow strategies that are easy and quick to use, such as rote learning and note taking, over the course of the study. Cohen and Aphek (1980) found that more operationalized techniques, such as the keyword method and imagery, enhance vocabulary retention. As Schmitt (2000, p.

135) suggests, “A learner may not have time to ‘deeply process’ every word encountered, but it is certainly worth attempting for key lexical items”. Perhaps materials writers and teachers at KAU should take further steps when teaching VLS in the FL classroom, and consider the inclusion of deep process techniques such as the above ones in the curriculum, so existing vocabulary knowledge would resist attrition.

The current study aimed to investigate VLS as a potential factor of lexical attrition/ retention, which in turn revealed a new trend towards the use of rote learning and its impact on attrition in receptive word knowledge and the usefulness of note taking to maintain receptive and productive lexical knowledge. Future empirical studies may offer more insight whether VLS training before graduating helps to slow down forgetting vocabulary afterwards.

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