The Impact of Explicitly Teaching Vocabulary on Students’ Vocabulary Learning

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Vocabulary is the cornerstone of language learning, but it is an area that is often regarded as not being as important as other language skills such as reading, writing and grammar. Gulf Arab students, in spite of having studied English for years at government high schools, are faced with the issue of entering foundation or bridge programs at tertiary institutions with vocabularies significantly smaller than 5,000 word families. Research by Lui and Nation (1985) shows that 95% of a text needs to be understood by the reader for contextual acquisition of unknown vocabulary to be possible, and for this reason these students then struggle to acquire vocabulary contextually from their textbooks.

At Zayed University, it was decided to put the emphasis back on vocabulary with a view to strengthening core vocabulary knowledge, and enhancing students’ independent learning skills, as well as their reading, writing and listening. In order to achieve this, self-study materials and assessments were developed by instructors in the Academic Bridge Program over the course of 2 years. This project was called the Zayed University Vocabulary Lab (ZUVL). This article reports the findings of the evaluation of ZUVL to determine the impact that explicitly teaching vocabulary had on students’ vocabulary learning.

**Literature Review**

As with native speakers, research into SLA (Second Language Acquisition) has shown an undeniable link between vocabulary size and reading comprehension (Nation & Coady, 1988; Nation, 1990, 2001; Laufer, 1997; Alderson, 2000; Tozcu & Coady, 2004). The main areas of research that are relevant to the ZUVL project are: building a functional L2 reading lexicon from texts, the number of word families required for the aforementioned lexicon, and methods for L2 vocabulary acquisition.

Saragi, Nation, and Meister (1978), Nagy, Herman, and Anderson (1985), and Rott (1999) have all completed studies on the number of times a word must be encountered in a reading before it is learned. The numbers have ranged from six to twenty over two decades, but in Rott’s (1999) study he showed the same number of encounters (six) as Saragi, Nation and Meister’s original (1978) study. In relation to this, Milton and Meara (1995), Sutarsyah, Nation, and Kennedy (1994) and Laufer (1987) have completed studies on how many word families are needed for a reliable L2 reading lexicon. It seems to be fairly conclusive that 3,000 word families are the minimum that a student needs in order to be able to read effectively in L2, and therefore move without significant difficulty from a foundation program setting to working in L2 in their major.

Krashen (1989) claims that lots of pleasure reading is the best way to expose students to new vocabulary, and to acquire a working L2 reading lexicon in the quickest way. Coady and Huckin (1997) pose the very realistic question as to whether this is even a viable suggestion for low level or very high level ESL students. Some teachers in the Arabian Gulf are concerned that their students do not engage in much pleasure reading, in either their first or other languages. Added to this, is the very real lack of culturally relevant and sensitive, low-level reading materials available in this region. As Coady and Huckin (1997) point out, “many graded readers are poorly written, stilted in style, and actually dull to read” (p 231). Krashen’s research has been undeniably influenced by the era of communicative instruction that swept SLA research in the 1980s and 1990s. However, it seems that instructional strategies and focus on form seem to be returning to favour in the latest studies to emerge in this area (Nation, 2005).

While there has been a great deal of research on L2 vocabulary acquisition since the 1980s, only the relevant studies relevant to this paper are mentioned below. Nagy (1988) finds fault
with using some vocabulary instructional methods to the exclusion of others. Often instructors will pre-teach vocabulary words with the intention that students will know the words when the reading is introduced (Paul, 1996). Pre-taught vocabulary methods often consist of lists of words that students must use a dictionary to define. There are two issues with using this methodology in isolation. The first is that students learn the word in relation to the context of the reading, rather than multiple meanings or even the commonest definition of the word. The second is that students are unlikely to remember the word without repeated exposure. Teaching students text-specific vocabulary, instead of strategies to deal with difficult or uncommon words, would seem to be less beneficial to students who have little experience of reading in their L1 and therefore fewer strategies to cope with reading difficulties. Moreover, due to their low level of vocabulary knowledge, a partial definitional approach is necessary until they have a reading lexicon that they can build on, and the mental agility to employ inference strategies. At Zayed University, vocabulary that is related to the texts and content is taught and tested, rather than strategies to deal with unfamiliar words.

Teaching meaning via inference alone also limits the depth of word knowledge (Nagy, 1988). Instructors who advocate teaching vocabulary from context must accept that the immediate context of the word will not always help with the definition of the word. Beck, McKeown, and McCaslin, (1983) also argue that this also will only lead to partial word knowledge, and therefore will impede students from using their knowledge association schema to help define an unknown word. They also show that using natural texts is often no help to students, as the context is frequently confusing for word acquisition. Schouten-van Parreren (1989) recommends that teachers design their own texts for the purpose of vocabulary acquisition, as they provide more support for the process. Thus the texts in the ZUVL project were all designed by instructors in the Academic Bridge Program.

Stahl and Fairbanks (1986) recommend the use of multiple strategies for vocabulary instruction such as definitional and contextual approaches. Zimmerman and Bandura (1994), Nation (1990) and Cohen (1990) also advocate direct instructional methods, and recommend multiple strategies. The ZUVL project attempts to expose students to different text genres and multiple strategies and exposures in order for students to learn and retain the words they have been exposed to.

**Description of ZUVL and Rationale**

The majority of students who enter Zayed University have limited competency in the English language and therefore are required to spend up to two years in the Academic Bridge Program (ABP) before starting their tertiary education. The cost to the UAE government is significant, as is the cost to the individual in terms of time and commitment. These students, especially at the lower levels, have very small lexicons, and often find it difficult to produce different word forms, and to spell words correctly. While students can typically recognize more words than they can produce, this leaves them unable to write or perform well in productive tests. A weak lexicon leads to students repeating classes, and failing to meet the IELTS requirement for exit from the ABP. The ZUVL Project was designed to help students improve their lexicon significantly, to the point were they would exit the ABP with a vocabulary large enough for an adequate reading lexicon and large enough to produce academic writing assignments. The additional benefits of the program were seen as producing better independent learners, improving students’ study strategies, and improving pass rates in the ABP.

The British National Corpus (BNC) was chosen as the foundation for the project word lists. The rationale for this was due to the frequency data of the words in the BNC, which provide greater validity than other lists of the same type. That being said, there were certain words such as ‘bar,’ ‘pub,’ and ‘sex’ that were removed from the list, as they were deemed culturally inappropriate for
our students. Nation (1990) states that ESL students need a vocabulary of 3,000 word families in order to build a working reading lexicon. With this in mind, the first 3,000 words of the BNC were selected, along with the Academic Word List, for the project. The project chose to take each word from the BNC list in the form that it appeared and teach solely that word form throughout the lessons. In situations where words had more than one definition, the first dictionary meaning was chosen and adhered to throughout the lessons and tests.

The project was divided into four sections: diagnostic tests, lessons, review tests and WIBs (Word information Books). The outgoing curriculum coordinators worked with the incoming curriculum coordinators to ensure the continuity of materials development over a three year period. ABP Instructors were given partial or full reassignment time in order to develop materials, which were then piloted in classrooms, and the instructor feedback incorporated. The aim of the project was and still is to have all the materials online and available as self-access material for students. Each of the eight levels in the ABP has 500 words to revise or learn, which equates to approximately 50 words a week. The diagnostic tools are both productive and receptive, and to be administered in class by instructors. The purpose of these tests is to gauge the level of the student and the appropriateness of the materials. While the materials were being put online (and this is still ongoing), students were given printed packs with 50 lessons, answer keys and WIBs to study independently. Students were instructed to complete one lesson a day, which consisted of exercises using 10 words. Additionally, instructors were to administer review tests regularly in order to add an extrinsic motivation for students to complete the lessons. The WIBs contained definitions in English and Arabic for every word in each student pack, and additional information, such as word form and synonyms. The English definitions were chosen from the Cambridge Learner’s Dictionary.

A comprehensive list of context genres for the lessons was devised by the curriculum coordinators and added to throughout the project by the instructors who were designing materials. Context genres needed to be familiar to students, such as newspaper articles, dialogues, magazine pages, signs and notices, letters, emails, web pages, stories, and biographies. A standard set of instructional rubrics was devised for each activity type in order to ensure continuity throughout the lessons. A lesson template was also designed for the same reason. Students had to see the word and use it a minimum of six times throughout the lesson. This ties in with research that has come full circle in the last twenty years, showing that a learner needs to see and use a word six times in order to learn it (Saragi, Nation, & Meister, 1978; Rott, 1999).

Lessons begin with the list of words that are to be learned. The lesson template consists of three categories (word meaning, form and usage) containing two or more activities in each category. The first activity is a focus on meaning activity in its most basic form. Students are not asked to select the definition immediately, but are asked to guess the meaning from context or to read a text in a context genre where the focus words are highlighted. The next activity focuses on word form. This type of activity asks students to produce the word, paying close attention to spelling, syllables, suffixes, prefixes, and roots. The activity types include dictation, unscrambling the word, and general production activities. The last type of activity focuses on usage. These types of activities include collocation, error correction, recognition of correct usage, cloze passages that focus on form, meaning and usage, and word order. (See Appendix A for examples of the activity types.)

The review tests are a selection of 25 words from blocks of 50 consecutive words. Students are required to select the correctly spelled word in the correct form and use it in a gap fill exercise. In total, 300 lessons and 60 review tests were written over two years in order to cover the first 3,000 words of the BNC. Feedback and editing took an additional year, and self study books were released in stages to students over a period of twelve months. The process of converting the lessons and review tests to an online format is ongoing.
Project Evaluation

For the purposes of the evaluation, all the students at a particular level took a pre-test consisting of 90 vocabulary items taken from the ZUVL materials. As can be seen from the sample questions in Appendix B (Sample Test Questions), the questions in the pre-test were divided into three sections, namely 1) Focus on Meaning, 2) Focus on Form, and 3) Focus on Usage. Each section of the test had 30 questions, for a total of 90 questions.

The results of this pre-test provided us with data on the percentage of words that the students knew already. The percentage of words that each student did not know constituted the ‘potential learning gain.’ Approximately half of the students (n=86) took part in the ZUVL (the treatment group), while the other half (n=72) did not (the non-treatment group). Students assigned to the treatment group used the ZUVL materials both in class and for independent study. At the end of the course, the same 90-item vocabulary test was given to all students as a post-test. The results allowed us to calculate and compare the ‘actual learning gains’ for both groups of students, and calculate the actual number of words learnt by both groups, thus determining the impact the project had on vocabulary learning.

Table 1 presents the average raw scores. The sections Form, Meaning and Use are out of 30 points, while the total is out of 90 points.

Table 1. Results of the pre- and post-test (raw scores).

<table>
<thead>
<tr>
<th></th>
<th>Non-Treatment</th>
<th></th>
<th>Treatment</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Form</td>
<td>Meaning</td>
<td>Use</td>
<td>Total</td>
</tr>
<tr>
<td>Pre-Test</td>
<td>22.7</td>
<td>21.3</td>
<td>18.3</td>
<td>62.2</td>
</tr>
<tr>
<td>Post-Test</td>
<td>23.1</td>
<td>21.1</td>
<td>19.0</td>
<td>64.1</td>
</tr>
</tbody>
</table>

As expected, the results of the pre-test indicated that both groups of the students knew a similar number of the words before the evaluation took place, with the non-treatment group knowing slightly more words (63.2) than the treatment group (62.4). It was also predicted that students would do better on the ‘Form’ and ‘Meaning’ sections of the test than on the ‘Use’ section of the test. This is because ‘Form’ and ‘Meaning’ are receptive type skills, whereas ‘Use’ requires a certain level of production. What was unexpected about the results of the pre-test, however, was that both groups already knew as many words as they did. When the raw scores are converted to percentages, this becomes more readily apparent (see Table 2).

Table 2. Results of the pre- and post-test (as percentages).

<table>
<thead>
<tr>
<th></th>
<th>Non-Treatment</th>
<th></th>
<th>Treatment</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Form</td>
<td>Meaning</td>
<td>Use</td>
<td>Total</td>
</tr>
<tr>
<td>Pre-Test</td>
<td>75.7%</td>
<td>71.0%</td>
<td>61.0%</td>
<td>70.2%</td>
</tr>
<tr>
<td>Post-Test</td>
<td>77.0%</td>
<td>70.3%</td>
<td>63.3%</td>
<td>71.1%</td>
</tr>
</tbody>
</table>

As can be seen in Table 2, before the evaluation took place, the students already knew around 70% of the words in the pre- and post-test. As a consequence, the vocabulary learning gains that we might expect after the treatment are unlikely to be very great. Having said that, the treatment group did make more vocabulary learning gains than the non-treatment group. Whereas the non-treatment group’s vocabulary only increased by 0.9%, the treatment group’s vocabulary increased by 8.6%. A t-test was run on the total scores, which confirmed that the vocabulary
learning gains made by the treatment group were significant. However, the extent to which this demonstrates the unmitigated success of ZUVL needs further analysis.

If we return to look at Table 1, we can see that of the 90 words that were actually tested, the non-treatment group learnt on average 0.9 of these words, whereas the treatment group learnt on average 7.7 of these words. We can extrapolate, therefore, that of the 500 words that were part of the ZUVL materials, students in the non-treatment group on average would have learnt 5.0 of these words, and students in the treatment group would have learnt 42.7 of these words. In real terms, only learning 42.7 words after exerting a considerable amount of time and effort doing the ZUVL materials may seem like an inefficient way to learn vocabulary, although, of course, this is a simplistic interpretation.

It is likely that students in the treatment group did more than just learn 42.7 new words. For example, they would likely have increased their word knowledge of a number of other words on the ZUVL list. They would have also reinforced the word knowledge of the ZUVL words that they already knew, perhaps moving from receptive to productive knowledge. They may also have learnt a number of words that were not on the ZUVL list. Given the amount of reading involved with the ZUVL materials, it is probable that students in the treatment group improved their reading skills as well. Nevertheless, as evaluators, we had to keep in mind that, even though students in the treatment made significant vocabulary learning gains, in real terms the number of actual words learnt was not great. However, as mentioned previously, this may have been due to the fact that the students knew so many of the words on the ZUVL list in the first place.

**Recommendations**

The results of this evaluation of the ZUVL project indicate that it does produce significant vocabulary learning gains, although as students only learnt around 43 words, it may not be the most effective way to learn new vocabulary. It is our opinion that the ZUVL project could be improved in a number of ways:

1. It would have been preferable to pilot this project and evaluate it in order to make it more effective before a lot of time and resources were allocated to implementation of the project throughout all levels of the ABP.
2. Words should have been selected from the BNC wordlists, rather than just using all the words on the list. Tests could have been conducted and words which 90% of students know already should have been removed or put at earlier levels.
3. A further evaluation should be conducted to determine which of the activity types are the most effective for learning vocabulary.
4. It would be better to individualize student learning, rather than take a lock-step approach. For example, students could be tested at the beginning of a course and then focus on the words they do not know, rather than wasting time on words they already know. In an online version it would be relatively easy to store data on individual performance in order to control which words students see again and how frequently, as is available in such flashcard programs as Anki (Elmes, n.d.).
5. It is understood that plans are in place to put the ZUVL materials on-line, and this process should be given priority. Ideally, this should involve the full interactive potential of the internet rather than simply reproducing a web version of the paper-based exercises.

**Conclusion**

A common maxim states, without grammar students cannot say very much, but without vocabulary they cannot say anything at all. Vocabulary learning is essential for students, especially for those who are going to go on and study at English medium universities. The ABP
at Zayed University implemented ZUVL, a bold initiative aimed at improving the vocabulary learning of our students. ZUVL has undoubtedly met with some success as students who did the ZUVL materials learnt significantly more words than the students who did not. However, students who did the ZUVL materials only learnt around 43 words, and considering the amount of time and effort they spent on the ZUVL materials, the efficacy of this approach may be called into question. Our recommendations may go some way to improving the effectiveness of the ZUVL project, and may provide helpful insights to those who endeavor to undertake a similar project at their place of work.

References


Focus on Meaning

Activity 1 Complete the paragraph using today’s words.

My favourite ___________1 is Ali’s Kebab House in Istanbul. As soon as I receive my ___________2 at the end of the month, I get on my bicycle and ___________3 straight there! It serves the best food in the city. Last year, it ___________4 down in a fire but they reopened it this year, and now it’s even better than what it was before! A narrow ___________5 inside the restaurant takes you to a beautiful garden. Here, you can enjoy a variety of vegetable and meat dishes, which are the ___________6 of Turkish cooking. If you don’t like Turkish food, you can find ___________7 restaurants that serve other types of food. To ___________8, there are French, Chinese, and Lebanese restaurants on the same street. However, if you are new to Istanbul, it is ___________9 that you get a good ___________10 of the city, which shows the locations of all the restaurants and the best routes to find them. Istanbul is a very big city and so it is very easy to get lost!

Activity 2 Match today’s words with their definitions.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>passage A. a place where you can buy a meal and eat</td>
</tr>
<tr>
<td>2</td>
<td>illustrate B. to destroy something with fire, or to be destroyed by fire</td>
</tr>
<tr>
<td>3</td>
<td>pay C. the idea or principle that something is based on</td>
</tr>
<tr>
<td>4</td>
<td>ride D. necessary</td>
</tr>
<tr>
<td>5</td>
<td>foundation E. a long, narrow space that connects one place to another</td>
</tr>
<tr>
<td>6</td>
<td>restaurant F. the money you receive from your employer for doing your job</td>
</tr>
<tr>
<td>7</td>
<td>vital G. a drawing that shows where countries, towns, roads, etc. are</td>
</tr>
<tr>
<td>8</td>
<td>alternative H. to give more information or examples to explain something</td>
</tr>
<tr>
<td>9</td>
<td>burn I. to travel by sitting on a horse, bicycle, or motorcycle</td>
</tr>
<tr>
<td>10</td>
<td>map J. a different plan or method you can use instead of another one</td>
</tr>
</tbody>
</table>

Activity 3 Complete each sentence with one of today’s words.

1. As soon as she received her ___________, she went shopping.
2. It is ___________ that you drink water every day.
3. She learnt how to ___________ a horse when she was five.
4. Forest fires can ___________ large areas if they spread.
5. We eat in a ___________ two or three times a week.
6. These pictures ___________ the extent of the problem.
7. We didn’t know how to get there so we looked at a ___________.
8. This long ___________ takes you to the library.
9. Communication is the ___________ of any marriage.
10. I don’t like this idea. Can you think of an ___________ one?
Activity 4  Is the sentence TRUE or FALSE? Tick T for TRUE and F for FALSE.

1. A passage is a room in a house.   □ T □ F
2. If something is vital, you don’t need to do it. □ T □ F
3. People can eat and drink in a restaurant. □ T □ F
4. You can ride a camel. □ T □ F
5. The foundation of something is not important. □ T □ F
6. To illustrate means to show or explain something. □ T □ F
7. Your house can burn down in a fire. □ T □ F
8. An alternative idea is a different idea. □ T □ F
9. Pay is the money you give to your employer. □ T □ F
10. You can find your way by using a map. □ T □ F

Focus on Form

Activity 5  Correct the spelling of the words below. Write the word on the line.

1. altenatif ________________  6.  pessege ________________
2.  mep ________________  7.  ilastrat ________________
3.  raide ________________  8.  pei ________________
4.  vaitel ________________  9.  faundetion ________________
5.  restorent ________________  10. burne ________________

Activity 6  Put today's words in alphabetical order.

1.  ____________________  6.  ____________________
2.  ____________________  7.  ____________________
3.  ____________________  8.  ____________________
4.  ____________________  9.  ____________________
5.  ____________________  10.  ____________________

Focus on Usage

Activity 7  Choose the word that best completes each sentence.

1. She didn’t accept the job offer because the ( pay / pays ) was too low.
2. Trust is a strong ( foundation / founded ) for any relationship.
3. It is ( vital / vitals ) that you wear your seatbelt in the car.
4. There are many other ( restaurant / restaurants ) in Dubai.
5. He got on his horse and ( rides / rode ) towards the desert.
6. Have you got a ( map / mapped ) of the city centre?
7. There are many other ( alternative / alternatives ) newspapers.
8. Can you ( illustrate / illustrating ) this by giving an example?
9. He has ( burns / burnt ) all the photographs.
10. Do you know where these ( passage / passages ) take you?

Activity 8a  Write the correct form of the bolded word for each sentence.

ride
1. Ann has never ____________ a horse before.
2. Peter ____________ his bicycle along the Corniche last night.
3. Why does she want to learn how to ____________ a motorbike?
**illustrate**
4. I will ____________ how cutting trees threatens animals.
5. This story ____________ what he means.
6. Yesterday, our teacher ____________ the differences between the two cultures.

**burn**
7. He ____________ all the old newspapers yesterday.
8. They threatened to ____________ all the cars on the street.
9. Oh my God! My house has ____________ down!

**Activity 8b Put each group of words in the correct order.**

<table>
<thead>
<tr>
<th>1. plans / alternative / make</th>
<th>2. map / a / road / look at</th>
<th>3. foundation / a / strong / have</th>
<th>4. increase / an / pay / in</th>
<th>5. restaurant / go / a / to</th>
<th>6. part / a / of / vital / life</th>
<th>7. down / passage / a / walk</th>
</tr>
</thead>
<tbody>
<tr>
<td>________________</td>
<td>__________________________</td>
<td>_________________________________</td>
<td>_________________________</td>
<td>______________________</td>
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</table>
Appendix B

Sample Test Questions

Part 1: Focus on Meaning

1.1 Match the words on the left with the correct definition (A-C) on the right.

1. passage _____ A. a place where you can buy a meal and eat
2. burn _____ B. to destroy something with fire
3. restaurant _____ C. a long, narrow space that connects one place to another

1.2 Read the statements below and circle the letter of the correct answer.

1. Which word do you associate with television?
   a) convention  b) iron  c) channel
2. Which word means to harm or break something?
   a) damage  b) funny  c) search
3. Which word refers to a large formal meeting for people with the same interests or work?
   a) vision  b) convention  c) via

1.3 Write the letter of the picture below that matches with the following words.

1. dream _____ 2. shout _____ 3. slip_____
   a.  b.  c.

Part 2: Focus on Form

2.1 Circle the letter (A, B, or C) next to the word that is spelled correctly.

1. A. magzazine  B. magazine  C. magazene
2. A. totally  B. tottaly  C. totaly
3. A. scientfic  B. cientific  C. scientific
2.2 There is one extra letter in the words below. Write the correct spelling of the word in the space provided.

1. abbsence __________________________
2. averrage __________________________
3. errorr __________________________

**Part 3: Focus on Usage**

3.1 Circle the best word in brackets that completes each sentence.

1. There are many (chemical / chemicals / chemists) in the foods we eat.
2. Do you know how to use this (instrument / instruments / instrumental)?
3. My father was very (attractive / attracting / attracted) when he was young.

3.2 Circle the word in the box that could correctly complete each sentence.

1. This is a very ______ place.
   - belong
   - closely
   - block
   - dangerous

2. This was ______ discussed by the team.
   - partly
   - asset
   - faster
   - familiar

3. When Ahmed grows up he wants to be a ______.
   - plate
   - solicitor
   - publication
   - gold

3.3 Put the words in the correct order to complete the sentence.

1. / to the wedding / going to / accompany you / Who is ___________________________________________________________________?

2. / in the mountains / pair of shoes / a strong / for walking
   You need __________________________________________________________________.

3. / a vast amount / contains / of information / The Internet __________________________________________________________________.