Teaching Vocabulary through Web-Based Language Learning (WBLL) Approach
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Abstract

This study investigated the effect of Web-Based Language Learning (WBLL) and the Paper-based (conventional) approaches on vocabulary retention of Iranian foreign language learners. 300 participants were randomly assigned into two homogeneous groups; and then both groups were given a pre-test. The results of the pre-test underlined the homogeneity of the groups. Twelve expository passages selected by the researcher from CNN website after each session participants had to sit for an immediate quiz for the short term effect of the treatment and finally, at the end of the course and after a two-week interval, participants sat for their post-test as an indicator for the long term effect of the treatment. Findings revealed that there was a significant effect of the Web-Based Language Learning (WBLL) approach on the retention of vocabularies in the short term (p<.05). However, the post-test results indicated that the effect of the treatment in the long term has faded away.

Key words: Web-Based Language Learning (WBLL); paper-based; vocabulary retention

1. Introduction

Teaching vocabulary through WBLL activities has been popularly used in English as a foreign/second language learning (EFL/ESL) contexts (Son, 2008). WBLL approach as a multidimensional computer tool has been practiced by language teachers to facilitate learning and teaching processes (Cummins, 2008a; Abraham, 2008). It provides an integrative network tool utilized in any teaching classrooms all around the world. Knowledge of vocabulary is supposed as the backbone of learners’ competency which facilitates learning of any language tasks. Decarrico (2001, as cited in Celce-Murcia, 2001) claims “vocabulary learning is central to first and second language acquisition and specialists now emphasize the need for a systematic and principled approach to vocabulary by both teachers and learners” (p. 285). Therefore, learning vocabulary is often perceived to be "of critical importance to the typical language learner" (Zimmerman, 2001, p. 5). WBLL approach is defined as an audio and external presentation of the passage in addition to the picture presentation of the passage provided by the authors of the passages.

1.1. Statement of the problem

Baker and Westrup (2003), for example, refer to the stages of vocabulary teaching as: “First the teacher conveys the pronunciation and meaning of the new vocabulary item (Presentation). Second, the teacher checks that the student has understood properly (Practice). Third, the teacher consolidates and tries to get the students to relate the word to their personal experience, and use it in context (Production)” (p. 37). Accordingly, the main research question to be pursued in this study is whether WBLL approach may help EFL learners acquire and retain new vocabularies better than Paper-based one?

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2. Background

The use of computer technology in teaching languages has been dramatically increasing worldwide over the past decade (e.g., Chen, Belkada, & Okamoto, 2004; Hubbard & Levy, 2006; Son, 2008). Using this technology not only facilitates learning processes (Gorjian, 2008), but also holds other great potentialities for language learning. One of these potentialities is the ability to present information in different formats using graphics, sound, text, and video with links to other chunks of information through using WBLL activities (Cummins, 2008b).

Therefore, the potentialities of manipulating online technology such as computer within a collaborative learning environment, is one of the greatest strengths of Computer-Mediated Communication (CMC) and Computer-Assisted Language Learning (CALL). Robb (2006) believes in maximizing the opportunities for the EFL/ESL teachers to experience “with technology, both new and old, to interact with their colleagues and to access other sources of information on technology” (p. 346). He also re-emphasizes the effect of fostering positive attitude towards computer technology in the classroom and educational settings through providing appropriate examples of good practice, as well as the printed, digital and human resources to attain this goal.

3. Methodology

3.1. Subjects

This study was conducted with sample of 300 (males and females) EFL students with the age ranged from 18 to 27. They were selected based on non-random convenient sampling. They had entered university for their undergraduate studies. Subjects were selected based on a given TOEFL test, Barron's 2010 edition, and after gathering all the data the results of the test indicated that in terms of educational background, level of English mastery and vocabulary knowledge, the subjects were homogeneous and could be considered as intermediate in their proficiency stamina. Then they were divided into two groups based on systematic random sampling. They were measured under two conditions: Paper-based group (i.e., control group who dealt with the Paper-based materials) and WBLL group (i.e., experimental group who dealt with CNN Web site).

3.2. Instrumentation

A pre-test containing the actual test items was administered to the subjects before treatment in order to determine how well the subjects knew the contents before treatment. The subjects were asked to answer 30 multiple-choice vocabulary questions selected from the course passages in 25 minutes. Its reliability value was (r=0.75). After each session where students had covered the two passages given to them to be read for the sake of comprehension there was a four minutes rest and right after that there was a seven-multiple-choice questions quiz asking the meaning of the new vocabularies learnt in that session. Two weeks later after the end of the course, the instructor administered the post-test without any previous notice to assess the effect of learners’ vocabulary retention.

3.3. Procedure

Since this comparative study is consisted of two distinct approaches to vocabulary learning, the materials used for the purpose of this study were the same for both groups except for the medium of presentation, for this reason two kinds of presentation were used, namely, Web-Based Language Learning (WBLL) presentation and the paper-based presentation.

Expository passages from CNN Web site (www.cnn.com) were especially selected for this study. Subjects viewed 12 passages over six sessions where each session lasted for about one hour. Subjects in both groups were not informed in advance that they would be tested because it was assumed that if they knew, they would consciously try to learn the new words. It was hoped that attempting to prevent the subjects from making such a conscious effort would create a more natural environment.

The subjects in the WBLL group (n=150) were introduced to a WBLL approach, designed by the researcher for
the vocabulary retention. The program provides users reading an expository English text with a variety of glosses or annotations for words in the form of text, graphics, video, and sound, all of which are intended to aid in the understanding and learning of unknown words synchronously. The paper-based presentation group (n=150) were put into the control group with the same material except for the medium of presentation (i.e., paper). A pre-test containing the actual test items was administered to the subjects before treatment in order to determine how well the subjects knew the contents before treatment. Both groups were required to complete an identical pre-test; the questions were selected from words picked out carefully from the course passages.

Subjects on the paper-based presentation group were taught according to the convention of teaching in normal class in Iranian University context. That is to say, a printed form of the material designed for this study was prepared and distributed to the students. Students were told to bring their dictionaries (mono- and bilingual dictionaries) into the class to compensate for textual annotation in the hypermedia group; the extra textual annotations used in the WBLL group were not available for these students unless they asked the instructor (as is the case in traditional classrooms). Students were told to read the passage in groups (five groups of five, and one group of six students). The reason behind this division was to make the condition as close as possible to the WBLL group. The time allocated to complete the task was also the same one hour as was for the WBLL group. Subjects in both groups read a text that contains words researchers have targeted for learning, but the subjects did not know this. They read the text in the normal way, that is, they read to comprehend the content. Two weeks later after the end of the course and without knowledge of the students, the instructor administered the post-test.

4. Results

At first, descriptive statistics of the pre-test were computed for both groups. The results showed that both groups were almost at the same level in terms of vocabulary knowledge of the mean scores (before the treatment) which also could be counted as another indication of homogeneity of both groups. To show the possible differences between the two groups, a two-tailed independent t-test was run to see whether the observed difference between the groups was significant or not. Table 1 presents descriptive statistics of immediate quizzes.

<table>
<thead>
<tr>
<th>Test</th>
<th>Groups</th>
<th>Mean</th>
<th>SD</th>
<th>$t_{obs}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediate quizzes</td>
<td>WBLL</td>
<td>12.45</td>
<td>3.33</td>
<td>3.021*</td>
</tr>
<tr>
<td></td>
<td>Paper-based</td>
<td>10.32</td>
<td>3.29</td>
<td></td>
</tr>
</tbody>
</table>

* Significant at the (p<.05)

The $t$-observed value for immediate quizzes was (3.021), while the critical value is (2.000) at 0.05 level of significance. So the results of the immediate quizzes indicate that the difference between mean scores of both groups was significance enough to reject the null hypothesis. As was shown in Table 1 the value of the $t$ observed for immediate quizzes was high enough to reject the null hypothesis, but this time, long term memory of both groups was put into test to see their results. Table 2 presents the results of the post-test as follows:
The results showed that $t$-observed (-0.101) was less than the $t$-critical which indicated that the treatment did not work for the long term retention. Although, the results of immediate quizzes where in favor of hypermedia group but what can be seen in Table 3 is that in the long run both Paper-based group and hypermedia group had a close results. Therefore, the Paper-based group had a growth in its mean (from 10.32 to 11.12); on the other hand, WBLL group had a regression (from 12.45 to 11.25). It could be said that hypermedia groups’ retention, though has regressed, but still is higher than Paper-based group. Table 3 indicates the results of immediate quizzes and post-test.

Table 3. Matched pairs: Immediate quizzes and post-test

<table>
<thead>
<tr>
<th>Test</th>
<th>Groups</th>
<th>Quizzes</th>
<th>Mean</th>
<th>SD</th>
<th>$t_{obs}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-test</td>
<td>WBLL</td>
<td>Immediate quiz</td>
<td>12.45</td>
<td>3.33</td>
<td>-0.342</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post-test</td>
<td>11.25</td>
<td>3.28</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Paper-based</td>
<td>Immediate quiz</td>
<td>10.32</td>
<td>3.29</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post-test</td>
<td>11.12</td>
<td>2.98</td>
<td></td>
</tr>
</tbody>
</table>

In other words, Web-Based Language Learning (WBLL) group (using hypermedia materials) could benefit learners better in short term effect. However, considering the data in Tables 2 and 3 in the long run, there would be no such a big difference between the two groups and also there was not a significant difference between the groups (progress of the Paper-based group = 0.751 and regression of the Web-Based Language Learning (WBLL) group = -0.342) that could be counted as superiority of one over the other.

After the post-test was administered, subjects were asked to take part in a conversation test. To have a fair judgment about subjects’ performance another teacher was asked to score their pronunciation.

In order to divert their attention from the main objective of this test; the subjects were told they were to be scored based on the degree they could remember the passages they were going to be asked. Although the subjects were struggling to remember different parts of the passages, the instructor was naming; they had no clue that it was their pronunciation that was being scored rather than the degree the passage they were reciting.

5. Discussion and Conclusion

In light of the results obtained from Tables 1 to 4, the effect of the treatment on learning and retention of the vocabulary in the long run was not significant. Besides, the results of the immediate quizzes indicated that the retention of the vocabularies was better in WBLL group, and the hypermedia group has outperformed their counterparts in short term in the mean scores of the Paper-based group.

Concerned with the first research question, the short term retention of vocabulary was high enough in this study to reject the null hypothesis ($p<.05$); this was also supposed to be the result of the long term retention of the study which was not obtained at the end. The probable causes of the draw back in this study could be attained by looking at the comparison of the results tabulated in Table 5 which points out to the progress of the Paper-based group, while showed regression in vocabulary retention of WBLL group. It could be implied from this comparison that the Paper-based group not only kept the retention of vocabularies at the whole stage of the course, but also showed a progress compared to previous tests (pre-test and immediate quizzes test) in comparison to post-test. On the other hand, hypermedia group showed a progress in immediate quiz level but fails to progress in the post-test.

It should be added that as long as teachers take the full responsibility of teaching, and learners see themselves as the sole recipient of the presented knowledge to them, independent, autonomous approaches like the one in this
study which gave the learners the full authority, freedom to choose and had provided them with the information they need, will falter.

Subjects in this study did not have the sense that they need the knowledge presented to them to learn from it, rather they were giving their whole attention to understand the passage as they read along and at the time this was fulfilled, they had felt that they had acquired what they had supposed to (as the results of the immediate quizzes indicated, they have not learned the vocabularies for long term).

A comparison between the information presented in Paper-based and WBLL groups has indicated that putting aside the knowledge presented by both approaches, WBLL creates a network of this knowledge, while in paper-based group the same information is only presented through one medium, be it text or audio or at the utmost, the combination of these two. Considering the overload of working memory (Mayer, 2003), over processing of information in one medium minimizes the outcome of that information, either in learning or teaching.

Web-Based Language Learning on the other hand, takes some of this knowledge and helps teachers to find a less responsibility toward presenting the information and rather pay more attention to other aspects of teaching. In other words, in the traditional classes the responsibility is two-folded; on one fold there is teacher, on the other students, whereas in WBLL group this responsibility turns out to be three folded where part of teachers' knowledge disguises itself in the form of WBLL (Hayati, 2005). It is to say that as a teacher, we all know that the considerable amount of information either needed by students or imposed by the material poses a great force on teachers, but using computers in a way to take some of these pressures will liberate some time for teachers to think of other important issues.

In summary, WBLL as one of the multidimensional tools of CALL approach plays a facilitative role in developing short term vocabulary retention and recall. In long term vocabulary retention, we may examine the WBLL efficiency cautiously due to present study limitations such as the size, age and gender of the subjects as well as the effect of Iranian setting as an EFL context. Therefore, this study has provided the future researchers with a preliminary study on using hypermedia concerned with WBLL tasks in teaching vocabulary. Thus there is a need to conduct further experimental research in this domain to discover the role of WBLL in teaching vocabulary and its effects on learners’ vocabulary retention in the long run. Accordingly, we need to re-examine and provide the language practitioners with applicable definitions of WBLL materials to make a compromise between the three protagonists in the manipulation of teacher, learner, and computer in developing any CALL approach in EFL/ESL settings.

References


