Research Paper

The Effect of Using Total Physical Response Method on Teaching English Vocabulary: A Study in a Saudi College-Level Context

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ABSTRACT

The current study was carried out to investigate the effect of using the Total Physical Response method to teach English for specific purposes students at Arrass College of Technology; Saudi Arabia. It also investigates the effect of using this method on the productive and receptive abilities of the students. Part of this study investigates which is easier to learn nouns or verbs. The subjects of the study were 20 freshmen. They were divided into two groups; one to be taught using the Total Physical Response method and the other using the translation method. Data was collected using two immediate tests and two delayed tests for each group. The final results showed that the group who were taught using the Total Physical Response method outperformed the other group and that their ability in retaining more words receptively after a delayed period of time was significantly better than the translation method group. Finally, the study did not prove which is easier to recall verbs or nouns, as the result showed that there was no clear difference between the ability to recall verbs and the ability of recalling nouns.

Keywords: Total physical response method, English for specific purposes, vocabulary, translation method, college of technology.

1. INTRODUCTION

Total Physical Response (TPR) is a Vocabulary Teaching Strategy in which the teacher goes beyond the kinesthetic techniques to use speech and physical activity to present the meaning of a vocabulary item. The method employs traditions of developmental psychology, learning theory, humanistic pedagogy and language teaching.

James Asher, who developed this method "...sees successful adult second language learning as a parallel process to child first language acquisition". He believes that the imperative of the verb to be extremely important since, he says, children initially respond to language by responding to commands, Richards and Rodgers (2001: 73). In other words, a child learns the language by responding in action to the language s/he hears before s/he produces the language in words. Asher also argues that most grammatical structures and words in a target language can be acquired from the skillful implementation of this method by the instructor (ibid). The method, according to Asher, works for the 'trace theory' in psychology which states that the more often and intensively a memory connection is traced, the more memory association and consequently, the more recall the vocabulary item seems to have. Using TPR
seems to increase the chances of successful recall as it combines verbal rehearsal and physical activity. The method also involves games which work by reducing the stress on the learner. Asher, in his method, has considered three learning hypotheses:

1- there exist a specific innate bio-program for language learning, which defines an optimal path for first and second language development.

2-Brain lateralization defines different learning functions in the left and right-brain hemispheres.

3-Stress (an affective filter) intervenes between the act of learning and what is to be learned; the lower the stress, the greater the learning.”(ibid: 74).

TPR facilitates the three hypotheses: first, it is a 'Natural Method', i.e. second language acquisition using TPR is parallel to first language acquisition in that L1 acquisition starts by responding physically to a produced language which is similar to using TPR method; second, a child acquires L1 through right-brain learning and, similarly, TPR learning is directed to the right-brain hemisphere; third, L1 acquisition takes place in a stress-free environment, and, in the same way, TPR facilitates learning a second language in a relaxed and pleasurable environment.

Finally, techniques that are used in ELT can be effectively used in teaching ESP vocabulary. Kennedy (1984: 59) argues that this is true "...especially at the early stages". Teachers in technical colleges, consequently, are advised to exploit these techniques to find the one most appropriate to their students' needs. In this respect Lindsay (2001: ix) also suggests that a teacher should "...keep an open mind on new ideas about teaching and learning. Try interesting new ways but don't get hooked on one method". AlBogami (1995) investigated the use of different vocabulary teaching techniques and found that more experienced teachers use more techniques than less experienced teachers. Therefore, these techniques should be used by the teachers in my context to find the most effective ones for their students and to vary their teaching methods in order to keep their students motivated.

2. Literature Review

The literature does not contain sufficient empirical studies about the effect of using TPR together with other techniques when teaching ESP courses. However, the relevant available research about vocabulary teaching techniques will be referred to in this research.

Cohen and Aphek (1981), who investigated how American college students in Jerusalem learned new second language vocabulary items with a special focus on mnemonic associations, They concluded that at all individual proficiency levels, using association strategies for learning vocabulary helped in recalling the words over time. Although this study did not attempt to show whether retention would be different with subjects who did not use any association strategy, the indicated results are promising for using an association of strategies to enhance teaching vocabulary.

In addition, Cohen and Aphek (1980) trained 26 learners of Hebrew as a second language to produce associations of their own choice of new vocabulary items and examined their use of these associations in a later recall task. The results showed that training learners to make associations can help them recall words over a period of time. Both studies suggest that making associations in learning new vocabulary items should be encouraged by teachers.

Brown and Perry (1991) investigated three teaching strategies for ESL vocabulary acquisition, namely: keyword, semantic processing and a combination of both. They conducted their experimental study on six ESL classes at two levels of proficiency divided into three treatment groups. The keyword strategy was divided into two steps as follows: first the learner acoustically links the new word with the keyword. Secondly, he makes an imaginary association between the two words. For instance, the Spanish word 'pato' (meaning duck) can be recalled by using the acoustic
keyword link 'pot' and the imagery link is 'a duck sitting in a pot'. The second strategy requires a semantic association between the new word and its definition, while the third is a combination of the two. Sixty subjects were taught and practiced the new words with their definitions for four days. The keyword group was presented with the new word, its definition and the keyword, while the semantic group was given the new word, its definition, two example sentences and a question to be answered. The keyword-semantic classes received all the above. The findings of their study, which was conducted on Arabic speaking students at the America University in Cairo, revealed that using both strategies helped to make the learning of words easier. The instruction and testing did not take more than 15 minutes each day in this experiment, but it seems that combining more relevant vocabulary teaching strategies to help learners learn new vocabulary items produce successful results.

In another study, Rodriguez and Sadoski (2000) compared the effects of rote rehearsal, context, keyword, and context/keyword learning methods on immediate and long term retention of English vocabulary of 160 ninth-grade students who had been studying EFL for more than two years. After analyzing their data, they concluded that students who used the combined method of context/keyword outperformed those who used the keyword, context, or rote rehearsal separately in both the immediate and week later performances. This study again shows that combining more than one method in teaching vocabulary items helps learners' retention of vocabulary over time.

Using only one kind of demonstration in teaching vocabulary was investigated by Alshabbi (1993). He explored the effectiveness of using gestures in teaching English and found, through his observations that pedagogic gestures tend to be more emphatic and exaggerated than real-life gestures. Consequently, he raised the question of 'whether Communicative Language teachers consider the methodological ramification of the contradictory roles of pedagogic gestures and real-life gestures'. He categorized the whole problem in four areas of misuse of gestures: underuse of gestures, overuse of gestures, out-of-synchronization gestures, and disruptive gestures proposing some realistic solutions for such problems. Although all of what Al-Shabbi proposes seems to be pedagogically ideal in the language classroom, it becomes somehow difficult to incorporate all his gesture principles consciously into the different aspects of teaching the language.

Among my concerns in the current study is the effect of using the TPR method on the passive and productive knowledge of vocabulary. A comparison between these dimensions of vocabulary knowledge was made by Laufer and Paribakht's (1998); they examined the development of three types of vocabulary knowledge: passive, controlled active, and free active over one year of school instruction. They conducted three different tests to measure the three dimensions of the vocabulary knowledge of a group of 26 sixteen-year-old 10th graders and another group of 22 seventeen-year-old 11th graders in Israel. The findings of this study show that the passive vocabulary grew significantly in one year (84%), whereas the controlled active vocabulary increased reasonably (50%). They could not measure the free active vocabulary other than through a composition test showing the relative proportion of words from different vocabulary frequency lists. They found that there was no significant progress in the free productive knowledge of vocabulary. One overall result, they concluded, was that regardless of the notable increase in passive vocabulary and good progress in controlled active vocabulary, learners did not put this knowledge into use when left to their own choice of words. Laufer and Paribakht, however, did not account for the time gap between the 10th and 11th graders as this would influence the number of vocabulary items that might be transferred between the
learners' passive and productive vocabulary knowledge. In addition, there was no clear explanation as to how the topic used to measure the free productive knowledge of vocabulary would trigger the use of the 200 words chosen from the different frequency lists. In general, this study does explain the fact that, although learners had a good number of passive and controlled active vocabulary items, this did not seem to be reflected in free production.

The popular belief of many languages teachers that the words which are learned productively and receptively are better retained receptively than those which are learned only receptively was investigated by Mondria and Wiersma (2004) who concluded that, contrary to popular belief, the words which are learned productively and receptively are similarly retained receptively.

In their research, Na and Nations (1985) examined the factors affecting the difficulty of guessing from context. One of their findings was that verbs are easier to guess than nouns. They connected this finding to that of Rogers (1969), who concludes that the part of speech of a word might affect the difficulty of learning a word. Although this research is not intended, mainly, to examine this argument, it will try to cover it by looking at the total results of the students in all tests and comparing their ability to learn nouns with their ability to learn verbs.

Concerning the Saudi context, I reviewed many other studies apart from the one that investigated vocabulary learning and teaching strategies in Saudi Arabia. Among these are those of Al-nuajaidi (2003), Al Qahtani, (2005), and Al-Akloby, (2001). Apparently, none of them has investigated teaching vocabulary for ESP courses in S.A. and consequently, there are no studies identical to this to compare with the results of my study.

3. Research Questions

Is learning a new L2 vocabulary item productively more difficult than learning the same item receptively?
1. Are learners who are taught using the Total Physical Response method together with the translation method able to learn more words productively and receptively than those who are taught using the pictures method?
2. Does learning a group of words productively increase the probability of recalling the same group of words receptively over a delayed period of time?
3. Which is easier to learn, verbs or nouns?

4. Participants

A group was not chosen for the experiment consisting of 20 beginner students who had finished one general English course in Arrass college of Technology and were not expected to have much knowledge of English technical terminology nor had they done any ESP course. The age of the students at this level ranges from 19 to 23 and all of them were native speakers of Arabic. Although they used to do one English language subject each year in their intermediate and high schools, their English proficiency was still low and they could only be classified as beginners. The selection of these subjects was based on their last term grades i.e. the researcher chose students whose grades were not significantly different to ensure that they had similar English proficiency. The choice was also based on their availability and willingness to participate in the study. Then they were divided into two groups; 10 students were taught using the Translation method which is commonly used by some teachers in the college to explain a new language item and the other 10 students were taught using the new method, which is a combination of the Total Physical Response and Translation methods.

5. MATERIAL AND DESIGN

The first stage of the experiment design was to decide on a suitable lesson to
fit the purpose of the experiment itself. First, the passage used should be taken from the textbook, which would be used to teach my subjects three weeks after this experiment. This measure was taken to ensure that the words used in the experiment were new to them. Second, the passage used should include a sufficient number of nouns that could be presented physically to my subjects. For this reason I was looking for an exercise, which would explain the steps to perform a mechanical w-task using mechanical machines or instruments. Also, the verbs used in the experiment were chosen for their ability to be easily demonstrated to the subjects.

In conducting the experiment, the researcher used one of the workshops in Arrass College of Technology which is provided with a drilling machine for teaching the new method group and an ordinary classroom for teaching the other group.

There were five tests for each group: the pretest (as in Appendix A) to assure that the words were new to the subjects and four post-tests (as in Appendices C-E). The post-tests were divided into two: immediate test; and delayed test. The five tests included the same set of words with the difference that the pretests were divided into two parts; one was a productive test; and the other a receptive test.

For the old method group (the students who would be taught using the Translation method) I chose the text in appendix (B) which has been taken from one of the technical textbooks provided by the college. The text is designed to teach students the English equivalent words of a drilling machine’s parts. It also includes some technical verbs. For the other group I chose the same text and I asked my researcher to find a workshop that is provided with a real drilling machine.

6. RESULTS

The standard deviation shown in table (1) below illustrates that there was no significant variation among the subjects in each test. The lowest is that of the immediate productive test for Group B (SD = .69921) and the highest is that of the delayed productive test for Group B (SD = 1.26491). The values of the standard deviation of the rest of the groups’ tests lie between those numbers.

When we look at the bar chart in figure (1) below we can see the differences between the productive and receptive performance of each group in the immediate and delayed tests. The receptive performance in the immediate tests for both groups is generally higher than the productive performance in the same test. This is also true for the groups’ performance in the delayed tests. If we look at the scale on the left of the bar chart we note that the bars resembling the productive tests range from hardly below 4 to barely above 5 while the bars representing the receptive tests range from around 5.5 to around 7.5.

Looking again at table (1) below gives the exact mean of each group in each test. The highest mean was achieved by Group A in the immediate receptive test (M = 7.3000) followed by Group B in the same test (M = 7.1000). The highest two means viz. the immediate receptive tests are followed by those achieved in the delayed receptive tests of Group A (M = 6.9000) then Group B (M = 5.4000). In the third rank falls the immediate productive tests of Group A (M = 5.2000) then Group B (M = 4.4000). The students mean results in the delayed productive tests ranked last position (M = 4.3000) and (M = 3.6000) for Groups A and B respectively.

**Group Statistics**

<table>
<thead>
<tr>
<th>Test</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMMIDPROD</td>
<td>Group A</td>
<td>10</td>
<td>5.2000</td>
<td>1.03280</td>
<td>.32660</td>
</tr>
<tr>
<td></td>
<td>Group B</td>
<td>10</td>
<td>4.4000</td>
<td>.69921</td>
<td>.22111</td>
</tr>
<tr>
<td>IMMRECEP</td>
<td>Group A</td>
<td>10</td>
<td>7.3000</td>
<td>1.05935</td>
<td>.33500</td>
</tr>
<tr>
<td></td>
<td>Group B</td>
<td>10</td>
<td>7.1000</td>
<td>1.10050</td>
<td>.34801</td>
</tr>
<tr>
<td>DELYPROD</td>
<td>Group A</td>
<td>10</td>
<td>4.3000</td>
<td>1.15950</td>
<td>.36667</td>
</tr>
</tbody>
</table>
The bar chart above shows the performance of each group separately in all tests thus, it is a bit confusing to use this bar chart to compare the results of the groups in each test. For instance, it is difficult to tell where the groups stand in relation to each other in the immediate receptive test. Therefore, I reordered the bars according to the test types in figure (2) below. In this chart the bars representing the group who had been taught using the TPR method (group A) are, generally, higher than those for the group taught using the translation method (Group B). The differences between the groups vary in each test from visibly significant to barely significant. For example, the bar representing (Group A) in the delayed receptive test is clearly higher than that for (Group B) in the same test, while the difference between the bars for the two groups in the immediate receptive test is hardly noticeable. Moreover, the difference between the other two bars i.e. those for the immediate productive and the delayed productive tests are not as clear as that in the delayed receptive test.

While the above chart tells us that there are some differences between the groups in the four tests, it does not show how significant these differences are.
Therefore, it is necessary to find out how significant the differences are using the independent T-Test’s result shown in chart (2) below.

Table 2: Independent Samples Test

<table>
<thead>
<tr>
<th></th>
<th>Levene's Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>IMM PROD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assumed</td>
<td>1.550</td>
<td>.229</td>
</tr>
<tr>
<td>Not Assumed</td>
<td>2.028</td>
<td>15.818</td>
</tr>
<tr>
<td>IMM RECP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assumed</td>
<td>.65</td>
<td>.801</td>
</tr>
<tr>
<td>Not Assumed</td>
<td>.414</td>
<td>17.974</td>
</tr>
<tr>
<td>DELY PROD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assumed</td>
<td>.486</td>
<td>.495</td>
</tr>
<tr>
<td>Not Assumed</td>
<td>1.290</td>
<td>17.865</td>
</tr>
<tr>
<td>DELY RECP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assumed</td>
<td>.016</td>
<td>.901</td>
</tr>
<tr>
<td>Not Assumed</td>
<td>2.829</td>
<td>17.993</td>
</tr>
</tbody>
</table>

Similar to the bar chart, the independent T-Test shows that the group which was taught using the TPR method (Group A) nearly significantly outperformed the group taught using the translation method (p=.058) in the immediate productive test. While the bar chart shows that Group A outperformed Group B in the immediate receptive and the delayed productive tests, the significance number in the independent T-Test chart shows that the differences between the groups are not significant. To be explicit, the significance number of the immediate receptive and the delayed productive tests are (p=.684) and (p=.213) respectively, which are not significant. It is clear, though, that Group A significantly outperformed Group B in the delayed receptive test (p=.011).

To find the percentage of the students’ correct retention of verbs, I added the total correct answers of all verbs in the tests (236 correct answers) and multiplied it by 100, then divide it by 480 (the total of verbs (6) multiplied by the number of students (10) multiplied by the number of tests (8)).

\[(237 \times 100) \div (480) = 49.38\%\]

I did the same mathematical operation to calculate the percentage of the students’ correct retention of nouns:

\[(205 \times 100) \div (400) = 51.25\%\]

7. DISCUSSION

The standard deviation and the mean of the groups’ tests show that the students’ performance in each test did not vary much around the mean, which tells us that the sample subjects were at the same level and that they have, nearly, the same learning aptitude. This might also tell us that they are presumably representative of the average English proficiency level of Arrass College of Technology students in the second academic term and that the selection of the students, as discussed in the methodology section, had been successful.

The immediate receptive and the delayed receptive test results for both groups are higher than the immediate productive and the delayed productive test, which provides clear evidence that it is easier for an L2 learner to recall a newly learned L2 vocabulary item if s/he was asked to give the L1 equivalent of it. On the other hand, giving the L2 word of an L2 meaning is more challenging for language learners. This result is in line with Laufer and Paribaikt’s study result in that they both prove the first hypothesis which states...
that ‘learning a new L2 vocabulary item productively is more difficult than learning the same item receptively’.

When considering the different results of the experiment groups, we can see that, although the groups which was taught using the TPR method together with translation method (Group A) did not significantly outperform the groups taught using pictures method (Group B) in the immediate receptive and the delayed productive tests, the overall result of the groups shows clearly that (Group A) was able to retain more vocabulary items both productively and receptively than (Group B). This result proves the second hypothesis, which states that ‘learners who are taught using the Total Physical Response are more likely to able to learn more words productively and receptively than those who are taught using the translation method alone. The result also agrees with the findings of Brown and Perry who state that combining more relevant vocabulary teaching strategies to help learners learn new vocabulary items produced successful results. It might be connected to the findings of Rodriguez and Sadoski, who concluded that giving learners more than one opportunity to learn an L2 word can be more fruitful than giving them only one chance.

The fact that the differences between the test results in both the immediate receptive and the delayed productive tests were not significant can be attributed to the small number of the sample subjects and the small number of the test words, a choice made necessary by the time constraints on the experiment.

Looking again at the test results, we note that the only clearly significant difference among the experiment’s results was that of the receptive delayed test which gives a clear indication that learner who learns a set of words both receptively and productively are most likely to be able to retain these words more effectively over a delayed period of time. Since the students in the TPR group were able to perform better in the receptive and the productive tests than the translation group, they were also able to perform noticeably better in the delayed receptive test. This in turn proves the last hypothesis which was examined by Mondria, J. A. and Wiersma, B. and could not prove it correct, i.e. ‘learning a group of words productively increase the probability of recalling the same group of words receptively over a delayed period of time’.

By comparing the percentages of correctly recalled verbs and nouns by the two groups we note that there is only a small difference between them (49.38 % of the verbs and 51.25 % of the nouns), so the last method which states that ‘Verbs are easier to learn than nouns’ was not confirmed. Consequently, my findings show the opposite to those of Rogers who found that the part of speech of a word might affect the difficulty of learning it.

8. REFERENCES

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