EFL LEARNERS' RECEPTIVE AND PRODUCTIVE KNOWLEDGE OF WORD DERIVATIVES

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ABSTRACT: *It has been assumed that L2 learners' productive knowledge of word derivatives is not predicted by their receptive knowledge, that is, learners with high levels of receptive knowledge may not be better than learners with low level of receptive knowledge in the production of word derivatives (e.g. Schmitt & Zimmerman, 2002; Collins & Nation, 2015). However, the current study does not conform to this notion, and provides new insights about EFL learners' receptive and productive knowledge of word derivative forms. The participants of the present study were 36 postgraduate students at ten different Saudi universities majoring in different schemes of English. They were requested to take an English-Arabic translation task for 16 target words, and to fill in four blanks for each target word with a suitable word derivative class (i.e. a noun, verb, adjective, or adverb). Each blank appeared in a contextualized sentence, where the participants were required to provide a suitable derivative for each blank. Each target word had four sentences with blanks that required one of the four major word classes mentioned above. These 16 words came from Schmitt and Zimmerman's (2002) study. The results showed that there is a significant correlation between the participants' receptive and productive knowledge. Furthermore, the results indicated that adjectives and nouns were the most provided derivatives on the Schmitt and Zimmerman's derivative forms test, followed by verbs and adverbs. Finally, some pedagogical implications were provided to help L2 learners increase their receptive as well as productive knowledge aspects of word derivations.*

KEYWORDS: *Derivatives, receptive knowledge, productive knowledge, vocabulary size, breadth and depth knowledge*

INTRODUCTION

It is unequivocally important to use the proper word form that fits a given context for producing grammatically acceptable language (Schmitt & Zimmerman, 2002). This ability to produce proper language, for instance, using the noun *graduation* when prompted by a certain context, but using the verb *graduate* called for by another context, is so essential (ibid.). When lacking this ability, L2 learners may either overuse the only form they know regardless of the context that may require a different form of that word, avoid that word and substitute it with another word that fits that context (Cohen, 1996), change or reduce the message, or simply disregard their communication purpose (Oxford, 2016). However, it seems that mastering word derivatives is not an easy task for non-native speakers as well as native speakers of English (Schmitt & Zimmerman, 2002; Karlsson, 2015), and seems to develop incrementally over the years for native speakers (Carlisel, 2000; Mochizuki & Aizawa, 2000). These two pieces of information, i.e. that word derivatives are not easy to master and that this mastery develops gradually over the years, posit some pedagogical questions. For example, if a learner knows one form of a word, does this entail that he/she knows the other derivative forms of that word? If the answer is no, then is it worth the efforts to spend the class time to teach affixations to

learners? Nation (2001) and Schmitt (2000) believe that the short answer to the latter is yes. A number of studies seem to agree on that the time dedicated to raising learners' awareness of affixes inside the classroom is time well spent (Bird, 1990; Nation, 1990, 2001; Schmitt, 2000; Stockwell & Minkova, 2001; Schmitt & Zimmerman, 2002). In fact, Richards (1976), Nation (2001), and Schmitt (2000) believe that vocabulary knowledge is complex and multifaceted that requires different levels of processing. Thus, Nation (2001), Schmitt (2000), and Schmitt (2010a) have listed eight aspects that are involved in knowing a word as follows:

Furthermore, vocabulary knowledge is usually conceptualized as either through the dimension of breadth (size) and depth (quality) or the dimension of reception (passive use) and production (active use) (Collins & Nation, 2015; Gardner, 2007; Milton, 2009; Schmitt, 2014). Size is concerned with the number of lexical items a learner knows (Schmitt, 2010b); while depth is related to the derivations and inflections the learner can attach to those stem words (Nation,

1.	spoken form	2.	written form
3.	parts of speech, derivative forms, and grammatical behavior	4.	collocations
5.	frequency	6.	register
7.	conceptual meaning(s)	8.	associations

2001).

Certainly, these aspects are not learned in a cut-point, i.e. known/not known, manner (Schmitt, 2014). Furthermore, some of these knowledge aspects need to be contextualized in order to be mastered, like collocations and register constraints, as they need massive exposure to the language (ibid.). For example, extensive reading is believed to provide massive exposure in the Saudi EFL context that enables learners to develop their vocabulary knowledge (Al-Nujaidi, 2003; Al-Homoud, 2007; Al-Homoud & Schmitt, 2009; Al-Homoud & Alsalloum, 2012). The relationship between breadth and depth of vocabulary knowledge has been reported to correlate highly with each other (e.g. Schmitt & Meara, 1997; Nurweni & Read, 1999; Akbarian, 2010). Nonetheless, there is no consensus that the distinction between these two really exists (for a counter-argument view, see Waring, 1998, and for a fuller account of the size-depth distinction, see Schmitt, 2014). Hence, the current study sheds light on major issues that are related to the acquisition of derivative word forms, and reveals results concerning the relationship between receptive and productive knowledge of word derivations in the Saudi EFL context.

Significance of the Study

Research on tapping L2 learners' knowledge of receptive as well as the productive aspects of word derivative forms seems to be scarce and scattered. More specifically, EFL contexts are poor when it comes to experimental studies that gauge learners' knowledge of affixes. The present study is hoped to add more insights about these two aspects jointly, followed by some pedagogical recommendations. Currently, the study aimed at answering the following research questions:

1. To what extent do Saudi EFL postgraduates know the target words receptively through an English-Arabic translation task?
2. How many of the four major derivative classes (i.e. verb, noun, adjective, and adverb) of a stimulus word can Saudi EFL postgraduates use productively?
3. Which of the four major derivative classes can Saudi EFL postgraduates use productively?
4. What is the relationship between the Saudi EFL postgraduates' productive derivational word knowledge and their English-Arabic translation scores of the target words?

LITERATURE REVIEW

What Counts as a Word?

Nation and Meara (2002) affirm that one of the most difficult questions in vocabulary research is to determine what a word is. In fact, Nation (2001) wonders whether to count *book* and *books*; *green* (the color) and *green* (a large area of grass), as one word or two separate words, respectively. Furthermore, he questions considering proper names and brand names as words. Therefore, Nation (2001) and Nation and Meara (2002) assert that any rough estimate or attempt to answer that question would definitely depend on the purpose of that question.

Tokens. If one is interested in counting how many words a page or a line contains, then Nation (2001) and Nation and Meara (2002) believe that *tokens* (i.e. running words) are considered here. A token involoves, for instance, the number of words someone produces when speaking or writing, or the number words a corpus is compiled of (Nation & Meara, 2002; Milton, 2009). For the example, *the cat chased the rat* has five tokens even if the definite article has occurred twice. The same applies to spoken genre. It is crucial to decide whether words like *I'm* and *I am* are to be dealt with as one or two words (ibid.). Moreover, tokens (or running words) are to be considered when counting the words a reader can read, a speaker can utter per minute, or a particular book has (Nation, 2001).

Types. However, when we are concerned with the number of words a certain dictionary has or a person knows, then the repeated words, like *the* in 'the cat chased the rat', is counted only once. That is, there are four different words, or *types*, in that sentence even though the word *the* occurs twice. Milton (2009) believes that using type counts in written texts seems much more straightforward than using them in spoken texts. He gave the example of the number 777, and that it is dealt with as one expression in writing, but when it comes to speaking is it considered one word or five words, i.e. seven hundred and seventy seven?

Lemmas. A more useful count of words that seems to gauge L2 learners' vocabulary knowledge at elementary or intermediate levels are lemmas (Milton, 2009). Vermeer's (2004) study shows lemmas, in addition to types, to be the most reliable measure for lexical richness. A *lemma* is made of a stem word plus its most frequent inflected forms and contracted forms (e.g. n't) on condition that they all belong to the same part of speech (Nation, 2001; Nation & Meara, 2002; Milton, 2009). For example, a lemma for the word *govern* would embrace its other verb inflections like *governs*, *governed*, and *governing*, but not the noun *government* (Milton, 2009). It is believed that the rule-governed nature of most lemmas in English (i.e. those formed by adding either –ed, -ing, or –s to the stem) seem to facilitate the learning burden (i.e. "the amount of effort required to learn it" (Nation, 2001: 36) more than derivational affixes (e.g. un-, -ment, and –ful) (Nation, 2001; Schmitt and Zimmerman, 2002; Milton, 2009).

Nonetheless, lemmas are not problem-free when deciding what words should be included. For example, Nation (2001) states that although lemmas reduce the number of word units in a corpus, serious decisions need to be made towards the problem of irregular forms of lemmas. For instance, the learning burden in the words *is*, *brought*, and *best* is much harder than the learning burden in regular forms like *wash*, *washes*, *washed*, and *washing*.

Word families. When an L2 learner's vocabulary knowledge increases and develops, a more comprehensive word count is needed to gauge other traces of vocabulary development in the learners' language. As lemmas are only restricted to inflections, tests of vocabulary

development for upper intermediate and advanced learners need to gauge more than just lemmas. Therefore, a more comprehensive word count is introduced. That is the *word family*. A word family is usually made up of a headword in addition to its inflected forms and the closest derived forms (Nation, 2001; Nation & Meara, 2002; Schmitt, 2000; Schmitt & Schmitt, 2014; Milton, 2009). For example, the word family of the word *govern* consists of all its inflected forms falling in the same part of speech (e.g. *governs, governed, and governing*) and its derivatives (e.g. *government*, *governmental*, *governance* and *ungoverned*).

Finally, what counts as a word should be revisited and determined by the research target *ad hoc*. If the purpose of the word count is to measure learners' receptive knowledge of vocabulary, then a word family may seem more reasonable; however, lemmas appear to show more accurate estimates if the purpose is to measure the learners' productive knowledge (Collins & Nation, 2015), as word families will produce smaller figures for vocabulary size than lemmas (Milton, 2009).

Key Concepts in Word Derivational Knowledge
Receptive and productive knowledge. The distinction between receptive (passive) and productive (active) knowledge dimensions of derivatives is quite similar to the distinction between listening/reading skills and speaking/writing skills (Nation, 2001). Therefore, receptive is concerned with the language that the learner receives from listening and reading input, while productive relates to the language learners produce when speaking or writing (ibid.). Furthermore, Nation (2001) elaborates on what is involved in knowing the word *underdeveloped* receptively and productively. Receptive knowledge of that word involves:

X being able to recognize the word when it is heard	X being familiar with its written form so that it is recognized when it is met in reading
X recognizing that it is made up of the parts under-, -develop- and -ed and being able to relate these parts to its meaning	X knowing what the word means in the particular context in which it has just occurred
X knowing that underdeveloped signals a particular meaning	X being able to recognize that underdeveloped has been used correctly in the sentence in which occurs
X knowing the concept behind the word which will allow understanding in a variety of contexts	X being able to recognize that words such as territories and areas are typical collocations
X knowing that there are related words like overdeveloped, backward and challenged	X knowing that underdeveloped is not an uncommon word and is not a pejorative word

Nation (2001: 41)
Productive knowledge and use, on the other hand, involve:

X being able to say it with correct pronunciation including stress	X being able to write it with correct spelling
X being able to construct it using the right word parts in their appropriate forms	X being able to produce the word to express the meaning "underdeveloped"
X being able to produce the word in different contexts to express the range of meanings of underdeveloped	
X being able to produce synonyms and opposites for underdeveloped	X being able to use the word correctly in an original sentence

X being able to produce words that commonly occur with it	X being able to decide to use or not use the word to suit the degree of formality of the situation (At present developing is more acceptable than underdeveloped which carries a slightly negative meaning)

Nation (2001: 42)

Not like inflections, derivatives seem to bear a more learning burden, receptively and productively, as the prefixes and suffixes that are attached to the root of the word are not necessarily rule-based (Schmitt & Zimmerman, 2002). In fact, it seems that learning and using all members of a word family is difficult for learners (Ford, Davis, & Marslen-Wilson, 2010; Schmitt, 2014). However, Karlsson (2014) believes that word families seem to facilitate the learning, while Nation (2001) differentiates between systematic and unsystematic affixes. He states that affixes that are systematic reduce the learning burden like *un-*, *-ly*, and *–ness*, which in turn lessens the learning burden if learners have basic knowledge of the root word and these systematic affixes. For instance, if a learner knows the headword *great* and knows as well that the suffix *–ness* changes an adjective to a noun, then it seems that the new derivative word *greatness* may not have a new learning burden for that learner. This is why Ford *et* al (2010) believe that derivational morphology is unsystematic and, hence, it makes morphemic representation of newly formed words less effective than inflected words when it comes to lexical processing. Likewise, Bauer and Nation (1993: 253) asserts that "the important principle behind the idea of a word family is that once the base word or even a derived word is known, the recognition of other members of the family requires little or no extra effort".

When it comes to empirical research, Schmitt and Zimmerman (2002) state that most of the studies carried out in this regard were to gauge L2 learners' receptive knowledge of derivatives, but for the productive dimension, not so much research has been done. Moreover, they add, most of the research done on the receptive dimension dealt with reading rather than speaking. Schmitt and Zimmerman believe that it is justifiable as derivatives are more abundant in written genre than in the spoken genre, and are linked to formal and academic discourse. Milton (2009) and Bao (2015) state that L2 learners' receptive knowledge is usually greater than their productive counter-part. Nation (2001) believes that the reason for this may be due the extra practice receptive knowledge receives in normal language learning settings.

Breadth and depth knowledge of derivatives. As discussed earlier, breadth (size) of vocabulary knowledge concerns the number of words a person knows, while depth (quality) of vocabulary knowledge reflects how well a person knows words (Nation, 2001; Gardner, 2007; Milton, 2009; Schmitt, 2014). . In fact, receptive knowledge and is usually much smaller than productive knowledge (Nation, 2001). Unfortunately, the gap between these two dimensions is massive. For example, Nation (2006) states that L2 learners need around 8000 – 9000 word families to understand written texts, and about 6000 – 7000 word families to deal with spoken texts. Furthermore, Laufer (2016) found that learners' receptive knowledge of vocabulary ranges between 2000 and 4000 word families in different L2 settings. This is disappointing for many researchers and teachers. The difference between the highest estimate of word families known by L2 learners in Laufer's (2016) and the lowest in Nation's (2006) rings warning bells for learners, teachers, and materials developers to revisit their status towards the vocabulary threshold that makes learners cope with English authentic texts.

In the Saudi context, for instance, research has shown that high school pupils (e.g. Al-Bogami, 1995; Al-Akloby, 2001; Alsaif & Milton, 2012) as well as university students specialized in English (e.g. Al-Hazemi, 1993; Al-Homoud, 2003; 2009; Al-Masrai & Milton, 2012; Al-Jarf, 2015) seem to score well below the threshold stated in Nation's (2006) study. The minimum reported scores of vocabulary size amongst those studies were about 726 word families for high school pupils (Alsaif, 2011), while the highest scores were reported by Al-Masrai and Milton (2012) who found their about-graduation participants to score about 5000 word families. University-level English program designers should pay attention to this serious problem. Some of these participants are to be teachers mainly at intermediate and high school levels. According to the plans of the Ministry of Education (MOE) in Saudi Arabia for English classes at those two levels, pupils should master the 3000 word families upon graduation from high school. Regrettably, the MOE's English textbooks seem to hardly provide rich contexts for acquiring these 3000 word families through the whole seven years of teaching English from grade 6 to grade 12. Alsaif (2011) analyzed the MOE's textbooks for teaching English at grade 7 through grade 11 and found that those textbooks hardly provided around 2800 word families of the most common 5000 word families. Alsaif and Milton (2010: 21) state that, "[s]urprisingly, portions of the Ministry of Education's own target word-list are not presented at all" in the 22 analyzed textbooks.

It is believed, therefore, that Saudi EFL learners may not be able to expand their knowledge of different and more elaborate vocabulary aspects with limited range of word families. L2 learners' depth knowledge of vocabulary, on the other hand, seems to be much smaller and thinner than their breadth knowledge (Nation, 2001; Vermeer, 2001; Nation & Webb, 2011). With this in mind, L2 learners' knowledge of derivatives might also be affected as Milton (2009) asserts that a large vocabulary is key to making associations between words. Furthermore, Schmitt (2014) states that knowledge of word derivatives (i.e. affixes) is an indicator of depth knowledge of vocabulary, and that stronger depth knowledge of vocabulary appears to help learners to effectively use lexical inferencing strategies (Nassaji, 2004).

In the Saudi EFL context, the number of studies tapping learners' depth knowledge of vocabulary are scarce (Masrai, 2016). From a teaching and student-training perspective, Al-Jarf (2015) has introduced a model for using mind mapping in teaching word derivatives to Saudi female university students majoring in translation. She used Free Mind software for introducing different vocabulary items and skills. What relates to the current study is the mind maps created for morphological development. These mind maps focused on affixes of certain target words, and covered five central types of affixes: Adverb suffixes, verb suffixes, adjective suffixes, negative prefixes, and noun suffixes. The affixes were well presented in different colors and shapes in order to attract the attention of the participants. Al-Jarf reported that the results of the pre- and posttests showed significant differences in both vocabulary acquisition and accuracy favoring students using mind mapping in their vocabulary learning as supplementary activities. However, no further details were given about the type of vocabulary pre- and posttests.

On a high school level, Masrai (2016) carried out a large-scale study that covered 400 pupils enrolled in different schools belonging to three regions in Saudi Arabia. Masrai used a 50-item morphological decomposition test as well as a 120-itme X-lex vocabulary size test. Both tests fall into the yes/no format. The first test word items were divided into two categories. The first contains regular inflected and derived words, while the second contains irregular inflected and

derived words. Both categories were made of 25 words each. The second test measures receptive knowledge of 100 target words that fall in the 5000 most common words in English, in addition to 20 pseudo (unreal) words. The researcher came up with some interesting and important results that should be taken into consideration. First, the participants showed significant performance in producing base forms of inflected words more than from derived words. Second, the study revealed that the participants' vocabulary size highly correlated with their morphological processing of regular inflections and derivations. This goes in hand with previous research results (e.g. Schmitt, 2014; Vermeer, 2001). Hence, the aim of current study is to bridge the gap in providing new insights about derivational knowledge of Saudi EFL learners at a postgraduate level, as no previous studies have been conducted in this regard.

METHOD

Participants

The participants of the current study were 36 Saudi EFL male and female teaching assistants (demonstrators/language instructors) and lecturers at ten different Saudi universities. The participants had been recruited by their universities in order to teach English courses, mainly skills courses, and to pursue their higher education in different fields of English. These participants should have been selected by their universities because of their high GPAs as well as their knowledge of certain aspects of English according to each university's English scheme. Therefore, it is assumed that some of these participants chose literature, linguistics, applied linguistics, or translation to be their major in postgraduate studies.

Instruments

In order to answer the research questions posited earlier, two different tests were employed. The first one was a test designed by Schmitt and Zimmerman (2002) to elicit the participants' knowledge of derivational forms in production. The test consisted of 16 target words derived from Coxhead's (2000) Academic Word List (AWL). For each target word, four similar, contextualized sentences were formulated with blanks to be filled by one of the target word's main parts of speech (noun, verb, adjective, or adverb). If any participant believes that there is no existing part of speech for a certain blank, he/she should put an X. In front of each sentence, the word class of the assumed derivative form was given. However, in the current research, this feature was deleted since this might suggest a strong clue for choosing a derivative form that might have helped some participants to over-generalize some of the systematic derivational suffixes like –*tion*, -*ness*, -*ive*, -*ly*, etc. Moreover, in order to avoid the possibility of guessing to take place, the order of the sentences for each target word was changed. That is, the identical order of presenting the sentences (verb, noun, adjective, and adverb) in Schmitt and Zimmerman's test could have helped some participants to broadly guess a derivative form for a certain blank. Therefore, the presentation of sentences did not follow any certain order.

The marking of the participants' scores did not follow Schmitt and Zimmerman's, either. Their way of marking was somehow lenient and could give less accurate results in production. For example, they reported that they "counted misspellings as correct as long as the intended derivative could be discerned" (2002: 157). So, their marking ranged between (0), i.e. zero knowledge, and (1), knowledge. Nation and Webb (2011) assert that reports on the number and type of errors in research tapping lexical richness would be of benefit. Therefore, the current study, however, dealt with spelling in a stricter manner. Therefore, there were three scores for each answer. If the participant showed no knowledge of the derivative form, then a '1' was

given. If he/she showed partial knowledge of the derivative form, e.g. with misspelling, then a '2' point was assigned, and if the participant provided the right answer (either X for an unavailable derivative, or the right derivative), then a '3' point was given.

For measuring the participants' receptive knowledge of the target words, a translation test was administered. The rationale behind using a translation task was that some commonly used measurements (e.g. yes/no, MCQ, or matching tests) that are designed to tap learners' receptive knowledge do not seem to gauge delicate traces of receptive knowledge. Therefore, translation tasks appear to track delicate such traces more than those commonly used tests. Kroll, Hell, Tokowicz, and Green, (2010) believe that L2-L1 translation, as predicted by the Revised

Hierarchical Model (RHM), occurs in an early place of acquisition.
The translation test consisted of the 16 target words available in Schmitt and Zimmerman's (2002) word derivative forms tests. Each target word was presented in isolation, and an Arabic translation for that word was requested. The scoring system for this test worked similarly to the above test. That is, if a participant provided the right translation, then he/she was granted three out of three, regardless of the part of speech provided. If they provided a near translation, then a '2' point was given, and if the translation is wrong in meaning, then 1 was given. After the researcher had finished the marking, three applied linguistics were consulted for checking the reliability. The disagreement over the marking of the translation was restricted to about eight instances out of 576 possible correct translations.

RESULTS

For the first research question, *To what extent do Saudi EFL postgraduates know the target words receptively through an English-Arabic translation task?*, the results of the current study showed that the participants, on average as a whole group, were able to translate 13.9 out of 16 target words into Arabic. This means that 86.9% of the words were known receptively, at least through the translation task. Only four of the participants were able to score 100%, while one participant scored a minimum of 53.1%. In other words, the minimum of 53.1% means that the participants were able to translate about 8.5 words (out of 16) into Arabic. Table 1 shows the number of correct translation for each target word by all participants. The participants, in general, seem to have a good receptive mastery of the target words, ranging from 66.7% to 100% (the lowest and highest percentages are bolded in the table).

Table (1): Correct Translation of the Target Words by All 36 Participants

Target words	correct translation	%
assume	26.5	73.6
authority	35.5	98.6
traditional	34.5	95.8
select	**36**	**100**
access	34	94.4
ethnic	27.5	76.4
philosophy	35.5	98.6
inevitably	29	80.6
liberal	32.5	90.3
release	34	94.4

survive	32.5	90.3
ideology	28.5	79.2
precise	30	83.3
minimum	31.5	87.5
coherent	29	80.6
persist	**24**	**66.7**
Total	31.3	86.9

The second research question, *How many of the four major derivative classes (i.e. verb, noun, adjective, and adverb) of a stimulus word can Saudi EFL postgraduates use productively?*, dealt with the number of derivatives the participants could produce in the four major classes. The overall results for the whole group showed that the participants were able to know productively 42.4 derivative forms out of 64 (16 words x 4 derivatives for each word) possible derivatives (i.e. 66.3%). This goes in line with what Schmitt and Zimmerman (2002) found. Their participants were able to produce, on average, about two words of each of the target words. In the current study, no participant failed to produce any derivative, as the least participant scored 20 derivatives (i.e. 31.3%). However, in the current study there was no single derivative form that was not provided by any participants. All derivative forms were produced by no less than one third of the participants, while there were two derivative forms (i.e. *assume v and select v*) that were produced fully by all participants. As can be seen in Table (2), the mean score is 42.4 for the whole group with a standard deviation of 8.2.

Table (2): Mean Score and Standard Deviation of the Number of Derivative Forms Produced

N	Minimum	Maximum	Mean	Std. Deviation
36	20.00	56.00	42.44	8.20

As for the third research question, *Which of the four major derivative classes can Saudi EFL postgraduates use productively*?, the results in Table 3 indicate that the participants were able to produce more adjectives (71.9%) and nouns (71.4%) more than verbs (65.3%) and adverbs (56.7%).

Table (3): Derivative Forms Produced For Each Word Class

Word classes							
V		N		Adj		Adv	
No.[a]	%	No.[a]	%	No.[a]	%	No.[a]	%
376	65.3	411.5	71.4	414	71.9	326.5	56.7

[a] The number of produced derivative forms for all target words in all word classes is 576.

The results of the fourth research question, *What is the relationship between the Saudi EFL postgraduates' productive derivational word knowledge and their English-Arabic translation scores of the target words?*, showed that the answer was positive. Table (4) indicates that the correlation between the scores on the translation task test and the scores on the derivative forms test is significant at 0.01 level. This means that the more receptive knowledge a participant had, the more scores he/she was able to obtain in the word derivative test. This does not support Schmitt and Zimmerman's (2002) results as they found that there was no significant correlation

between their participants' productive knowledge of the derivative forms and their reported scores of their receptive knowledge of the target words.

Table (4): Correlation of Receptive and Productive Knowledge Aspects

		Translation test
Derivative forms test	Pearson Correlation	.649**
	Sig. (2-tailed)	.000
	N	36

** Correlation is significant at the 0.01 level (2-tailed)

DISCUSSION

The current study showed some results that may not conform to the overall tendency found in some previous studies (e.g. Collins & Nation, 2015; Schmitt, 1998; Schmitt & Meara, 1997; Schmitt & Zimmerman, 2002). First, the results indicated that a translation task might be more reliable than other frequently used measures like MCQ, self-rating, or matching tests in measuring traces of receptive knowledge. The latter tests are prone to guessing, and test-takers' answers may not show genuine receptive knowledge of the target words of a given test. For example, the Vocabulary Levels Tests introduced by Nation (2001) and Schmitt, Schmitt, and Clapham (2001), the Yes/No test designed by Meara (1992) might have revealed some misleading results as test-takers may employ guessing strategies, or the participants' answers may not be truthful like what may have happened in the self-rating test introduced by Schmitt and Zimmerman (2002). For example, the ESL participants in Schmitt and Zimmerman's (2002) study rated 121 target words to be unknown on the TAL test. However, they produced about 30 noun derivatives on the word derivative test (i.e. 24.8%). This is a high percentage for someone who does not know the word and still be able to produce derivatives without being exposed to any treatment. Therefore, L2-L1 translation tests seem to give results that are more reliable in whether the participants know the target words or not by providing the L1 translation.

From the same perspective, one may be even suspicious about Schmitt and Zimmerman's participants when rating themselves to know certain target words and know how to use them productively. However, it is highly understood and appreciated that the vast majority of test-takers of the aforementioned tests speak a wide range of L1s that any designed translation test may be very difficult, if not impossible, to generate, administer, and mark, let alone having it standardized. Nevertheless, for local tests where learners share the same L1, it is highly recommended to build some in-house tests that are validated and made reliable for tapping learners' receptive knowledge.

The results of the translation test revealed a high percentage of the Saudi EFL postgraduate participants' receptive knowledge of the target words. This receptive knowledge correlated significantly with their production of derivative forms. This means that the higher scores on the translation test led to higher production of derivative forms of the target words. Again, this does not conform to Schmitt and Zimmerman's (2002) results, which did not find any relationship between TAL's scores and the word derivative test. Once more, this may be due to

the guessing work apparent in their self-rating TAL test. Therefore, the significant correlation between the receptive and productive sides of the target words seems justifiable.

Pedagogical Implications

Despite the differences between the results of the current study and those of Schmitt and Zimmerman (2002), this study still echoes their recommendation that teachers should present word derivatives to their students in the classroom. This way should help students conceptualize vocabulary learning as being in families. This should help them internalize certain systematic rules for consolidating as well as generating word derivatives.

As the current study has found significant correlation between the participants' receptive and productive knowledge of derivatives, txposure to extensive input should help L2 learners expand their receptive knowledge about affixes and how they are formed. As revealed earlier (e.g. Carlisel, 2000; Karlsson, 2015; Mochizuki & Aizawa, 2000), knowledge of inflections and derivations is incremental and takes years to master, if mastered at all. Therefore, teachers should introduce extensive input, especially written texts, to their students to help them learn these affixes.

More importantly, postgraduate programs in EFL contexts should pay special attention to the type and amount of reading materials that their students usually read. From experience, EFL postgraduate students read only small amounts of materials that may not help them see affixes so abundantly. Furthermore, a large number of these EFL postgraduates only read journal articles, especially those written by nonnative speakers of English. The number of books they read seems to be very limited because original specialized books are not readily available in the Saudi market. Unfortunately, it is even a common practice that ordering books online is not welcome by a majority of those EFL postgraduates. Therefore, Saudi universities should provide their postgraduate students with the most important books as per field of study. The Saudi Digital Library (SDL) has made a dramatic shift in postgraduate studies since launching in terms of opening doors for researchers to easily access worldwide journals and periodicals. In order to support EFL learners' productive knowledge, postgraduate programs should involve students in carrying out academic activities that help activating different types of word derivations in writing and speaking like weekly seminars, assignments, and group discussions.

CONCLUSION

The significant correlation between receptive and productive knowledge in the current study does not support previous studies (e.g. Collins & Nation, 2015; Schmitt & Zimmerman, 2002), and raises a crucially important research issue. Schmitt (2010b) asserts that vocabulary research suffers from the absence of replications that either ratify or improve existing results. He calls for either exact replications where the same type of participants as well as instruments of new research are identical to an old study, or just approximate replications with different participants, e.g. different L1s or L2s, language proficiencies, contexts. The current study falls into the second type of replications as it uses Schmitt and Zimmerman's (2002) word derivative forms test, but adding a further receptive test (i.e. the translation task), with different participants and contexts.

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