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Direct Vocabulary Instruction: The Effects of Contextualised Word Families on Learners’ Vocabulary Acquisition

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Abstract

Acquiring vocabulary is one of the biggest challenges in learning the second language in Malaysia. Classroom research has ascertained that students can experience a great improvement in their vocabulary growth if they are given exposure to meaningful input even with the absence of direct instruction (Lightbrown & Spada, 2006). However, other studies have also revealed that without direct vocabulary instruction (DVI) students could not make further progress in some features of the second language. In view of these conflicting findings, this study aims to examine the effects of a systematic and structured proposed contextualized word family model of DVI on students’ vocabulary acquisition. It also aims to answer its research question on whether there are any significant differences between students’ vocabulary size before and after DVI using contextualised word families based on proficiency levels. This present study employs a quasi-experimental design whereby the data collection is done in a normal classroom condition using Laufer and Nation’s (1999) Productive Vocabulary Levels Test (PVLT) at 2000-word level (Test A and Test B). The data obtained from the pre-test (Test A) and post-test (Test B) scores of the PVLT was computed using paired samples t-tests. It was found that there was a statistically significant difference between learners’ vocabulary size before and after the treatment. Therefore, the results rejected the null hypothesis of no difference and accepted the research hypothesis that there was a statistically significant difference between learners’ vocabulary size before and after the treatment. The findings reveal some important implications for instructional practices, new knowledge in L2 vocabulary acquisition and recommendations for future research.

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1. Introduction

Vocabulary knowledge is pivotal in the second and foreign language acquisition. This is because vocabulary covers all the lexical items learners need to know in order to meet their numerous educational needs (Sedita, 2005). Thus, vocabulary is essentially vital in acquiring the target language of a speaker whether it is the second or foreign language. Leaver, Ehrman & Shekhtman (2005) argue that vocabulary has been claimed as the most important prerequisite in acquiring a language by the Natural Approach teaching practitioners and it has been regarded as the building blocks of language learning. This reveals that it is pertinent for the second and foreign language learners to acquire sufficient vocabulary knowledge to enable them to acquire their target language. Hence, there is a dire need for educators to help and train learners to use effective vocabulary learning strategy to acquire ample amount of vocabulary size. Apparently, literature shows that there is a contradiction of opinions on how learners can best acquire vocabulary. For an example, classroom research has ascertained that students can experience a great improvement in their vocabulary growth if they are given exposure to meaningful input even with the absence of direct instruction (Lightbrown & Spada, 2006). On the other hand, some studies have also revealed that without direct instruction, students could not make further progress in some features of the second language. This is supported by the National Reading Panel (2002) who ascertained that explicit instruction of vocabulary is highly effective as it could improve both comprehension and vocabulary. Numerous studies have also supported the crucial roles of independent reading in enhancing learners’ vocabulary acquisition. However, despite the critical role plays by independent reading in the acquisition of new vocabulary, Shostak (2002) contends that a systematic direct instruction is necessary for vocabulary growth that is needed for successful reading comprehension and should not be left to incidental learning alone. Furthermore, it is found that vocabulary knowledge has a strong correlation with other language skills (Alderson, 2005). Therefore, direct vocabulary instruction is beneficial in the L2 and FL classrooms to boost learners’ vocabulary growth.

1.1. The problem statement

In Malaysia, many students are still unable to acquire the English language after spending many years in school. Students spend between 11-13 years learning English i.e. 6 years in primary school and between 5-7 years in secondary school. Despite many years spent in learning English as a second language, a portion of students are still unable to master the language upon completing secondary school (Wendy Hiew, 2012). Students’ lack of vocabulary is quoted as the main reason for their inability to acquire English. This is mentioned by Low (2004) as cited in Zakaria (2005) who argued that ESL learners in Malaysia are facing difficulties in learning the four language skills, mainly because they are lacking in vocabulary. This is supported by Naginder, Othman & Kabilan (2012) who revealed that various studies conducted at secondary schools as well as at institutions of higher learning show that lexical paralysis is a major contributor to learners’ inability to cope with the language skills of listening, speaking, reading and writing. Besides, currently there is a gap in literature in a specific area of vocabulary acquisition i.e. word families (Schmitt, 2008) and it is necessary to explicitly teach words in families (Schmitt, 2010). Furthermore, Paribakht & Wesche (1997) and Nadarajan (2009) contend that there is a need to examine the effects of direct vocabulary instruction using a different strategy such as word web, word families, contextualized and decontextualized techniques, etc.

1.2. Purpose of the study

The aim of this quasi-experimental research is to examine the effectiveness of direct vocabulary instruction (DVI) using contextualized word families on students’ vocabulary acquisition.

1.3. Research question and hypothesis

This study aims to answer the research question on whether there are any significant differences between students’ vocabulary size before and after direct vocabulary instruction of contextualised word families based on proficiency levels. It also aims to test its research hypothesis i.e. there is a significant difference between the
students’ vocabulary size before and after direct vocabulary instruction of contextualised word families.

2. Literature review

Over the past two decades, numerous studies have challenged traditional views about the role of direct teaching in vocabulary development. Often, vocabulary instruction in the classroom is believed to be unplanned, driven primarily by student questions and teacher intuitions. However, Stahl (1999) points out that efficient and effective vocabulary instruction requires informed, intentional planning. Most of the studies by past researchers revealed that direct, explicit vocabulary instruction has positive effects on students’ vocabulary growth (e.g. Paribakht & Wesche, 1997; Ghapanchi, Eskandari & Tabasi, 2012; Nadarajan, 2009; Soureshjani, 2011).

Although many researchers support the importance of independent reading, some past studies revealed that direct vocabulary instruction or a combined approach is more effective than just independent reading. In a comparative study, Paribakht and Wesche (1997) compared incidental vocabulary gain among students who learnt vocabulary through either independent reading or direct instruction. They found that students learned more words through direct instruction, and learning merely using independent reading often resulted in only a superficial understanding of many new words. Quite recently, Ghapanchi, Eskandari & Tabasi (2012) in their study examines the effect of direct instruction on vocabulary gain through reading texts. Thirty eight intermediate adult learners of English were administered with two kinds of experimental conditions: reading comprehension (RO) and reading comprehension followed by direct instruction of vocabulary (RAD). The Vocabulary Knowledge Scale (VKS) developed by Paribakht and Wesche (1997) was used to measure the participants’ quantitative and qualitative knowledge of target words before and after each treatment. The results of the study revealed that the RAD treatment resulted in greater gains in learners’ vocabulary knowledge. The results showed that if reading for meaning is complemented with some instructions and vocabulary exercises, it may produce better gains for the targeted words.

However, a study by Nadarajan (2009) shows that direct vocabulary instruction alone is not effective for all learners as learning words may require contextual explanation. She experiments the effects of instructional options and classroom context on second language learners’ vocabulary growth. In her study, the samples were 129 learners from six academic writing classrooms who were divided into three groups (L1 only, L1 and L2, and L2 only). Learners from the three classes were taught a specific set of words implicitly in context while the three other classes were taught a specific set of words explicitly. The findings revealed that: (a) both implicit and explicit instructional groups showed no difference in vocabulary gains, (b) the combined group of L2 learners in the L1 and L2 learnt differently from the other subgroups; and c) direct teaching of vocabulary does not necessarily increase all L2 learners’ vocabulary growth. She claims that not all words can be presented explicitly as in some situations contextual explanation is necessary and serves its purpose. Nadarajan (2009) recommends that future research is still needed to tackle this issue especially for students of different ages and proficiency levels and using a different strategy such as word web, word families, contextualized and decontextualized techniques, etc.

Empirically, in enhancing students’ vocabulary growth, learning vocabulary in contexts is also proven to be more effective than learning it using decontextualized technique. In relation to Nadarajan’s recommendation, Soureshjani (2011) conducted a comparative experimental study on the effects of contextualized and decontextualized vocabulary instructions. In a decontextualizing technique, new English lexical items with their Persian meanings given were presented in word lists and samples in the control group were told to memorize these words. On the other hand, when using contextualized technique, new English lexical items were presented in model sentences for the experimental group. As data collection methods, tests were used in the pre-test and post-test and each contained 15 equivalent multiple-choice items of vocabulary. The results showed significant differences between the two groups whereby the experimental group performed better than the control group on vocabulary memorization test. Apart from that, although the differences were not significant, the experimental group also had performed better in a sentence-making test than the control group. This reveals that the contextualized strategy is effective for accelerating students’ vocabulary growth.

A bulk of past researches on direct vocabulary instruction as highlighted above involved teaching vocabulary as individual unit or in separation. Apparently, limited empirical studies have been conducted involving teaching vocabulary in word families. A study by Vitale & Romance (2006) is one example of such studies which researched on students’ vocabulary gains and reading comprehension proficiency using semantic word-family-oriented acquisition of vocabulary from context. The results showed that the experimental students in grades 3-4-5 obtained
significantly higher achievement on both ITBS Vocabulary and ITBS Reading comprehension subtests. Thus, the direct teaching of word families is effective for students’ vocabulary acquisition.

Most of the past research findings as highlighted above revealed that DVI is effective in enhancing learners’ vocabulary growth. However, there are also past studies that produced conflicting results, for example a study by Nadarajan (2009) indicates that direct instruction does not necessarily contribute to positive improvement in vocabulary gains for all learners. Most past studies also revealed that contextualized technique is more effective than decontextualized technique for DVI. Besides, some studies also ascertained the effectiveness of teaching word families to accelerate vocabulary growth. Although there are numerous studies on the positive effects of DVI on students’ vocabulary gains, the existing literature does not fully explain the effects of direct instruction associated with word families. Therefore, considering the effectiveness of DVI and contextualized technique and the need to fill in the gaps in literature on teaching vocabulary using word families, this present study on DVI integrates the explicit teaching of word families with contexts in students’ vocabulary learning to uncover its effects on their vocabulary growth.

3. Methodology

This study employed the quasi-experimental design. The quasi-experimental research design was employed because the data collection was carried out under normal school conditions. The advantage of employing this design as claimed by Seliger and Shohamy (2008) is that it is more likely to have external validity since it is conducted under normal conditions of the educational contexts. The respondents of this case study were selected among the Form Two students of a secondary school in Samarahan District in Sarawak. A total of 143 students from four classes (2A1, 2A2, 2B and 2C) were selected randomly as samples for this study. The students who volunteered to participate in this research were categorized into three groups (Beginners, Intermediate and Advanced) based on their scores in their English paper in the year-end school examination for 2013. Students who scored between 80-100% were placed in the Advanced Group (42 students), those who scored 60-79% in the Intermediate Group (58 students) and those who got 35-59 in the Beginner Group (43 students). This quasi-experimental research employed a quantitative method for its data collection. There were two main instruments used in this study to collect its data. The instruments include the Productive Levels Test (PVLT) 2000-word level: Test A and Test B. Laufer and Nation’s (1999) Productive Vocabulary Levels Test (PVLT) was adapted to suit local students culturally and administered in the pre-test (Test A) and post-test (Test B) to measure students’ vocabulary size. The PVLT was employed because it has been proven to be a reliable measure of vocabulary level which is easy to use and capable of providing reliable scores for learner’s performance at the 2000, 3000, UWL, 5000, 10,000 word levels (Zimmerman, 2005). In this study, students’ performance in the vocabulary tests was measured at the 2000-word level for both the pre-test and the post.

4. Findings

There were 143 students who were classified into three different groups (the advanced, intermediate and beginners) according to their proficiency levels i.e. based on their English year-end school exam marks. Paired samples t-tests were run to examine whether there were any significant differences between vocabulary size before and after direct instruction using contextualized word families according to proficiency levels. The results of the data analysis for each proficiency level are presented below.

4.1. The advanced group

Table 1. Paired samples t-test of the Advanced Group’s PVLT 2000-word Level.

<table>
<thead>
<tr>
<th>Paired Samples Statistics</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PVLT 2000 Level (Test B)</td>
<td>74.8633</td>
<td>42</td>
<td>12.46663</td>
<td>1.92364</td>
</tr>
<tr>
<td>PVLT 2000 Level (Test A)</td>
<td>63.3548</td>
<td>42</td>
<td>19.44176</td>
<td>2.99993</td>
</tr>
</tbody>
</table>
There were 42 students in the advanced group. A paired samples t-test was used to determine whether there was a statistically significant mean difference between the pre-test (Test A) and post-test (Test B) vocabulary size of the advanced group after direct instruction using contextualized word families. There were no outliers detected. The differences of scores for the pre-test and post-test were normally distributed, as assessed by visual inspection of a Normal Q-Q Plot. Table 1 shows students were able to increase their vocabulary size at the 2000-word level in the post-test after the treatment or direct instruction using contextualized word families ($M=74.863$, $SD=12.467$) than before the treatment in the pre-test ($M=63.355$, $SD=19.422$), a statistically significant mean increase of 11.509, 95% CI [6.681, 16.336], $t(41)=4.815$, $p = .000$, $d=-3.98$. This shows that there was a statistically significant difference between the mean vocabulary size before and after direct instruction using contextualized word families of the advanced group.

### 4.2. The intermediate group

The intermediate group consisted of 58 students. A paired samples t-test was used to determine whether there was a statistically significant mean difference between the pre-test (Test A) and post-test (Test B) vocabulary size of the intermediate group after direct instruction using contextualized word families. There were no outliers detected. The differences of scores for the pre-test and post-test were normally distributed, as assessed by visual inspection of a Normal Q-Q Plot. Table 2 shows students were able to increase their vocabulary size at the 2000-word level in the post-test after the treatment or direct instruction using contextualized word families ($M=61.777$, $SD=16.588$) than before the treatment in the pre-test ($M=45.206$, $SD=15.416$), a statistically significant mean increase of 16.571, 95% CI [11.828, 21.314], $t(57)=6.996$, $p = .000$, $d=-1.47$. This shows that there was a statistically significant difference between the mean vocabulary size before and after direct instruction using contextualized word families of the intermediate group.
4.3. The beginner group

Table 3. Paired samples t-test of the Beginner Group’s PVT 2000-word Level.

<table>
<thead>
<tr>
<th>Paired Samples Statistics</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1 PVLT 2000 Level (Test B)</td>
<td>45.73</td>
<td>43</td>
<td>22.34</td>
<td>3.41</td>
</tr>
<tr>
<td>PVLT 2000 Level (Test A)</td>
<td>29.97</td>
<td>43</td>
<td>17.85</td>
<td>2.72</td>
</tr>
</tbody>
</table>

Paired Samples Test

<table>
<thead>
<tr>
<th>Paired Differences</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of the Difference</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. Error Mean</td>
<td></td>
<td>Lower</td>
<td>Upper</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pair 1 PVLT 2000 Level (Test B) - PVLT 2000 Level (Test A)</td>
<td>15.76</td>
<td>14.79</td>
<td>2.26</td>
<td>11.21</td>
<td>20.31</td>
<td>6.98</td>
<td>42</td>
</tr>
</tbody>
</table>

The beginners were made up of 43 students. A paired samples t-test was used to determine whether there was a statistically significant mean difference between the pre-test (Test A) and post-test (Test B) vocabulary size of the beginner group after direct instruction using contextualized word families. Four outliers were detected that were more than 1.5 box-lengths from the edge of the box in a boxplot. Inspection of their values did not reveal them to be extreme and they were kept in the analysis. The differences of scores for the pre-test and post-test were normally distributed, as assessed by visual inspection of a Normal Q-Q Plot. Table 3 shows students were able to increase their vocabulary size at the 2000-word level in the post-test after the treatment or direct instruction using contextualized word families \(M = 45.732, SD = 22.349\) than before the treatment \(M = 29.973, SD = 17.860\), a statistically significant mean increase of 15.759, 95% CI \[11.206, 20.312\], \(t(42) = 6.985, p = .000, d = .97\). This shows that there was a statistically significant different between the mean vocabulary size before and after direct instruction using contextualized word families of the beginner group.

4.4. Overall paired samples t-test

Table 4. The overall paired samples t-test for PVT 2000-word Level (Test A & B)

<table>
<thead>
<tr>
<th>Paired Samples Statistics</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1 PVLT 2000 Level (Test B)</td>
<td>60.79</td>
<td>143</td>
<td>20.75</td>
<td>1.73</td>
</tr>
<tr>
<td>PVLT 2000 Level (Test A)</td>
<td>45.96</td>
<td>143</td>
<td>21.59</td>
<td>1.80</td>
</tr>
</tbody>
</table>

Paired Samples Test

<table>
<thead>
<tr>
<th>Paired Differences</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of the Difference</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. Error Mean</td>
<td></td>
<td>Lower</td>
<td>Upper</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pair 1 PVLT 2000 Level (Test B) - PVLT 2000 Level (Test A)</td>
<td>14.84</td>
<td>16.41</td>
<td>1.37</td>
<td>12.13</td>
<td>17.55</td>
<td>10.81</td>
<td>142</td>
</tr>
</tbody>
</table>

A paired-samples t-test was also computed to determine whether there was a statistically significant mean difference between the vocabulary size before and after direct instruction using contextualized word families for all the 143 samples. There was an absent of outliers. The differences in scores for the pre-test and post-test were normally distributed, as assessed by visual inspection of a Normal Q-Q Plot. Table 4 shows students were able to increase their vocabulary size in the post-test after the treatment or direct instruction using contextualized word families \(M = 60.796, SD = 20.753\) than without the treatment \(M = 45.956, SD = 21.587\), a statistically significant mean increase of 14.839, 95% CI \[12.127, 17.553\], \(t(142) = 10.812, p = .000, d = 1.57\). The mean difference was statistically and significantly different from zero and, therefore, the null hypothesis was rejected and the research hypothesis was accepted as there was a statistically significant difference between the students’ vocabulary size before and after direct instruction using contextualized word families.
5. Main findings and discussion

The results of this study have ascertained the effectiveness of direct instruction using the proposed contextualized word family model of direct vocabulary instruction in increasing learners’ vocabulary size for all the three proficiency groups.

Although the treatment was carried out for only a short period of time i.e. two months and a half or ten weeks, the samples were able to show a statistically significant increase in their vocabulary size. This is revealed by the results of the paired samples t-tests which showed that there were statistically significant differences between learners’ vocabulary size before and after direct instruction using contextualized word families for all the proficiency groups. The mean difference was statistically and significantly different from zero and, therefore, the null hypothesis was rejected and the research hypothesis was accepted as there was a significant difference between the students’ vocabulary size before and after direct instruction using contextualized word families. The results of this present study ascertained the findings by past researchers (e.g. Beck & Mckeown, 1991; Paribakht & Wesche, 1997; Schmitt, 2008; The National Reading Panel, 2002; Ghapanchi, Eskandari & Tabasi, 2012) that a systematic direct vocabulary instruction is highly effective and teaching vocabulary in word families can lead to a greater growth in learners’ vocabulary.

The findings of this study also ascertained the need for a systematic, structured and effective vocabulary instruction in schools as a strategy for increasing learners’ vocabulary acquisition. In the present study, a majority of the samples started off with a low vocabulary size of less than 1000 words. This revealed that they had a limited vocabulary size to function effectively in any L2 learning activities as most researchers suggested that learners should have a vocabulary size of 3000 word families to function effectively in all the four language skills (Thornbury, 2002).

Although the study was carried out for only two months and a half (ten weeks), the direct vocabulary instruction using the proposed contextualized word family model of DVI had left positive effects on students’ vocabulary growth. Its effects on students’ vocabulary growth were statistically significant between the pre-test and post-test scores for all the three proficiency groups. Considering its positive effects on students’ vocabulary acquisition, this proposed model can be adopted as a model of direct vocabulary instruction in the second language and foreign language vocabulary acquisition.

6. Recommendation for future research

The findings of this study have also generated some implications which may be considered by future research and are of significant value to educators, curriculum designers and researchers. Due to the present study’s limitations, there are some important aspects that need to be considered by future researchers who may have the interest in researching this topic. For instance, a better planning should be done to avoid clashes in data collection with the school’s academic programme. In the present study, it was unavoidable that the treatment was carried out at the time when the school had their own academic programme to run. Thus, this might have an influence on the results of the vocabulary tests.

For future research, a comparative experimental study can be conducted to compare the effectiveness of this proposed model with other vocabulary learning strategies such as teaching individual words through a reading comprehension as used in the present second language classroom in enhancing learners’ vocabulary growth. A comparative experimental study of two homogenous groups will enable a researcher to obtain a more valid and reliable result on the effectiveness of this proposed contextualized word family model of direct vocabulary instruction in enhancing learners’ vocabulary acquisition.

7. Conclusion

The results of the present study have indeed revealed the effectiveness of the proposed contextualised word family model of direct vocabulary instruction on students’ vocabulary acquisition. All the three proficiency groups have experienced a significant increase in their vocabulary size after only a period of two and a half months of treatment. Nevertheless, the effectiveness of this proposed model in accelerating learners’ vocabulary growth still requires further supports by future research.
Acknowledgements

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References