Using Instructional Support to Train Autonomous Readers

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Abstract: This study tried to experiment a method of teaching in training EFL readers that could be practiced simultaneously with existing educational systems. The subjects of the study were assigned into experimental and control groups. The experimental group received a treatment, while the control group received a placebo. To collect data a Key English Test and a final test were used. Analysis of the pre-test scores ensured the researcher about homogeneity of the subjects in terms of reading comprehension ability and language proficiency. Analysis of the post- and final test scores revealed that experimental group outperformed control group in terms of reading comprehension ability. Besides, a significant improvement was observed in the experimental group’s end-of-the-course language proficiency. These results provided enough evidence to statistically demonstrate the significant role of instructional support in training successful readers and its affect on EFL students’ improvement in general English language proficiency.

Key words: Cooperation, Instructional support, Reading comprehension ability

1. Introduction

English language is considered as an important means for accessing the world's intellectual, educational, and industrial resources. Therefore, proficiency in English language facilitates international communications and greatly increases learning experiences. However, of the four English language skills, reading comprehension ability has received specific attention because it can enhance the process of language acquisition and can indirectly improve other language skills (Funnel & Morgan, 1995; Rivers, 1988). Proper pedagogic reading materials that match learners’ objectives and their abilities facilitate cooperation among them (Hadley, 2003).

Cooperation provides opportunities for learners to imitate, discuss, and evaluate the usefulness of comprehension strategies as they read and cognitively develop faster. It involves the placement of students (homogeneously and/or heterogeneously) in large or small groups in order to enhance active language interaction and academic participation in the classroom. It can enhance active language interaction and academic participation in the classroom (see Doolittle, 1996; Kagan, 1985; Thomson, 1996). Due to the support students receive from each other during cooperation, they are able to complete a greater number of tasks than they would do alone. Therefore, what they can do today in collaboration, they can do independently tomorrow (Vygotsky, 1986). The notion of instructional support has become increasingly popular in EFL/ESL settings, which explains the role of teachers or peers in assisting learners’ development. Many studies (e.g., Daniels, 2001; Hammond, 2002; Hillocks, 1995; Locastro, 2001; Rogoff, 1990; Stone, 1998; Whiting, 1992) have emphasized the important role of instructional support in guiding students’ learning. Such support is important in learners’ cognitive development because it helps them construct a view of the world and construct meaning (Feuerstein, Klein, & Tannenbaum, 1991). It provides learners with opportunities to participate in a variety of roles, facilitates learning, creates interest in the task, controls frustration during doing the tasks, and encourages cooperation so learners work and help each other. The present study aimed at examining the beneficial role of instructional support in training successful readers in EFL setting experimentally. To accomplish this purpose the following research hypotheses were formulated:

1- Instructional support can improve EFL learners’ reading comprehension ability considerably.
2- Instructional support can improve the end-of-the-course achievement in EFL learners.
2. Method

1. A. Participants
Participants of the study were 130 Iranian undergraduate students. They were selected from among a population of English major students who had passed a Cambridge Key English Test (KET) at Islamic Azad University, Rudehen Branch in the academic year of 2009-2010. They were later divided into experimental and control groups. Due to the existing limitations imposed on the study, the researcher had to follow the convenient sampling procedure to select the subjects of the study.

2. B. Instruments
The instruments included a KET (Cambridge ESOL, 2006, pp. 48-68) and a final test, which were given to both groups during the experimentation. The KET was administrated as pre- and post-tests. However, since the study focused on reading comprehension ability, the listening section of the KET was omitted in the post-test. The final test was a teacher-made achievement test, which was constructed based on the university prescribed course book, (i.e., Reading Skillfully: Book one, Mirhasani & Rahmani, 2004). Undoubtedly, the reliability and validity of the instruments were carefully taken into consideration to ensure about achieving reliable and valid results.

2. C. Experimentation
Experimentation lasted for eighteen sessions (2 hours per session), which was aligned with the ongoing university program. In every session, both groups received instruction on the university assigned course book together with additional activities, i.e., a placebo for the control group and a treatment for the experimental group. The placebo included doing the exercises of the course book in the classroom. Each student individually did his/her homework in the classroom and the teacher was only the observer of the activity. The treatment comprised of supplementary reading comprehension tasks together with some instructional support provided for each activity. The reading tasks were selected from a collection of different available textbooks (i.e., Collis, 1996; Doff & Jones, 1999a, &1999b; Hartley & Viney, 1984; Hill, 1965; Lee & Gunderson, 2002a, & 2002b; Richards, 2002a, & 2002b; Willis, 2000). The selected tasks were later organized in ascending order from less challenging to the most challenging ones to keep their arrangement within the acceptable sequence of difficulty.

To avoid the presentation of unnecessary support, the amount and type of assistance were fine-tuned according to student’s needs and their cognitive level (see Anderson & Pesola, 1988; Krashen, 1982; Krashen & Terrell, 1983). Assistance was gradually reduced as the assumption of an increase in students’ ability to perform in comparable situations was tentatively observed. Some of the offered instructional support included pre/post-reading activities, L1 instructions, modeling, lexical scaffolding, individual assistance, summary, and/or group discussion. Both groups received pre-, post-, and final tests during the experiment. Through pre-testing, their assumed homogeneity regarding reading comprehension ability and proficiency level were examined. Through post-testing, their reading comprehension development was compared. The final test, administered at the end of the university program, compared their end-of-the-course achievement concerning the university assigned course book.

3. Statistical Results
Following the administration of the pre-, post, and final tests, the obtained scores were forwarded to careful analyses through the application of statistical package for social science (SPSS) software. The following sections summarize the statistical analyses performed on the test scores. However, the interpretation of the results of the analyses are presented in the discussion section.
3. A. Criterion-related validity
The Pearson correlation coefficient was used to compute the validity of the instruments. The results of the correlation between the standard KET and the final test indicated that the correlation coefficients were statistically significant because their one-tailed probability levels were all less than the index of 0.05 (see table I).

Table 1. Correlation Coefficients

<table>
<thead>
<tr>
<th></th>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-test</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation</td>
<td>1</td>
<td>.352(**)</td>
</tr>
<tr>
<td>Sig. (1-tailed)</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>130</td>
<td>130</td>
</tr>
<tr>
<td><strong>Post-test</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation</td>
<td>.352(**)</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (1-tailed)</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>130</td>
<td>130</td>
</tr>
<tr>
<td><strong>Final test</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation</td>
<td>.415(**)</td>
<td>.748(**)</td>
</tr>
<tr>
<td>Sig. (1-tailed)</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>130</td>
<td>130</td>
</tr>
</tbody>
</table>

3. B. Reliability coefficient (KR-21)
To estimate the reliability of the instruments, Kuder-Richardson reliability coefficient (KR-21) was employed. The obtained reliability measures of the pre-, post-, and final tests were 0.84, 0.90, 0.81 respectively, which were all above the reliability index of (α=0.80) and thus fell within the range of an acceptable estimation of reliability.

3. C. Construct validity
A factor analysis was run to examine the construct validity of pre-, Post-, and final tests. As shown in table (II), only one factor was extracted for these tests and the total amount of variance explained by this factor was 4.455. The factor accounted for 63.645 percent of the variance, which was considered as a good index of construct validity for the teacher-made battery of tests.

Table 2. Factor Analysis

<table>
<thead>
<tr>
<th></th>
<th>A. TOTAL VARIANCE EXPLAINED</th>
<th>B. FACTOR EXTRACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Initial Eigen values</td>
<td>Extraction Sums of Squared Loadings</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>Variance</td>
</tr>
<tr>
<td>Pre-test</td>
<td>4.45</td>
<td>63.64</td>
</tr>
<tr>
<td>Post test</td>
<td>.09</td>
<td>1.37</td>
</tr>
<tr>
<td>Final test</td>
<td>.16</td>
<td>2.33</td>
</tr>
</tbody>
</table>
| Extraction Method: Principal Component Factor Analysis/ a. 1 component extracted

The members of the extracted factor and the factor loadings of all the tests are shown in the table II under “factor extraction” column. As it can be seen in the table, all of the tests loaded under one single factor. Since reading comprehension comprised the majority of the tests contents, it could be concluded that the factor was reading comprehension ability and thus all of the tests examined reading comprehension ability to a large degree. The descriptive statistics for the total groups in pre-, post-, and final tests are presented in table (III). According to the table, the observed means scores for the pre-, post-, and final tests are (28.71), (37.76), and (33.12) respectively.
Table 3. Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>SD</th>
<th>Var.</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>130</td>
<td>12.00</td>
<td>51.00</td>
<td>28.71</td>
<td>8.67</td>
<td>75.22</td>
<td>.493</td>
<td>.212</td>
</tr>
<tr>
<td>Post-test</td>
<td>130</td>
<td>11.00</td>
<td>60.00</td>
<td>37.67</td>
<td>13.52</td>
<td>182.93</td>
<td>-.055</td>
<td>.212</td>
</tr>
<tr>
<td>Final test</td>
<td>130</td>
<td>14.57</td>
<td>54.00</td>
<td>33.12</td>
<td>8.26</td>
<td>68.33</td>
<td>-.158</td>
<td>.212</td>
</tr>
</tbody>
</table>

3. D. T-tests

The test scores on the pre-test of KET were analyzed through the application of a T-test to measure their probable homogeneity of the subjects at the beginning of the experiment. As shown in table (IV), the Levene’s F had a probability level of (sig. =0.847), which was greater than the 0.05 level of significance, meaning that the two groups roughly enjoyed homogeneity of variances in terms of their general language proficiency and reading ability at the beginning of the experiment.

To compare the mean scores of the groups’ performances on the post-test of KET, another T-test was performed. As shown in table (IV), the t-observed value was (15.733). This amount of T-value at 100 degree of freedom was higher than the critical t-value of (1.64), which was the indication of a significant difference between the mean scores of the two groups.

The last T-test was performed on the groups’ performance on the final test to compare the mean score of their end-of-the-course progress. As seen in table (IV), Levene’s F (F=2.392) has a probability level of (sig. =0.124) which is greater than 0.05 level of significance at which the hypotheses were tested. This was an indication of the presumed homogeneity of the two groups in terms of their variances. Besides, the T-observed value is (T=9.38) at 100 degrees of freedom (p=0.000 one-tailed) is higher than the T- critical=1.64. This indicated a considerable difference between the mean scores of the groups’ performances on the final test (mean difference= 10.51).

Table 4. Independent T-Test for Pre-, Post-, & Final Tests

<table>
<thead>
<tr>
<th></th>
<th>Levene’s F-value</th>
<th>F-test for Equality of Variances</th>
<th>T-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sig. (p)</td>
<td>T-observed</td>
<td>Degree of freedom</td>
</tr>
<tr>
<td>pre-test</td>
<td>variances .037</td>
<td>.847</td>
<td>.920</td>
</tr>
<tr>
<td>post-test</td>
<td>variances .067</td>
<td>.796</td>
<td>15.733</td>
</tr>
<tr>
<td>Final test</td>
<td>variances 2.392</td>
<td>.124</td>
<td>9.388</td>
</tr>
</tbody>
</table>

The descriptive statistics for the performances on the groups on pre-, post-, and final tests are presented in table (V). As shown in the table, the estimated mean scores for the experimental (E) and control (C) groups’ performances on pre-, post-, and final tests are respectively as follows: Pre-test: E X =29.41 and C X =28.01; Post-test: E X =48.61 and C X =26.73; Final test: E X =38.38 and C X =27.87.
Table 5. Descriptive Statistics of Pre-, Post-, & Final Tests

<table>
<thead>
<tr>
<th>Tests</th>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>SE Mean</th>
<th>Mean differences</th>
</tr>
</thead>
<tbody>
<tr>
<td>pre-test</td>
<td>Experimental</td>
<td>65</td>
<td>29.415</td>
<td>8.870</td>
<td>1.100</td>
<td>1.400</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>65</td>
<td>28.015</td>
<td>8.482</td>
<td>1.052</td>
<td></td>
</tr>
<tr>
<td>post test</td>
<td>Experimental</td>
<td>65</td>
<td>48.61</td>
<td>8.117</td>
<td>1.006</td>
<td>21.87</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>65</td>
<td>26.73</td>
<td>7.732</td>
<td>.9590</td>
<td></td>
</tr>
<tr>
<td>final test</td>
<td>Experimental</td>
<td>65</td>
<td>38.386</td>
<td>5.720</td>
<td>.7095</td>
<td>10.5167</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>65</td>
<td>27.870</td>
<td>6.988</td>
<td>.8667</td>
<td></td>
</tr>
</tbody>
</table>

4. Discussion

The present study was an attempt to imperially examine the potential effects of conducting ‘instructional support’ in training successful EFL readers. The assumption was that students’ reading ability could be accelerated if they received activities that were slightly difficult for them to do alone, so they required assistance from their peers or the instructor to succeed (see Renandya & Jacobs, 2002; Rost, 2000; Krashen, 1982; Krashen & Terrell, 1983; Vygotsky 1986). Such support can help students complete the activity successfully and therefore become prepared for analogous situations in which they could function without receiving help. To achieve the purpose of the study, two research hypotheses were formulated at the opening of the study. To substantiate the first hypothesis, (i.e., Instructional support can improve EFL learners’ reading comprehension ability considerably) the experimental and control groups’ performances on the post-test were analyzed and interpreted. The results revealed that the experimental group’s performance on the post-test of KET was significantly better than that of control group (the experimental and control groups mean scores are 48.61 & 26.73 respectively). This considerable distinction in the mean difference (i.e. $\bar{x}$=21.87) could be an indication of experimental group’s progress in terms of reading ability at the end of the experiment compared to that of control group. These results provided enough support for the acceptance of the first hypothesis.

In addition, the statistical analyses performed on the groups’ performances on the final test demonstrated that the experimental group with a mean score of (38.38) outperformed the control group whose mean in the same test was (27.87). This indicated a considerable difference between the mean scores of the groups’ performances (mean differences= 10.51), which in turn could signify the experimental groups’ perceptible progress throughout the experiment in terms of university prescribed course book. These results offered sufficient evidence for the acceptance of the second hypothesis (i.e., Instructional support can improve the end-of-the-course achievement in EFL learners).

5. Conclusion

The encouraging outcomes of the study helped the researcher in demonstrating (although in a narrow sense due to the limited scope of the research) the critical function of ‘instructional support’ in training successful readers. This is very central in EFL situations in which learners, apart from their diligent trial, fail to succeed satisfactorily in their quest in developing reading ability. Similar to this study, other studies also made use of ‘instructional support’ in improving language skills. For example, taking a critical look at the issue of scaffolding in children’s writing, Donovan and Smolkin (2002), investigated the role of different levels of support in improving students’ understanding and the exhibition of their knowledge of genre. The results of their research were convincing enough to encourage the application of ‘instructional support’ in improving different skills.
The positive results of the study could provide valuable insights to teachers in different fields of study to incorporate ‘instructional support’ in training successful learners. However, further research is required to examine its genuine ‘accelerating role’ in cognitive development, concerning improvement in different fields of study. If such application is confirmed to be beneficial and constructive, it can be considered as a useful technique to accelerate learning in different educational practices.

References


