Available online at http://ijleal.ump.edu.my/
International Journal of Language Education and Applied Linguistics (IJLEAL)

ISSN: 2289-7208 print, 2289-9294 online
02 (2015) 17–26

Derivation: An Efficient Way of Enhancing English Vocabulary

Nadia Refat*

Centre for Modern Languages & Human Sciences, Universiti Malaysia Pahang, Lebuhraya Tun Razak, 26300 Kuantan, Pahang, Malaysia

Article Information

Received 16 January 2015
Received in revised form 4 August 2015
Accepted 12 August 2015

Abstract

In this paper, the concept of derivation is studied and its relation to English vocabulary learning is discussed. A structured based derivation process, which is an efficient way of enhancing English vocabulary compared to traditional vocabulary learning such as dictionary based and text based approaches, is proposed. This structural process helps to grow learners' interest to build more words in a faster way. Such a dynamic and emergent approach of enriching English words truly emerges with its important implications for the teaching of English in language learning classes. In order to ensure the efficiency of this process, experimental design was employed to test learners' ability to enhance their vocabulary knowledge. Thirty students participated in this study, and they were divided into an experimental group and two control groups, with the administration of pre-test and post-test. The treatment is a brief training on vocabulary enhancing methods (i.e., dictionary, text and derivation based learning). The results reveal that students who used the derivation based learning (55%) were able to enhance their vocabulary knowledge better compared to those who were exposed to dictionary based learning (13%) and text based learning (22%). The outcome confirms the effectiveness of derivation.

Keywords: Derivation based; Dictionary based; Text based; Vocabulary learning

INTRODUCTION

Undoubtedly, learning a foreign language is not an easy task especially when it is related to vocabulary learning. This is because there are different approaches to understand and use vocabulary and eventually, the language. Learners of English as a second or foreign language can first gather some words to enrich their vocabulary. This helps learners with their confidence about using them in communication purposes. When learners try to enrich vocabulary, they need to read a lot of rules, which may distract their interest to learn new words.

There are a number of approaches to learn vocabulary, and derivation is one of them. However, comparative study of derivation with respect to other methods of vocabulary learning is scarcely researched (Xinjie Liu, 2011). In this paper, I tried to uphold the task of enhancing vocabulary for learners who will not puzzle themselves in routes of learning. They can find the desired meaning as well as structure of words. The main goal of this paper is not to do the performance comparison of three vocabulary strategies rather to show the importance of derivation process, which not only enhances the derivation knowledge but also improves the dictionary and text based knowledge. Therefore, derivation is called the effective way of enhancing English vocabulary.

* Corresponding author. Tel.: +6011-3130 6940 (Mobile).
E-mail address: nadia.refat@yahoo.com [Refat, N.].

APPROACHES TO VOCABULARY LEARNING

There are different ways learners can gather new vocabulary such as through dictionary and text based learning. Dictionary based learning (DB) is a common method to understand meanings of new words. Learners of different levels (i.e. primary, intermediate and advanced) prefer to use dictionary. This is because it would be easier for them to find meaning of the word in sentences. On the contrary, it has been observed that consulting dictionary is often boring and tiresome works (Laufer & Hill, 2000). Moreover, DB learning also does not give knowledge of conversion and conjugation, which is important for learners. When electronic dictionary is used, learners tend to mismatch the definition with the text's desired meaning because of the simplicity of information presented therein. Sirah Koren (1999) suggests that with the growing popularity of electronic dictionaries, the confusion and frustration of English for Foreign Language (EFL) students attempting reading comprehension increase, as time and again, they realize that the meanings offered by electronic dictionary do not match the contextual meanings.

Another process of building or gathering new words is through text based (TB) vocabulary learning. Unlike DB learners, TB learners are able to get meanings of new words by inferring the probable meaning by relating to the text without referring to dictionaries. Memorization of unfamiliar words can be significantly facilitated when students are engaged in a text-based practice (Joe, 1995). To comprehend from the text, students tend to guess the meaning from their knowledge of words and then apply them to get into the text. Learners are then able to comprehend meaning of passages and have little options to look for an unknown word in the dictionary as it lessens the comprehensive evaluation. Students then need to look for the meanings or infer the meanings from the text. This incidental process of vocabulary learning is implicit where learners' intentions are involved (Reider, 2003).When reading texts, inferring the meaning is not always accurate. This is because when learners are looking for meaning in the passage, it can sometime be difficult and also uninteresting. Studies in the EFL suggest that learners are often unable to guess the meaning of an unknown word from a text (Bensoussan & Laufer, 1984; Haynes, 1993; Kelly, 1990; Schatz & Baldwin, 1986). Thereby, text based vocabulary learning is not sufficient to enhance vocabulary knowledge completely.

Another method of enhancing vocabulary knowledge, which can be done by simply following systematic rules, is called derivation. Derivation is a morphological knowledge approach that deals with understanding a word from its etymology to its extended form. It is necessary to mention that dictionary and text based are good options for vocabulary enhancement; however, they are unsatisfactory to meet vocabulary knowledge fully (Scott, 2000). Derivation learning is, therefore, an effective way of enhancing vocabulary that can assist other processes of vocabulary learning. In linguistics, it is the identification, analysis and description of the structure of morphemes and other units of meaning in a language. It includes words, affixes and parts of speech, and implied context with the process of creating new words. It has been observed that second language learners' ability to interpret new words on the basis of word part analysis can contribute greatly to lexical acquisition and growth (Hunt & Beglar, 2005; Pittman, 2003). Even the survey on the applications of derivation during learning suggests that affix knowledge is important in explicit vocabulary acquisition (Mochizuki & Aizawa, 2000). Elsewhere, derivation is defined as the strategies for creating new lexemes, and in English, it is more numerous and considerably more varied than those available for inflecting existing lexemes (Aarts & McMahon, 2006).

2.1 Benefits of Derivation

Derivation means to derive something out of the existing word that creates more meaningful words from it. In a broad sense, derivation applies to the process of making new word out of the existing ones, for example the word '*do*' is an open class word in the branch of verb while adding suffix '*er*' will create its new meaning with a new word that is '*doer*' which changes its branch from verb to noun. Derivation not only works to change the categories or parts of speech but being in the same branch, it can also create new words also, for example, do-did-done.

Unlike the conventional derivation approaches, the proposed approach provides the solution of generating several words from a single word at a time. However, it was found that derivation rules are explained by researchers separately from word formation process. One of the famous books on linguistics elaborating derivation process gives the notion of morphology, but it is not explained how it could be beneficial for vocabulary learning. As observed, Bloomfield's theoretical construct in the book, Language (1933), has remained basically the same over the years, and Nida's (1949) definition of morphology mentioned is widely accepted in linguistics (Mkanganwi, 2002). Here, the proposed structural approach not only discusses about the rules but also applies them altogether at a time. As a result, more words from the existing ones are produced. For example, prefixes or suffixes are systems of making words, but it may not provide the words of compounding or conversion with this system. In this derivation block, there remain all the possible parameters of word formation.

When making words from base words, the word may match with suffixes and prefixes at the same time, even more it can be changed into a compound word. Therefore, the main benefit of this approach is to mix all the derivation methods at a single time and produce more words than the existing approach applies. To support the new approach, the structure based morphological research is reviewed. Derivational morphology entered the domain of generative linguistics with the introduction from Chomsky (1970), Halle (1973) and Siegel (1979). Derivation stands as a port or connector between lexicon, phonology and syntax, and elaborates the morphological representations, which deals about the nature of morphological units and morphological processes. Derivation therefore seeks to explain explicit and formal theory of language structure (Spencer, 1998). Theoretically, derivation sets with constructing sets of rules, which are ultimately mathematical expressions, but which in practice are usually stated in a relatively informal notation. With such a set of rules is a grammar, and this is held to underlie the native speaker's tacit (unconscious) knowledge of his or her language (Spencer, 1994). With keeping the originality in mind, I tried to provide the structured based derivation in a set of formulas that will tactically (afore mentioned) increase learners' knowledge of word formation i.e. vocabulary.

2.2 Proposed Structural Derivation Approach

In this paper, the structural approach of derivation is discussed for enriching English vocabulary. This approach demonstrates how effectively and easily words can be produced from an existing word. At the level of structural types, patterns are known as structural formulas. For representation of the structure, we need to start from the theory of the structure. The linguist, Leonard Bloomfield, talked about derivational morphology where he defined words as minimal free form - the smallest free standing sign in language. He developed some rules of derivational morphology (1914), which include:

1. Derivational affixes are added to a root morpheme or a stem.

   re + establish (root) ⟶ re-establish
   re-establish (stem) + ment ⟶ reestablishment

2. It derives a new word with a new meaning.

   consist + ent ⟶ consistent
   write + er ⟶ writer

3. Derivation can change the grammatical category of the word to which they are added.

   Verb + er ⟶ Noun : write ⟶ writer
   Noun + en ⟶ Verb : fright ⟶ frighten
   Noun + ful ⟶ Adjective : care ⟶ careful
   Adjective + ly ⟶ Adverb : careful ⟶ carefully
   Adjective + en ⟶ Verb : sweet ⟶ sweeten

4. Derivational morphemes can be added to the beginning or end of a word.

   derivational prefixes: re + asses ⟶ reassess
   derivational suffixes: re + asses + ment ⟶ reassessment

The theory is applied in a structured way, which supports the innovative way of vocabulary building, as depicted in Figure 1.

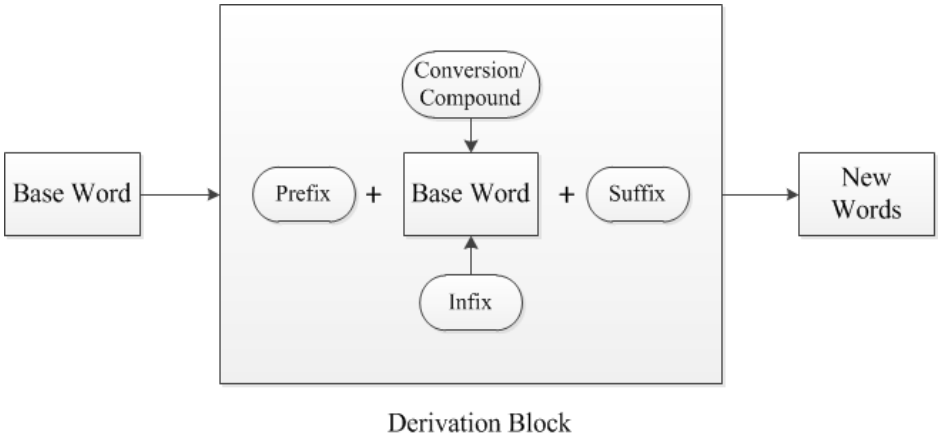

Figure 1. Structural approach of derivation method

According to this approach, base word enters the derivation block where different word formation parameters are present. Now, to create new word from the existing one, the base words can mix with one or more parameters. The derivation block is a combination of five derivation rules:

Rule 1: base word + suffix = new word

Rule 2: base word + prefix = new word

Rule 3: base word + infix = new word (infix does not directly add any lexeme rather it changes the form of the word within itself deforming the letters within the word)

Rule 4: base word + conversion = new word

Rule 5: base word + compound = new word (compounding may be of one or more than one base words).

To mix the base using the derivation methods can be done in two parts. The first one is to add the base words with prefixes and/or suffixes, and thus, signed with plus (+). Here, the base can mix with only prefixes or suffixes. It is also possible to add or mix prefixes or suffixes at the same time which is proven in these examples; un+break = unbreak, un+breakable or break+er = breaker. Nevertheless, the second part is shown in the structure with the arrow (→) sign, in which infixes, compounds and/or conversions can be added. Infix is the word element that changes the base where compound or conversion is also added to the base word. This example clarify the structure:

Using the derivation approach, a structure is drawn on a single word. This is the framework of a derivational process for building new words from an existing base word. The example is graphed using the word break (as illustrated in Figure 2):

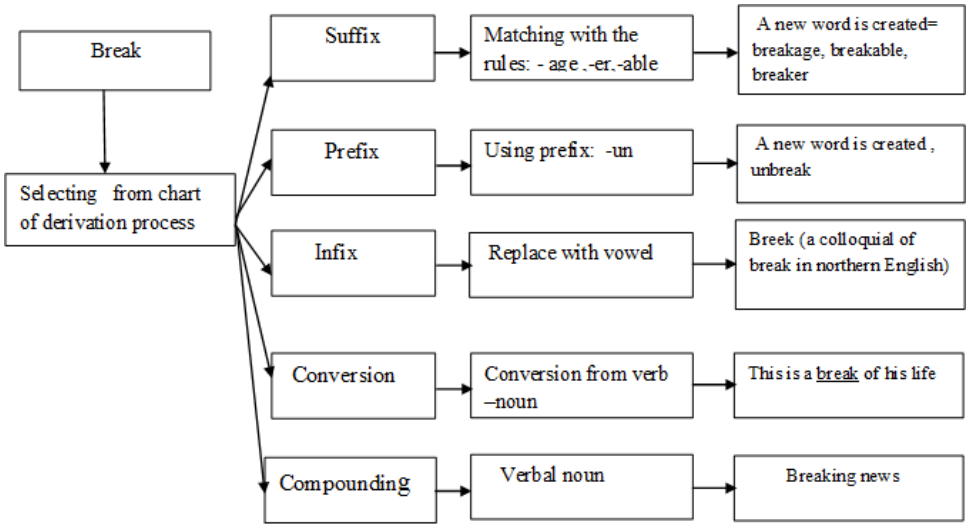

Figure 2. Example of the structural approach using the word 'break'

Here, in this example, it is observed that the word goes through several ways of derivation and takes its forms by structure and semantics. The word 'break' is a verb, and it first mixes with word formation parameters suffix and takes possible suffixes like –age, –er, –able, and form new words namely 'breakage', 'breaker' and 'breakable'. Again, the word may take the derivation process with both prefix and suffix, and it may take –un and –able, and the new word 'unbreakable' is produced. If this word takes the infix, then it can choose changing its vowels and a colloquial semantically, where break is made into 'breek'. Likewise, conversion and compounding are two word formation parameters of derivation, which rules include making words from verb to noun and verbal noun, for instance, 'This is a break of his life' and 'breaking news'.

METHODOLOGY

To justify the derivation as a way of enhancing English vocabulary process, a three-group pre-test and post-test experimental design was employed in this study.

3.1 Participants

The participants were 30 volunteered students from Biotechnology Department of Khulna University, Bangladesh. The participants were randomly divided into three groups: two control groups (group A and B) and an experimental group (group C), and there were 10 students in each group.

3.2 Research Instrument

The research instrument is a question paper, which includes a set of questions on dictionary based, text based and derivational based work sheets. The three types of vocabulary based questions were set to evaluate the comparative knowledge on respected fields. It is divided into 3 sections with 10 questions in each section: 1) Section A contains 10 multiple choice questions to measure dictionary based learning, 2) Section B contains 10 fill in the blanks using clue words to measure text-based learning, and 3) Section C contains 10 table matching questions to measure derivation learning. One mark is given to each correct answer of each question.

3.3 Research Procedure

After creating the control groups (A, B) and an experimental group (C), the pre-test was administered to all 30 students to know their present level of vocabulary knowledge using the three ways of enriching vocabulary. After that, training was conducted for two weeks on dictionary based (DB), text based (TB) and derivational based (DRB) learning for groups A, B, C respectively. The training was carried out to develop and guide the students for their respected fields, and it was conducted separately with each group. For example, in the experimental group, the DRB learners were trained on how derivation method works for creating words, and more examples are put and tested for clarifying their knowledge on derivation. At the same time, DB and TB learners were given same guideline respectively as it has been directed in derivation process. The post-test was measured upon the given tests of the experimental and control groups. This test was done as the same pre-test was taken where a few set of questions used for the evaluation on the learners, and was administered after the two-week training ended.

FINDINGS

In this section, a performance comparison of the vocabulary knowledge on different strategies is reported to assess whether derivation is an efficient way to enhance English vocabulary. In order to measure the performance level (PL) of the students on English vocabulary, we utilized the following equation:

$$PL = \frac{\bar{m}}{N} \text{ x } 100\ \%$$

Where, $\bar{m}$ = the average number of the questions answered out of N = the total number of questions in the test.

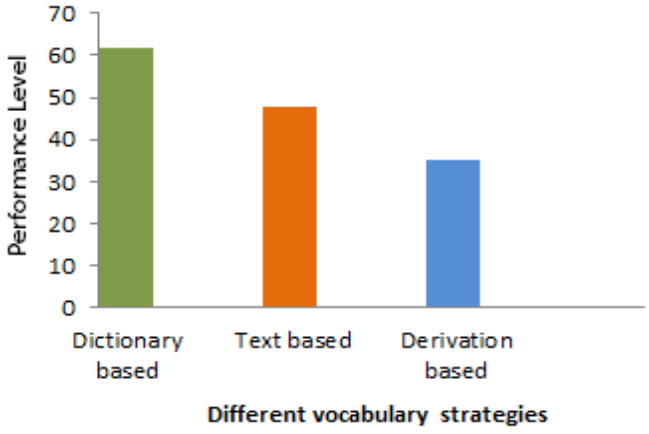

Figure 3. Pre-test vocabulary evaluation

Figure 3 depicts the performance of all 30 students differentiating between dictionary, text and derivation approaches in pre-test level in order to know the students' present status of vocabulary knowledge. Here, on average student can solve 62% dictionary related questions. This outcome is reasonable because dictionary is the basic source for learning vocabulary. It is also noticed that text based performance (48%) level comes in second. This is because, nowadays communicative syllabus has been introduced in the education system, and students are more likely to apply their comprehensive knowledge to go through any text. This inference is helpful to know new words from text. Derivation strategy (35%) performs poorly compared to the others due to students' lack of structural knowledge of word formation.

The following figure depicts the results of post-test of dictionary based students (Control Group A).

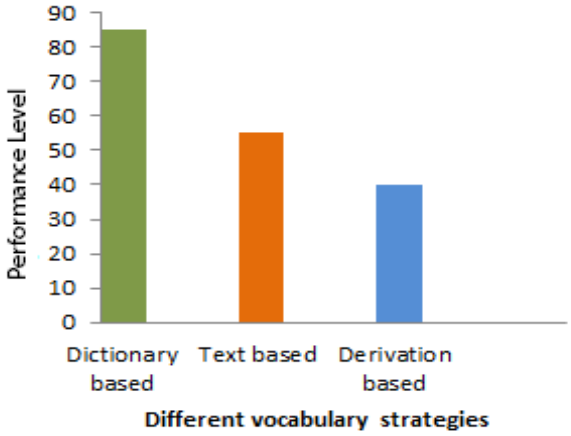

Figure 4. Post-test results of control group A

Figure 4 illustrates that students in Control Group A did better performance in dictionary based questions as they were taught to utilize dictionary knowledge. It is also noticed that students' performances in the other approaches have also improved compared to the average performance of the pre-test. In general, Group A students average answers were good enough in dictionary based while the other means are satisfactory. It is because when they learnt words from dictionary, they might get knowledge on text inference and creating synonyms or antonyms. By giving the guideline on dictionary use, students were able to enrich their vocabulary knowledge. Generally, the performance of all strategies shows a slight increase for DB learners (i.e., DB – 85%, TB – 55% and DRB – 40%).

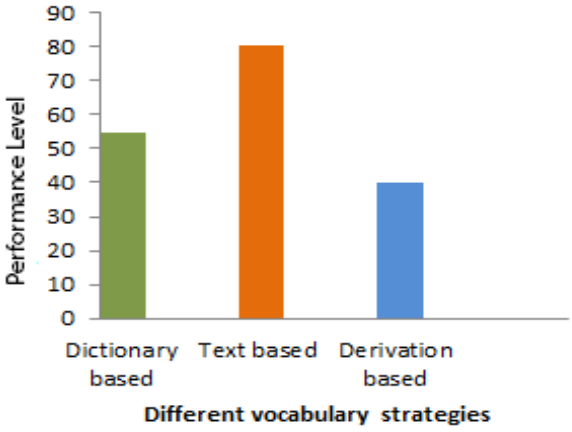

Figure 5. Post-test results of control group B

Figure 5 depicts the post-test results of text-based learners (Control Group B). It can be seen that after being trained on TB vocabulary learning, Group B students noticeably scored higher on TB questions, and at the same time, they also did well on the other two types of questions. On average, Group B students scored 84% in TB questions while they also scored 68% and 42%, on DB and DRB, respectively. It is quite obvious that on training areas students do better but our study concerns if they do a significant improvement on the other method too at the same time. It is the findings of the study that the students answered more in text related questions as well as they did well on dictionary and derivation

based questions. It provides good evidence that by contextual inferring, the students know more meaning of words, thus improving both DB and DRB vocabulary.

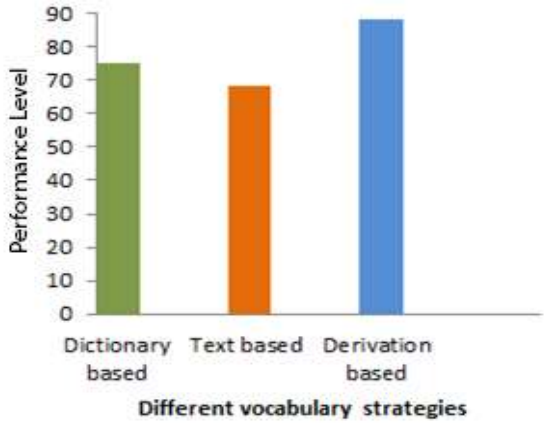

Figure 6. Post-test results of experimental group C

In the post evaluation, we found that experimental group C gives the most stunning feedback on derivation and making more words from the existing words. In Figure 6, it is observed that the performance of Group C students highly improved after training in derivative approach. Derivation teaches students about meaning of words, how to make conjugation of the words and the easy way of using them. They were taught how to use structural based derivation and create more words with the existing word and the meaning of new word with their suitable usage, and they are again tested with the given test and evaluated on basis of their derivation based knowledge. Now, it is noticeable that when students learn about derivation, they ultimately learn meaning of the words and conversion of the words simultaneously, which can enhance vocabulary knowledge. Consequently, this experimental group showed a good result on dictionary based questions also. Text based knowledge increases in this case because while students know more words and conversion forms, they can easily guess the meaning of more textual words.

In addition, the pre-test and post-test data were compared to evaluate the total improvement in vocabulary learning approaches, as depicted in Figure 7.

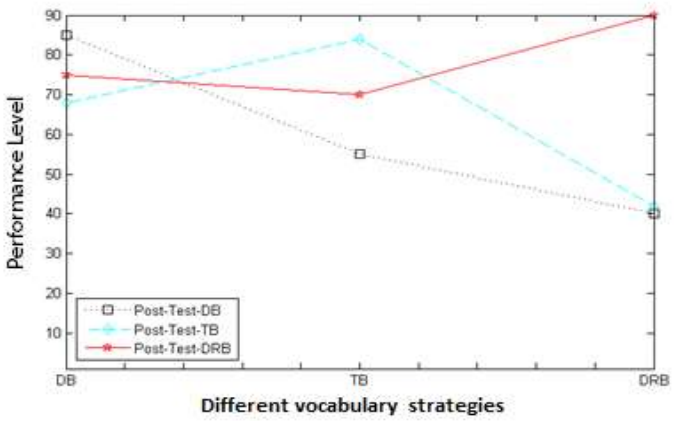

Figure 7. A comparative outcome of post-test on individual vocabulary approaches

The figure shows findings of post-tests of vocabulary learning strategies. Post-test results of the dictionary based group show that students do better in dictionary based questions and at the same time they do better in the other two approaches also (i.e., DB 85%, TB 55% and DRB 40%). Again, post-test results of the text based approach reveal that students scored better in text based 84% while dictionary and derivation approaches have also improved simultaneously (68% and 42%). The most interesting part of the results is that the post-test of derivation approach group depicts an upward score in every approaches significantly (i.e., DB 75%, TB 70% and DRB 90%). The comparative analysis of the results reveals the effectiveness of derivation approach for vocabulary learning as it enhances the other approaches at the same time.

DISCUSSION AND CONCLUSION

This study aimed to explore the most feasible way of vocabulary learning strategies concerning dictionary use, text based or contextual guessing and derivational method by language learners studying at the university. It is observed that among the dictionary strategies, most of the time students consulted a dictionary to learn new words, but this process is able to assist students the least in enhancing their vocabulary knowledge. A possible reason to use a dictionary might be the fact that this information was not directly linguistics-related. Text based vocabulary approach, on the other hand, helps, where learners most often used the main idea and background information to formulate their guesses. Students made heavy use of contextual cues for guessing, such as the relationship between new words and other words in the sentence, and the relationship between the words in the sentence and conjunction. However, the guessing power might not be same for all types of learners (Schatz & Baldwin, 1986). The findings from a Canadian university, conducted to measure undergraduates' approach of vocabulary learning reveal that advanced learners have more knowledge on text based vocabulary than dictionary based knowledge. This difference is based on the learners' capacity to learn new words. The researchers suggest that language learners have a deeper understanding of meaning of unfamiliar words if they are familiar with the main idea of the text (Shufen Huang & Zohreh Eslami, 2013). Our present study on derivation as an efficient way of vocabulary learning is not tested previously which could have been a noticeable area of vocabulary building strategies. The study presents high level of interest to build more words with a single word with the help of structural approach. It motivates the students not only to improve their derivation approach to enrich their vocabulary knowledge because it increases other ways of improving vocabulary knowledge.

This research, involves designing and developing more fluently derivative way in a structural process. It also evaluated the performance of EFL learners at tertiary level. This method can also be used with high school students, where they can be facilitated to learn derivational knowledge for vocabulary enhancement. For reading strategies using academic texts, students must possess strategies to understand and use words, which will, with other types of text-based support, increase comprehension. The research, however, is to give a guide to learners of different level who are engaging with vocabulary learning for better usage of language. Further research can duplicate the present study with a larger sample size. In a large-scale study, larger samples can produce a more robust analysis and help researchers draw more generalized conclusions. In addition, further studies can expand the present study by improving the theoretical approaches of derivation. At the same time, learners' reading behaviour and vocabulary acquisition should also be observed to validate students' self-reported vocabulary learning strategies.

REFERENCES

Aarts, B., & McMahon, A. (2006). *The Handbook of English Linguistics.* London: Wiley-Blackwell.

Bensoussan, M., &Laufer, B,(1984). Lexical guessing in context in EFL reading comprehension. *Journal of Research in Reading, 7*, 15-32.

Bloomfield, L. (1914). *An Introduction to the Study of Language.* Amsterdam: Benjamins Publishing.

Bloomfield, L. (1933). *Language*. Chicago: University of Chicago Press.

Chomsky, N. (1970). Remarks on nominalization. In R. Jacobs & P. Rosenbaum (Eds.), *Readings in*

English Transformational Grammar (pp.184-221). Waltham, MA: Blaisdell.
Halle, M. (1973). Prolegomena to a theory of word formation. *Linguistic Inquiry, 4*, 3-16.
Haynes, M. (1993). Patterns and perils of guessing in second language reading. In T. Huckin, M. Haynes, & J. Coady (Eds.), *Second Language Reading and Vocabulary Learning* (pp. 46–64). Norwood, New Jersey: Ablex Publishing Corporation.
Hunt, A., & Beglar, D. (2005). A framework for developing EFL reading vocabulary. *Reading in a Foreign Language, 17* (1), 52.
Joe, A. (1995). Text-based tasks and incidental vocabulary learning. *Second Language Research, 11*, 149-158.
Kelly, P. (1990). Guessing: No substitute for systematic learning of lexis. *System, 18*, 199–207.
Laufer, B., & Hill, M. (2000). What lexical information do L2 learners select in a CALL dictionary and how does it affect word retention? *Language Learning & Technology, 3*, 58-76.
Mkanganwi, K.G. (2002). Shona (derivational) morphology: An observation in search of a theory. *Zambezia, XXIX* (ii), 174-190.
Mochizuki, M., & Aizawa, K. (2000). An affix acquisition order for EFL learners: An exploratory study. *System, 28*(2), 291–304. doi:10.1016/S0346-251X(00)00013-0.
Nida, E. (1949). *The Descriptive Analysis of Words*. Ann Arbor: University of Michigan Press.
Pittman, W. (2003). Building vocabulary through prefixes, roots & suffixes. *The Internet TESL Journal, 9* (7), 1-2.
Reider, A. (2003). Implicit and explicit learning in incidental vocabulary acquisition. *Views, 12*, 24-3.
Schatz, E. K., & Baldwin, R. S. (1986). Context clues are unreliable predictors of word meanings. *Reading Research Quarterly*, 21, 439–453.
Scott, J.A. (2000). Creating Opportunities to Acquire New Word Meanings From Text. In E. H. Hiebert & M. L. Kamil (Eds.). *Teaching and Learning Vocabulary: Bringing Research to Practice* (pp. 69-93). London: Lawrence Erlbaum.
Seigel, D. (1979). *Topics in English Morphology.* New York: Garland.
Shufen Huang & Zohreh Eslami. (2013). The Use of Dictionary and Contextual Guessing Strategies for Vocabulary Learning by Advanced English-Language Learners. *English Language & Literature Studies, 3*(3), 1-7.
Sirah Koren. (1997). Quality versus convenience: Comparison of modern dictionaries from the researcher's, teacher's and learner's points of view. *TESL-EJ, 2* (3), 1-16.
Spencer, A. (1994). Morphological theory and English. *Journal of Links & Letters 1, 1994*, 71-84.
Spencer, A. (1998). Morphophonological operations. In A. Spencer & A. M. Zwicky (Eds.). *The Handbook of Morphology* (pp.123-143). Oxford: Blackwell. J. R.
Xinjie Liu. (2011). *A Study of Acquiring L2 Vocabulary through Using Word Part Strategy*. Kristianstad University: School of Teacher Education .