Learning and Use of Specialized Qur'anic Vocabulary among English and Translation Major Students (EMSs and TMSs): A Case Study of English as a Foreign Language (EFL) Jordanian Students in a University Setting.

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Abstract

This case study investigated the specialized Qur'anic vocabulary learning and use of 12 English and translation major students (EMSs and TMSs) in an English as a foreign language (EFL) Jordanian university setting during the summer session 2010-2011. The researchers developed, described and administered a Test of Qur'anic Terminology (TQT) at the beginning and end of the participants' core Qur'anic course (CQC) and results indicated that both EMSs and TMSs entered such a course with a fair knowledge of specialized Qur'anic terms. At the end of the core Qur'anic course, EMSs' number of Qur'anic vocabulary was the same as that of TMSs', but TMSs had made much greater gains in the quality of vocabulary knowledge of the target vocabulary items than the EMSs. This case study results also showed that both measuring and acquiring technical vocabulary knowledge in an academic context are complex. The finding concerning the EMSs' lack of improvement in the quality of specialized vocabulary knowledge, in comparison with TMSs suggests that much more should be done before EMSs enter their academic studies in order to create a deeper understanding of the complexities of technical vocabulary knowledge and learning. It is recommended that such an EFL aspect requires further investigation on the part of future researchers. (206 words)

Keywords: specialized vocabulary; vocabulary learning and knowledge.

Background

Vocabulary is central to language and is of great significance to language learners. That is why its prominent role in language learning has been recognized by theorists and researchers in the field. Accordingly, numerous pieces of research work have been introduced into this invaluable research area. According to Willis (1990), Nattinger and DeCarrico (1992), a key element of a successful native – like performance in a foreign language is mastery of lexical relations collocations, lexical phrases and fixed phrases. Casanave's (1992, 148-180) research showed that acquiring the culture of a disciplinary community involved learning that community's specialized language, and whether students learn this specialized vocabulary can greatly influence their success in becoming socialized into their academic discipline (p. 159), essentially because technical language provides students with a vocabulary , or key code words, that are essential to their communication within their academic discourse communities, both in course work (readings, written assignments, and presentations) and, if they are at the graduate level, in their theses or dissertations. Coady's (1993, 3-23) definition of knowing a word hints at the complexity of lexical knowledge.

According to this researcher, knowing a word involves knowing its collocations, i.e., knowing the degree of probability of when and where to encounter a given word and the sort of words to be found with it; knowing its register, i.e., the limitations imposed on it by register; knowing its grammatical properties, i.e., knowing its appropriate syntactic behavior, knowing its morphological behaviors, i.e., knowing its underlying form and derivations; knowing its associative meaning, i.e., knowing the network of associations it has and knowing its senses, i.e., knowing its semantic features, its extended or morphological meanings. Coady also indicated that the high frequency of a word makes it familiar to learners because they often encounter it. These studies have found there is always a gap between receptive and productive vocabulary. In a framework relating aspects of vocabulary, such as vocabulary size, growth, and use, Nation   (1993, 115-134) made three relevant points. First, one's skill in language use depends on vocabulary size, and one should thus be familiar with high frequency words and the general academic vocabulary that is common in many academic disciplines.

Second, as a person's knowledge of the world depends on skills in language use, knowing many words is not enough, it is also necessary to have fluent access to that vocabulary (p.120). Third, a person's vocabulary growth is affected by knowledge of the world (p.121). In addition to high – frequency and general academic words, therefore, one needs to deal with the specialized technical vocabulary that is peculiar to a particular field of study (p. 121). Parry (1993, 109-127) suggested a practical way to encourage and train students in English as a second language (ESL) courses to get exposure to the technical vocabulary of their chosen disciplines, through readings, textbooks and through thematic study units from various academic disciplines to create individualized class assignments, (such as involving them in interviews, presentations, etc.) where they may also be exposed to and gain some invaluable experience in using the specialized vocabulary of their future disciplines. As far as students' lack of improvement in depth of specialized vocabulary knowledge is concerned, the researcher also suggested that much more should be done before such students enter their academic studies in order to create a deeper understanding of the complexities of technical vocabulary knowledge and learning.

Li and Pemberton (1994, 183-196) pointed out that there exists a gap in vocabulary research in the field of applied linguistics. On the one hand, studies in pedagogical vocabulary have mainly concentrated on measuring the vocabulary size the learner is required to know after a certain period of tuition and at a certain level. This size serves as the yardstick for deciding how many and what words are legitimate to be included in a course book. On the other hand, Laufer and Nation (1995, 307-322) indicated that many studies have been concerned with measuring how many vocabulary items learners have learned. These studies failed to address how well the learner knows a word and how a word should be presented for instruction. Nation and Hwang (1995, 35-41) described technical vocabulary in relation to frequency, coverage, and range within a set of texts in a field. These researchers also described many factors involved in knowing a word, such as its meaning, form, function, and position. As Schmitt (1996, 34-39) declared in describing variation in his findings, the data for some participants may simply reinforce the inclusion that researchers should view total vocabulary size as something always in flux, where words are forgotten as well as gained.

According to Meara (1996, 27-40), word identification (WI) is viewed as word recognition, while defining words and writing sentences with them as on vocabulary knowledge scale (VKS) are more productive skills and both are common in measures of vocabulary learning. Meara (1996, 35-53) termed lexical organization, a view of lexical competence involving the connections that link each of the items in the network, the average distance between randomly selected items in the network, and so on. An important point is that lexical organization is a property of the vocabulary as a whole, not just characteristic of individual words. What is relevant from Meara's work is that the connections he wrote about exist on a number of levels within one's lexical structure and involve a fairly high degree of connectivity. This researcher thus postulated that 'each item in a second language (L2) lexicon might be directly linked to only a very small number of other words, and that in general, (L2) words have a smaller number of shared associations than would be the case in a first language (L1) lexicon. In promising ways, pedagogy and research appear to recognize increasingly that lexical competence is at the heart of communicative competence'.

Laufer (1997, 255-271) investigated the gains in 3 types of English as a Foreign Language (EFL) vocabulary knowledge: passive, controlled active and free active, in one year of school instruction. The researcher also examined how these aspects of lexical knowledge are related to one another, and what changes occur in these relationships after one year. Gains in vocabulary were measured by comparing 2 groups of learners with 6 and 7 years of instruction. Relationships among the 3 areas of knowledge were investigated by comparing them within the same individuals. The results showed that passive vocabulary size (as measured by Vocabulary Levels Test) progressed very well, controlled active vocabulary (as measured by the productive version of the Levels Test) progressed too but less than the passive. Free active vocabulary (as measured by Lexical Frequency Profile) did not progress at all. Passive vocabulary size was larger than controlled active in both groups of subjects, but the gap between the 2 types of knowledge increased in the more advanced group. Passive and controlled active size scores correlated with each other well. Free active vocabulary, on the other hand, did not correlate with the other 2 types.

Laufer and Paribakht (1998, 365-391) investigated the relationships among the same 3 types of vocabulary knowledge (passive, controlled active, and free active) within the same individuals, but this time taking 4 variables into consideration: passive vocabulary size, language learning context, second (L2) or foreign (FL), length of residence in L2 context and, among the Canadians, knowledge of French. Participants were adult learners of English in Israel (N= 79) and in Canada (N=103) at different proficiency levels.

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The researchers used the Levels Test for passive vocabulary size, a controlled Active vocabulary Test and the Lexical Frequency Profile (for lexical richness in free written expression). They found that the 3 dimensions of vocabulary knowledge developed at different rates. Active, particularly free active vocabulary developed more slowly and less predictably than did passive vocabulary. Furthermore, the relationships among the 3 dimensions of vocabulary knowledge differed between the 2 learning contexts. Although passive vocabulary was always significantly larger than controlled active and free active, the passive – active vocabulary gap was smaller in the (FL) than in the (L2) context. The benefits of residence in an (L2) context only began to appear after about 2 years, as passive vocabulary was activated and the gap reduced. In the Canadian context, knowledge of French was an asset at the earlier stages of ESL learning.

In their work on English for Academic Purposes (EAP), Coxhead and Nation (2001, 252-267) remarked that there are varying degrees of "technicality" depending on how restricted a word is to a particular area. As a result, they asserted that there are at least 4 different types of specialized (or technical) vocabulary, ranging from terms that are used almost exclusively in one field to those used in a number of different fields, but with unique meanings or usage in each technical area. Qian's (2002, 513-536) conducted a study in the context of Test of English as a Foreign Language (TOEFL) 2000 research to conceptually validate the roles of breadth and depth of vocabulary knowledge in reading comprehension in academic settings and to empirically evaluate a test measuring 3 elements of the depth dimension of vocabulary knowledge, namely, synonymy, polysemy, and collocation. A vocabulary size measure and a TOEFL vocabulary measure were also tested. The study found that the dimension of vocabulary depth is as important as that of vocabulary size in predicting performance on academic reading and that scores on the 3 vocabulary measures tested are similarly useful in predicting performance on the reading comprehension measure used as the criterion. The study confirmed the importance of the vocabulary factor in reading assessment.

Qian's research on the relationship between the breadth of vocabulary knowledge and reading comprehension produced results indicating a relatively high correlation, ranging from 0.50 to 0.78 between the two factors. Cohen and Aphek (2002, 221-235) trained 26 learners of Hebrew as a second language to generate associations of their own choosing to new vocabulary items, and then examined their use of these and new associations during recall tasks over a period of a month in order to illustrate the nature of the data that were recorded and analyzed, a description of vocabulary learning behavior across words and across tasks is provided for 2 sample students. Likewise, a description is also provided of how 2 words behaved across students. Findings for the student group as a whole were as follows: students reported using previously – formed associations most frequently in order to recall words in subsequent tasks, and their performance was better when using this retrieval strategy than when they used a new association, no longer used as an association, or used no association at all. There was also a generally high success rate across all 4 tasks for recall of words that were learned through association. Since a subgroup of students who learned some words without association recalled these words as well as words that they did find associations for, the question was left open as to the type of learner who benefits from learning vocabulary through association.

Read (2004 a, 209-227) suggested that a sentence context is usually useful for assessing specialized vocabulary knowledge and learning, but it is also limited, and insufficient if future studies aim to investigate the knowledge of word association, networks, and lexical organization. In a useful discussion of the distinction between depth and breadth vocabulary knowledge, the researcher noted 3 lines of research on depth knowledge, dealing with precision of meaning, comprehensive word knowledge, and lexical networks. The focus here is on depth as quality knowledge in relation to precise meaning and use (semantic and syntactic word knowledge). Vocabulary knowledge is a complex construct and assessing it is thus a complicated task. In vocabulary research, a number of studies within applied linguistics pointed out the importance of general academic words and specialized technical vocabulary in the socialization of first – language (L1) and second – language (L2) learners into their academic discourse communities (e.g., Cheng, Myles, & Curtis, 2004, 50-71; Chung & Nation, 2004, 251- 263; Horst, Cobb & Nicolae, 2005, 90-110 and Fraser, 2005, 318-327). According to Zareva (2005, 547-562), breadth vocabulary knowledge indicates a person's vocabulary size, or approximately how many words one knows. In contrast, depth vocabulary knowledge concerns the quality of a person's knowledge of a word – how well someone knows a specific word or a set of words. Sagarra and Alba (2006, 228-243) remarked that associating one word in the native language with the corresponding word in the second language until memorized is considered one of the best methods of vocabulary acquisition.

Although many argue that memorization does typically require complex cognitive processing that increases retention, it does typically require a large amount of repetition, and spaced repetition. According to these researchers, the keyword method is one useful method to build vocabulary in a second language. This method requires deeper cognitive processing, thus increasing the likelihood of retention. Flynn (2008, 102), reported the remarkable differences in vocabulary exposure of pre-schoolers between different classes in the U.S.A. Apparently, pre – schoolars of professional families are typically exposed to 2, 150 different words, pre – schoolers from working class families to 1,250 words, while those from households on welfare just 620 words. Erten and Williams (2008, 56-72) conducted a study that aimed to compare the appropriateness of two statistical procedures for learning strategies: percentage and correlation coefficients.

To do this, they asked a group of 20 learners of English to study 12 words in a written list, with their pronunciations, dictionary definitions, and example sentences. The researchers collected data through introspection where they asked students to verbalize their mental processes as they studied the target words. The researchers administered a pre-test and a post – test to measure the task achievement. To calculate the strategy effectiveness, the researchers employed both simple percentage calculation and correlation coefficients for comparison. The findings indicated that percentage calculation can give a more realistic picture of strategy effectiveness than correlation coefficients. Webb's (2008) experiments investigated how vocabulary learning tasks affect both receptive and productive knowledge of 5 aspects of word knowledge: orthography, association, syntax, meaning and form, and grammatical function. Taken as a whole, this study indicated that measuring multiple aspects of vocabulary knowledge both receptively and productively may provide a much more accurate assessment of the relative efficacy of vocabulary learning tasks. Moreover, it suggested that different tasks may have a different effect on vocabulary knowledge. Shen's (2008, 135-137) paper intended to review in detail the relationship between the breadth and depth of vocabulary and English as a foreign language (EFL) reading comprehension. One major finding of this study was that tests of vocabulary are highly predictive of performance on tests of reading comprehension.

Hadzibeganovic and Cannas (2009, 732-746), pointed out that some words cannot be easily linked through association or other methods. When a word in the second language is phonologically or visually similar to a word in the native language, one often assumes they also have similar meanings. Though this is frequently the case, it is not always true. When faced with a false cognate, memorization and repletion are the keys to mastery. If a second language learner relies solely on word associations to learn new vocabulary, that person will have a very difficult time mastering false cognates. When large amounts of vocabulary must be acquired in a limited amount of time, when the learner needs to recall information quickly, when words represent abstract concepts or are difficult to picture in a mental image, or when discriminating between false cognates, rote memorization is the method to use. Shea (2010) indicated that English speakers have become only more concerned with the size and quality of their own personal word hoards. They seem to be under the impression that a small vocabulary is one of those things, like bad teeth or poor manners, that can hold them back in life. The researcher also pointed out that study after study over the past hundred years has tied vocabulary size to higher socioeconomic status and great educational achievement. The Educational Testing Service (ETS), which has been concerned with improving vocabularies since 1947, issued a report in 2009.

This report explained some of the benefits of an extensive vocabulary. Among the more notable benefits it cited was that children who are raised in higher socioeconomic brackets tend to have vocabularies that are remarkably larger than those who are raised in poorer ones. Children who are raised in a professional household know twice as many words as do children raised on welfare. This literature review provides the rationale/ reason on which the present case study is based. Vocabulary is crucial to English as a foreign/ second (EFL/ESL) learning and use; it also affects non-native English – speakers' choice of their various academic disciplines especially at English – medium colleges as well as universities worldwide. More information is needed about such disciplinary contexts, particularly what technical vocabulary is required within them and what knowledge English and translation major students (EMSs and TMSs) have of it as they begin their studies and complete core or minimum courses in their areas of specialization. With this understanding, the researchers undertook this case study on specialized vocabulary learning in English in Qur'anic Terminology context.

Methodology
Purpose of the Case Study

This case study aimed at describing English and translation major students' (EMSs and TMSs) knowledge and learning of a specialized Qur'anic terminology in a university setting. The two case study questions were:

1. How well do English and translation major students (EMSs and TMSs) know a sample of specialized Qur'anic vocabulary at the beginning and end of their first exposure to a specialized core/ minimum Qur'anic Terminology Course, as evidenced in their beginning and end of summer session of the academic year 2010-2011 scores on a Test of Qur'anic Terminology (TQT)?
2. In what ways are (EMSs' and TMSs') knowledge and learning of this technical specialized vocabulary similar and / or different?

It is anticipated that any improvement on (post-TQT) may reflect specialized Qur'anic vocabulary learning in this context. The second case study question aims to provide the researchers with both quantitative as well as qualitative data about what aspects of Qur'anic terminology knowledge the participants, i.e., (EMSs and TMSs) do and do not share or have. In order to answer the two above-mentioned case study questions and to develop the test involving specialized Qur'anic terminology, the researchers collected baseline data from two sources. The first source of data was previous Core Qur'anic Terminology Course (CQTC) students' written class notes. The second source of data involved two Qur'anic terminology professors' handouts students received during the fall semester before this case study took place. The researchers examined these two sources of data for the Qur'anic vocabulary items within them and noted specialized terms used and the frequency with which they occurred in order to compile a list of 100 specialized Qur'anic terms that were, once again, in them to serve the purpose of the present case study. Once the researchers complied the list of specialized Qur'anic terminology, they developed a pilot Test of Qur'anic Terminology with two parts. The first part simply asked participants to identify all vocabulary items or phrases they believed to be Qur'anic in order to obtain an indication of the overall number of specialized Qur'anic vocabulary they know.

The second part of the pilot test involved a list of 10 real Qur'anic terms and asked participants to indicate their knowledge of this specialized vocabulary in order to obtain an indication of the quality of their vocabulary knowledge, using the following scale (adapted from Wersche and Paribakht (1996): (a) they do not remember seeing the word or phrase before, (b) they have seen it before but do not know what it means, (c) they have seen it before, think they know what it means, and can provide a paraphrase, synonym, or translation or (d) they know it and are able to give a paraphrase, a synonym, or translation, or (e) they know it and are able to use it in a sentence. In addition, if participant selected (d), the researchers asked pilot Test of Qur'anic Terminology (TQT) takers to use the word in a sentence. It is wroth mentioning that the first part of the Test of Qur'anic Terminology (TQT), word recognition (WR), included two types of words: 65 real words and 35 distracters that follow English language lexical patterns. A testee simply checks off the vocabulary items in Target Language, .i.e., in this case English that he or she knows. Then in marking this word recognition test, the number of correct target vocabulary items (or hits) is adjusted/downwards by the number of pseudo – words (or misses) a testee also checked, using Anderson and Freebody's (1983, 231-256) formula which is based single – detection theory. Details about the validity of this word recognition test format is outlined in Mochida and Harrington's (2006, 73-98) Yes / No test which is usually used as a measure of receptive vocabulary knowledge.

The present (WR) test part used specialized English vocabulary items from language teaching and applied linguistics as distracters. As the main aim of the current case study was to examine specialized English vocabulary in an academic discipline, i.e., the English translation of the meanings of the Noble Qur'an, it was seemed reasonable to use technical terms from language teaching and applied linguistics as two other academic disciplines rather than pseudo words. As a result, the researchers of this case study consulted a specialized dictionary in language teaching and applied linguistics (Richards, Platt., & Platt, 1992) to compile a list of possible distracters from these two disciplines. Then the researchers selected and used 10 possible distracters representing and from these fields in the word recognition (WR) part of the Test of Qur'anic Terminology (TQT). Together with the 35 distracters, the researchers ordered the 65 (WR) Qur'anic vocabulary items randomly. They listed the 10 vocabulary items for the word knowledge scale (WKS) alphabetically. Then they pilot tested the (TQT) late in the fall semester of the academic year 2010-2011 with three English major students (EMSs) and three translation major students (TMSs) as volunteers in a university setting with varying levels of Qur'anic terminology knowledge. The pilot (TQT) appeared to distinguish between the volunteers' level of this specialized vocabulary knowledge and the researchers modified it only slightly.

For example, they deemed "The Tree of Eternity too clear for the (WR) part, and they moved it to the (WKS) part of the final (TQT). The researchers also changed the revised (WKS) directions to read, ' If at all possible, please make a sentence for each word, especially if you choose either (c) or (d) because one important discovery with the pilot (TQT) was that the volunteers, who had checked off (a) or (b) for certain vocabulary items in the (WKS) part went on to use the item correctly, both syntactically and semantically, in a marker sentence. For ease of reference, the final (TQT), is reproduced in a separate appendix at the back of this case study.

Participants

To serve the purpose of the present case study, the researchers asked 12 Jordanian English and translation major students (EMSs and TMSs) enrolled in an optional university requirement core Qur'anic Terminology course at the beginning of the summer session of the academic year 2010-2011 at Isra University in Jordan: 6 EMSs as well as 6 TMSs to participate in it. The participants ranged in age from 20-24 and were studying towards a four – year Bachelor of Arts degree in English and translation.

Procedure

The researchers of the current case study met with each participant who spent an overage of 30 minutes doing the Test of Qur'anic Terminology (TQT -1) on an individual basis during the first 3 weeks of Introduction to Qur'anic Terminology Course in the summer session of the academic year 2010-2011 starting on June 1, 2011. The researchers did the same on the second administration of (TQT – 2) at the end of the summer session in July, 2011 in order to obtain comparable post – test results. After collecting the data, the researchers calculated participants' (TQT) results using Meara and Buxton's (1987) Test for the word recognition (WR) part, which is an alternative to multiple – choice vocabulary tests. For the word knowledge scale (WKS), the researches rated the participants' responses largely following Wesche and Paribakht's (1996) marking scheme:

Wesche and Paribakht's (1996) Making Scheme For (WKS) Part

No. of point (s) participants receive	Letter of item (s) a, b, c or d checked / marked and paraphrased
1	For each test item participants had checked (a).
2	For (b) test items, or for (c) and (d) ones with sentences whose paraphrase or use was considered incorrect
3	For items marked (c) and paraphrased correctly,
4	For (d) items paraphrased appropriately or for sentences in which the item was used semantically but not syntactically correctly.
5	For all items that were used both semantically and syntactically appropriately in a sentence, no matter what letter (a) to (d) a participant had chosen.

In rating the participants' word knowledge scale (WKS) responses, a second test rater randomly selected and scored a subset of 25 % of the data (3 beginning-of- summer session and 3-end – of – summer session test. As for the word recognition (WR) part, there were no discrepancies. For the (WKS) part, out of 66 scoring judgments (11 word X 6 tests, the raters agreed on 55, for an inter- scorer agreement rating of 92%. In order to compare the two test parts, the researchers converted the results for the (WR) and (WKS) parts of (TQT 1&2) to percentage scores. In answering the case study questions, *How well do English and translation major students (EMSs and TMSs) know a sample of specialized Qur'anic vocabulary at the beginning and end of their first exposure to a specialized core/ minimum Qur'anic Terminology Course, as evidenced in their beginning-and end of summer session of the academic year 2010-2011 scores on a Test of Qur'anic Terminology (TQT)? In what ways are (EMSs' and TMSs') knowledge and learning of this technical specialized vocabulary similar and / or different?* the researchers analyzed and compared the group English / Translation major students (EMSs / TMSs) and individual participants' scores, word and item choices a, b, c or d, and example sentences (on the (WKS). Finally, the researchers analyzed the combined EMSs' and TMSs' data from the pre-and post – part (TQT) in order to see if there was any evidence of vocabulary learning reflected in the participants' overall end-of-summer session (TQT).

Results

As Table 1, (p.30) shows, English major students' (EMS) group scores on the word recognition (WR) part of the Test of Qur'anic Terminology (TQT-1) revealed that they started the Core Qur'anic Terminology Course (CQTC) at Isra University with a fair knowledge of a number of specialized Qur'anic vocabulary.

For these participants, i.e., EMS group (n=6), the mean (WR) score was 79.39 %. As the scores show, there was a clearly lower one (Ahmed, 52.08 %) in this group. The results in Table 1 appear to indicate that the specialized Qur'anic vocabulary learning did take place at the end of the summer session of the academic year 2010-2011. On (TQT-2), the (EMSs') mean (WR) score was 88.01 % (up almost 10%). Table 2 (p.31) shows (TMSs') scores on the (WR) part of (TQT -1). For this group (n=6), the mean (WR) score was 83.64 % with a clearly lower one (Ala', 68. 70%). On (TQT-2), the TMSs averaged 85.54% (up almost 1.9%). This appears to indicate that specialized Qur'anic vocabulary learning did occur. Table 3, (p.32) displays the overall mean and standard deviation (WR) scores on both pre-and post- parts of TQT 1 & 2 for all participants (n=12), which were 81.51%, 86.77%, 11.57% and 9.46% respectively. The overall and EMS / TMS group mean scores also increased for both pre – and post – parts of TQT, as Tables 1, 2 and 3, (pp.30-32) indicate, and only 1 EMS participant (Ayda) showed no improvement on at least one part of the TQT.

However, the study participants' TQT-1 word knowledge scale (WKS) scores were comparatively lower, with a greater range of scores within the EMS and TMS groups. Tables 4 and 5, (pp. 33-34) confirm this information. Interestingly, the second (WKS) mean in the EMS group was 66% (up 8.7%), while the TMSs averaged 87.50 % (up over 20%). Again there are notable individual differences. For example on the (WR) part, 1 EMS and 2 TMSs scores showed virtually no change over time (slight declines of 1% or less). Similarly, for the (WKS) part, 1 EMS participant (Suha), such a score was the same and another's (Ayda) went down by 2%. Improvements in the overall (WKS) scores on TQT -2 were even clearer, with the mean for participants in both EMS and TMS groups (n=12) going up 14.24% to 76.57%. Table 6 displays this interesting study finding. In order to determine whether there was a significant difference between pre – and post – parts of the Test of Qur'anic Terminology (TQT -1 and TQT -2) scores for the combined group of 12 EMSs and TMSs, the researchers of the present case study ran a Paired Samples T Test on the TQT -1 and TQT -2 results for both word recognition (WR) and word knowledge scale (WKS). In both cases the results were statistically significant: For (WR) the t value was – 3.00, $\infty < .05$ while for the (WKS) part the t value was – 5.562, $\infty < .05$.
This statistical information appears below:

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean	t	df	Sig. (2-talied)
Pair 1	WRTQT1EMSTMS	81.5108	12	11.57147	3.34039	- 3.000	11	.012
	WRTQT2EMSTMS	86.7717	12	9.45849	2.73043			
Pair 2	WKSTQT1EMSTMS	62.3333	12	14.85281	4.28764	- 5.562	11	.000
	WKSTQT2EMSTMSS	76.7500	12	17.22643	4.97284			

Group Statistics　　　　　　　　　　　　　　　　　　　**Independent Samples Test**

Group		N	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-talied)
WRTQT1 EMSTMS	EMSs	6	79.9850	14.51958	5.92759	-.613	10	.550
	TMSs	6	83.6367	8.53892	3.48600	-.618	8.809	.553
WRTQT2 EMSTMS	EMSs	6	88.0050	10.01800	4.08983	.435	10	.673
	TMSs	6	85.5383	9.63367	3.93293	.436	9.985	.673
WKSTQT1 EMSTMS	EMSs	6	57.333	15.461	6.3122	-1.188	10	.262
	TMSs	6	13.647	13.647	5.571	-1.188	9.848	.262
WKSTQT2 EMSTMS	EMSs	6	66.000	14.532	5.932	-2.718	10	.022
	TMSs	6	87.500	12.817	5.232	-2.718	9.846	.022

The above-mentioned statistical information therefore confirms an overall increase in TQT scores for the combined group of EMSs and TMSs. However, in addition to the (WR) part scores are the actual numbers of distractors and correct Qur'anic terms chosen. As the "Learned"? (TQT-2/ not TQT-1) column in Tables 7 and 8, (pp. 36-37) reveals, all participants appear to have learned some new Qur'anic lexical items, simply because they chose words on (TQT-2) that they had not identified on (TQT-1). In considering the differences between EMSs' and TMSs' vocabulary knowledge and learning, as Tables 7 and 8 (pp. 36-37) reveal, two points are noteworthy. First, (TMSs) appeared to have had more confidence in completing both the (WR) and (WKS) parts of the TQT-1 and 2. On both (WR) tests for example, (TMSs) tended to choose more distractors than the EMSs, as Tables 7 and 8, (pp. 36-37) show.

With the (WKS) part, (EMSs) also appeared to choose distractor (d) much less often than (TMSs), and they wrote fewer sentences, as noted earlier. Second, EMSs made their greater gains in vocabulary number (on WR), while for (TMSs), the largest gains were most often in vocabulary quality (on the WKS). This fact is not surprising when one considers that (TMSs) had higher (WR) scores as noted earlier in Table 2, (p. 31). More than half of TMSs' (WKS) scores on (TQT-2) were higher than their highest (WR) scores. Table 5, (p. 34) shows this. Strikingly, in no case was this true with one of the EMSs. Tables (1 and 4, p. 30 and p. 33) show this. What is more, the EMSs' and TMSs' number and quality of vocabulary knowledge and use of technical Qur'anic terms along with the word recognition (WR) distractors were also varied, with no two participants responding in exactly the same manner, i.e., with the (WR) part, each participant's list of Qur'anic terms and distractors selected was unique. Even though 2 TMSs, (Sa'ida and Sa'eed) received full (WKS) marks on (TQT-2), their paraphrases and example sentences revealed their own personal knowledge and use of the (10) lexical items tested, once again, in the (WKS) test part. Table 5, (p. 34) confirms this study finding.

Discussion

The Test of Qur'anic Terminology (TQT) results must be understood, in the present case study researchers' view, in the context of the usual standard error of measurement and may be influenced by the test – retest effects as the same test was used twice. Nevertheless, at the end of their Core Qur'anic Terminology Course, most participants increased either the breadth, i.e., the number of their specialized Qur'anic lexical items known or the depth, i.e., the quality of their knowledge of technical Qur'anic vocabulary (or both), as evident in the word recognition (WR) and word knowledge scale (WKS) gains in participants' post – part of the Test of Qur'anic Terminology (TQT-2) scores in Tables 1, 2, 3, 4, 5 and 6, (pp. 30-35). These results, therefore, confirmed an overall increase in TQT scores for the combined group of 12 EMSs and TMSs. This finding shows that the present case study addressed the importance of both how many vocabulary items participants have learned and how well they know the specialized vocabulary of an academic discipline, i.e., specialized Qur'anic terminology, i.e., dimensions of both vocabulary breadth and depth. (Qian, 2002; Zareva, 2005; Sagara

& Alba, 2006 & Shen, 2008) confirm this study result. The TQT data outlined in Tables 1, 2, 3, 4, 5, and 6 (pp. 30-35). Also reveal some main differences between the EMS and TMS groups in the present case study. First, although (WR) scores on TQT-1 suggest that both groups brought considerable specialized vocabulary knowledge to their Core Qur'anic Terminology Course, the EMS group's scores tended to be lower than those of the TMSs'. This interesting point is evident in the EMSs' TQT-1 mean of 79.39% on the (WR) part, compared with the TMSs' 83.64 %. The EMSs' TQT-1 mean score was 57.33% in the word knowledge scale (WKS) part, compared with the TMSs' mean of 67.33%. Although there were individual differences in each group, EMSs appeared to have both less breadth and depth in their specialized technical vocabulary knowledge than their TMS counterparts. Second, at the end of the Core Qur'anic Terminology Course, this gap in breadth of specialized vocabulary knowledge of Qur'anic terminology between the EMS and TMS groups virtually closed on the post – part of (TQT WR) part 88.01% vs. 85.54%). However, a different trend appeared for the beginning of term and end of term group differences in depth of vocabulary knowledge, as the TQT-2 WKS scores in Tables 1,2,3 and 4 (pp. 30-33) show. While the EMS group mean score did increase from 57.33% on TQT-1 to 66.00% on TQT -2, the TMS group mean score increased from 67.33% to 87.50% (more than 20%).

In essence, the gap between EMS and TMS WKS group scores increased from a TQT-1 difference of just 10% to almost 21.5% on TQT-2. While both groups increased the depth (quality) of their specialized Qur'anic vocabulary knowledge, overall the TMSs in the present case study seem to have done so at a greater rate than the EMSs. All TMSs improved on the (TQT-2 WKS), while one of the EMSs received the same score, (Suha) and another's score actually went down by 2%, (Ayda) as Table 4 displays. This study finding shows that EMSs require deeper cognitive processing and specialized vocabulary exposure to help them increase the depth of their specialized Qur'anic vocabulary knowledge at a rate similar to that of the TMSs'. The keyword method in the researchers' view, is one useful method to build this deeper cognitive processing and increase the likelihood of specialized vocabulary retention. (Sagara & Alba, 2006; Flynn, 2008 & Shea, 2010) lend support to this pedagogical justification. A review of the word knowledge scale (WKS) data from the two administrations of the TQT test showed that a major reason for the gap in EMS and TMS group scores was related to the case study participants' use of example sentences in their answers. For example, TMSs offered between 5 (Mohammad) and 10 (Sa'ida, Sa'eed) example sentences on the second (WKS).

In contrast, EMSs offered fewer example sentences: One EMS (Ahmed) did not provide any example sentences at all on TQT-2, while two others (Sameer and Suha) provided just 2, one participant (Ammar) offered 5 sentences, and one other (Ayda) used 7. in both groups, however, specialized vocabulary learning was evident through greater detail in the participants' (WKS) answers on TQT-2, mainly in their definitions and example sentences. These study findings are there in Tables 4 and 5, (pp.33 -34). A sentence context, in the researchers' view, is usually useful for assessing specialized vocabulary knowledge and learning, but it is also limited and insufficient if future studies aim to investigate the knowledge of word orthography, associations, networks, syntax, meaning, form, grammatical functions and lexical organization. (Parry, 1993; Meara, 1996; Read, 2004; & Webb, 2008) give support to this pedagogical implication for teaching specialized/ technical vocabulary of an academic discipline.

In summary, the TQT data reveal in response to the 2 research questions: *"How well do EMSs and TMSs know a sample of specialized Qur'anic vocabulary at the end of their first Core Qur'anic Course, as evidenced in their beginning and end of summer session scores on a Test of Qur'anic Terminology TQT ?",* and *"In what ways are (EMSs' and TMSs') knowledge and learning of this technical specialized vocabulary similar and / or different?"* that (1) both EMSs and TMSs began their studies at Isra University with a certain number of specialized Qur'anic vocabulary knowledge, and (2) 10 participants revealed that they increased their knowledge in the specified Qur'anic vocabulary. In terms of differences between the EMSs and TMSs, EMSs began their Core Qur'anic Course with a less number and quality in their knowledge of Qur'anic terminology than did the TMSs, but the gap in the number of specialized Qur'anic words known appeared to be largely closed at the end of the summer session of the academic year 2010-2011 .

In relation to the quality of technical Qur'anic vocabulary knowledge, however, TMSs not only began their Core Qur'anic Course with more, they also appeared to have acquired/attained greater depth (quality) of Qur'anic vocabulary knowledge (on the WKS) during their first Core Qur'anic Course than EMSs did. One possible explanation for this interesting study finding may lie in what Meara (1996, Cohen & Aphek, 2002; Read, 2004; Hadzibeganovic & Cannas, 2009) have described the very individual nature of vocabulary knowledge and learning, i.e., each lexical item in an L2 lexicon might be directly linked to only a very small number of other words, and that in general, L2 lexical items have a smaller number of shared associations than would be the case in an L1 lexicon. The TMSs in the present case study were relating the technical vocabulary items that they were acquiring to other vocabulary links or shared associations within their overall lexical organization. If, in the researchers' view, the links for EMSs are less numerous and involve a smaller number of associations, it would naturally take them longer to develop the specialized vocabulary quality that TMSs seem to be attaining with target Qur'anic items in the (WKS) part of the TQT. With this background, some TMSs' (TQT -2 WR) results in Table 8, (p.37) may help explain why their scores decreased slightly.

This observation with these TMSs appears to illustrate the complexity of defining technical vocabulary for a certain discipline, in this case study Qur'anic terminology discipline. What is more, the examples of these TMSs also demonstrate that technical vocabulary knowledge and learning may be changeable. The data for some study participants in Tables 1, 2, 3, 4, 5, 6, 7and 8 (pp. 30-37) may also reinforce (Li and Pemberton's, 1994; Laufer and Nation's, 1995; Schmitt's ,1996 & Shea's, 2010) conclusion that total vocabulary size is something which is always in flux, i.e., in continual change, where vocabulary items are forgotten as well as gained. Interestingly enough, vocabulary size, in the researchers' view, can be thought of as something tied to participants' socioeconomic status and educational achievement.

This view is line with that of Shea's (2010) who remarked that children who are raised in higher socioeconomic areas tend to have vocabularies that are remarkably larger than those who are raised in poorer ones and children who are raised in a professional household know twice as many words as do children raised on welfare. The finding concerning the EMSs' lack of improvement in the quality of specialized Qur'anic vocabulary knowledge, in comparison with TMSs, suggests that much more should be done before EMSs start their Core Qur'anic Terminology Course in order to create a deeper understanding of the complexities of technical vocabulary knowledge and learning. In contexts like this specialized Core Qur'anic Terminology Course, there is still a need, in the researchers' view, to assist EMSs in mastering a deeper level of specialized Qur'anic vocabulary knowledge during the early month of their enrolment in such a study programme through training, encouraging and exposing them to the technical vocabulary of their chosen disciplines,

through thematic study units from various academic disciplines to create individualized class assignments, (such as involving them in interviews, presentations, etc.) where they may also be exposed to and gain some invaluable experience in using the specialized vocabulary of their future academic disciplines. Interestingly, at Isra University the researchers of this case study offered classes mostly for (EMSs) before the beginning of their Core Qur'anic Course, but none of the subjects chose to enroll in it, which was so strange.

Conclusion

This case study investigated the English and translation major students' (EMSs' and TMSs') specialized Qur'anic terminology knowledge and learning. After briefly reviewing related literature, the researchers described and administered a Test of Qur'anic Terminology (TQT), a combination of word recognition (WR) and word knowledge scale (WKS), at the beginning and of the participants' first Introductory Core Qur'anic Terminology Course and results revealed that all participants, i.e., (6 EMSs and 6 TMSs) enrolled in such a course in the summer session 2010-2011 with a fair knowledge of specialized Qur'anic terms. At the end of the course, EMSs' number of Qur'anic vocabulary was very nearly the same as that of TMSs', but TMSs had made much greater gains in their quality of vocabulary knowledge of the target Qur'anic items than the EMSs. The present case study results also showed that both measuring and acquiring technical vocabulary knowledge in academic settings are extremely complex, and this aspect of English as a foreign language (EFL) requires further investigation.

There are several possible implications of the present case study results for EFL classroom/ education. First of all, as specialized vocabulary learning occurs in university settings, it might be helpful for pre – intermediate, intermediate and advanced EFL courses to train EFL students in vocabulary learning strategies that will help them not only in their EFL classes but also in their academic studies in the years to come. Another possible implication of the present case study results is that EFL teachers could also encourage their students to get exposure to the technical vocabulary of their chosen disciplines, through various readings and textbooks. One practical step in this direction would be to use thematic study units from various academic disciplines, i.e., branches of learning studied at a university or to create individualized class assignments where EFL students may be exposed to and gain some invaluable experience in using the specialized terminology of their current and future disciplines. A third possible implication for EFL education is that EFL teachers should do their best to create/ assist their students in mastering a deeper level of specialized vocabulary knowledge and learning before and during their enrollment in their current and / or future academic studies / disciplines / programs.

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Appendix: Test of Qur'anic Terminology (TQT)

Name of Testee: --

Part A: Word Recognition (WR)

Instructions: You are kindly requested to read the list of vocabulary items and phrases that follows. Ring those that are Qur'anic terminology, i.e., the words or phrases that occur in the Noble Qur'an.

1. reconciliation
2. cataphora
3. righteousness
4. echolalia
5. ellipsis
6. the pious
7. dysfluency
8. proclaiming tone
9. conjugation
10. The Throne
11. antonomy
12. syntagmatic relations
13. turn away in pride
14. signs
15. a beautiful place of final return
16. nasalization
17. spider
18. reckoning
19. assimilation
20. hypercorrection
21. The Day of Gathering
22. Paradigmatic relations
23. witnesses
24. piety
25. bargaining and befriending
26. homonyms
27. anaphora
28. Divinity
29. ablution
30. balance
31. powered to dust
32. Gardens of Eternity
33. false cognate
34. psychometrics
35. ancova
36. diglossia
37. apex
38. discreteness
39. send rain in abundance
40. derivation
41. nativism
42. the Wise Book
43. tonicity
44. epenthesis
45. purifying
46. tranquillity
47. worship
48. The Day of Recompense

49. morphology
50. brainstorming
51. marriage
52. offspring
53. chunking
54. disbelief
55. postposition
56. stability
57. the Sacred House
58. hinderer of the good
59. Record (of deeds)
60. captive
61. eternal home
62. night and day
63. humility
64. bounty
65. Time
66. torment
67. the children of Israel
68. sin
69. The Day of Resurrection
70. opponents
71. Straight Way
72. home of peace
73. a grain of mustard seed
74. revealed Books
75. extravagant
76. straying
77. deniers
78. arrogant boaster
79. drops of mixed semen
80. syllabification
81. virgins
82. healing modalities
83. polytheists
84. appropriateness
85. worm of the earth
86. the eye of the needle
87. languages
88. Jews
89. forgiveness
90. despicable
91. wombs
92. family planning
93. insolence
94. a taste of mercy
95. evidence
96. monophthong
97. bilingualism
98. Hell – fire
99. invocation
100. Hereafter

Part B: Word Knowledge Scale (WKS)
Instructions: You are kindly requested to indicate how well you know each of the vocabulary items or phrases that follow by checking off (√) the suitable option. Please write a sentences for each vocabulary item, especially if your choice is either (c) or (d).

Scripture

(a) I haven't seen this vocabulary item before.

(b) I have seen this word before, but I don't know what it means.

(c) I have seen this word before, and I think it means --
    (You are kindly requested to give a paraphrase, a synonym or translation).

(d) I do know this vocabulary item. It means --
(You are kindly requested to give a paraphrase, synonym, or translation).
I can use it in a sentence of my own. Here it is ---
NB. You are kindly requested to do the same with the other 9 vocabulary items or phrases tested in the (WKS) part of the test. These are as follows:
- abode; commandment; fabricated; fraud; hypocrisy; monotheism; open enemy; polytheism; ransom and the Tree of Eternity.

Table (1): EMS Group Pre – and Post - Part TQT-1 (WR) Scores in Percentages

Group	P	(WR)	
		TQT-1	TQT – 2
EMSs	Ahmed	52.08	68.48
	Ayda	93.50	92.04
	Sameer	81.16	88.30
	Suha	79.14	90.30
	Ammar	80.85	91.65
	Omar	89.58	97.26
EMSs' M		79.39	88.01
EMSs' SD		14.52	10.02

EMS = English Major Students;
P = Participant;
TQT -1 = Pre – Part of Test of Qur'anic Terminology;
TQT -2 = Post – Part of Test of Qur'anic Terminology;
WR= Word Recognition;
EMSs' M= Mean on English Major Students;

Table (2): EMS Group Pre – and Post- Part TQT (WR) Scores in Percentages

Group	P	(WR)	
		TQT-1	TQT – 2
TMSs	Sa'ida	93.22	96.44
	Ra'ida	89.76	86.82
	Ala'	68.70	67.72
	Mohammad	85.48	87.20
	Sa'eed	80.70	90.30
	Salam	83.96	84.75
TMSs M		83.64	85.54
TMSs SD		8.54	9.63

TMSs = Translation Major Students;
P = Participant;
TQT -1 = Pre – Part of Test of Qur'anic Terminology;
TQT -2 = Post – Part of Test of Qur'anic Terminology;
WR= Word Recognition;
TMSs' M= Mean on Translation Major Students;
TMSs' SD= Standard Deviation of Translation Major Students

Table (3): EMSs' and TMSs' Overall M Scores and SD on Pre – and Post – Parts of TQT (WR) Scores in Percentages

	(WR)	
Group	**TQT-1**	**TQT – 2**
EMSs' & TMSs' (n=12) Overall M	81.51	86.77
EMSs' & TMSs' (n=12) Overall SD	11.57	9.46

EMSs & TMSs = English Major and Translation Major Students;
(n=12) = Number of All Participants;
Overall M = Overall Mean Score and Overall
SD = Overall Standard Deviation;
WR = Word Recognition;

Table (4): EMS Group Pre – and Post - Part TQT (WKS) Scores in Percentages

		(WKS)	
Group	**P**	**TQT-1**	**TQT – 2**
EMSs	Ahmed	41.00	50.00
	Ayda	85.00	83.00
	Sameer	47.00	57.00
	Suha	53.00	53.00
	Ammar	55.00	72.00
	Omar	63.00	81.00
EMSs' M		57.33	66.00
EMSs' SD		15.46	14.53

EMSs = English Major Students; P = Participant;
TQT -1 = Pre – Part of Test of Qur'anic Terminology;
TQT -2 = Post – Part of Test of Qur'anic Terminology;
WKS= Word Knowledge Scale;
EMSs' M= Mean on English Major Students;
EMSs' SD= Standard Deviation on English Major Students;

Table (5): TMS Group Pre – and Post - Part TQT (WKS) Scores in Percentages

		(WKS)	
Group	**P**	**TQT-1**	**TQT – 2**
TMSs	Sa'ida	87.00	100.00
	Ra'ida	64.00	86.00
	Ala'	60.00	87.00
	Mohammad	50.00	65.00
	Sa'eed	80.00	100.00
	Salam	63.00	87.00
TMSs' M		67.33	87.50
TMSs' SD		13.65	12.82

TMSs = Translation Major Students; P = Participant;
TQT -1 = Pre – Part of Test of Qur'anic Terminology;
TQT -2 = Post – Part of Test of Qur'anic Terminology;
WKS= Word Knowledge Scale;
TMSs' M= Mean on Translation Major Students;
TMSs' SD= Standard Deviation on English Major Students;

Table (6): EMSs' and TMSs' Overall M Scores and SD on Pre – and Post – Parts of TQT (WR) Scores in Percentages

Group	(WKS)	
	TQT-1	TQT – 2
EMSs' & TMSs' (n=12) Overall M	62.33	76.57
EMSs' & TMSs' (n=12) Overall SD	14.85	17.23

EMSs & TMSs = English Major and Translation Major Students;
(n=12) = Number of All Participants;
Overall M = Overall Mean (WKS) Score on TQT-1 & -2;
Overall SD= Overall Standard Deviation for TQT -1 & -2
TQT-1= Pre – Part of Test of Qur'anic Terminology;
TQT -2 = Post – Part of Test of Qur'anic Terminology;
(WKS) = Word Knowledge Scale;

Table (7): EMSs' Number of Lexical Items Chosen / Missed on the TQT WR Task

Group	P	TQT-1 correct	TQT-1 distract	TQT-2 correct	TQT-2 distract	Learned? (T2/not T1)	Missed (T1/not T2)	Never specified
EMSs	Ahmed	30	1	40	0	16	7	7
	Ayda	55	3	54	1	1	3	3
	Sameer	48	2	50	2	6	4	4
	Suha	47	1	52	1	6	1	5
	Ammar	48	1	53	3	7	0	4
	Omar	53	1	58	1	6	1	0

EMSs = English Major Students;
TQT-1 correct = actual number of correct Qur'anic terms on Test of Qur'anic Terminology -1;
TQT-1 distract = distractors participants specified as Qur'anic on TQT-1
TQT- 2 correct = the actual correct Qur'anic terms on TQT-2
TQT -2 distract = actual number of distractors participants had previously specified as Qur'anic on Test of Qur'anic Terminology -2;
Learned? (T2 / not T1) = number of learned Qur'anic terms on TQT -2 that participants had not previously specified on TQT-1.
Missed (TQT-1 not TQT-2) = missed correct items that participants had previously specified on TQT-1
Never specified = terms participants had not specified on both TQT -1 & -

Table (8): TMSs' Number of Lexical Items Chosen / Missed on the TQT WR Task

Group	P	TQT-1 correct	TQT-1 distract	TQT-2 correct	TQT-2 distract	Learned? (T2/not T1)	Missed (T1/not T2)	Never specified
TMSs'	Sa'ida	54	0	56	2	3	1	1
	Ra'ida	53	7	51	1	3	4	2
	Ala'	42	2	40	1	8	10	8
	Mohammad	52	4	52	3	3	3	4
	Sa'eed	48	3	53	1	5	1	4
	Salam	51	4	50	0	5	6	3

TMSs = Translation Major Students;
TQT-1 correct = actual number of correct Qur'anic terms on Test of Qur'anic Terminology -1;
TQT-1 distract = distractors participants specified as Qur'anic on TQT-1
TQT -2 distract = actual number of distractors participants had previously specified as Qur'anic on Test of Qur'anic Terminology -2;
TQT -2 distract = actual number of distractors participants had previously specified as Qur'anic on Test of Qur'anic Terminology -2;
Learned? (T2 / not T1) = number of learned Qur'anic terms on TQT -2 that participants had not previously specified on TQT-1.
Missed (TQT-1 not TQT-2) = missed correct items that participants had previously specified on TQT-1
Never specified = terms participants had not specified on both TQT -1 & -2.