The Effect of Peer Interaction on Iranian EFL Learners’ Self-efficacy in Vocabulary Learning

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Abstract—The current study aimed to explore the effects of peer interaction on self-efficacy in vocabulary learning. The participants of the study included 64 EFL students in two intact classes at Takhti high school and Pardis language institute in Hamedan, Iran who were conveniently sampled to take part in the study. They aged 15-17 and were randomly positioned into one experimental and one control group. The participants were assigned as the experimental group and as control group 32 each. The experimental group received the intervention including peer interaction for example Word Expert Cards (Richek & McTague, 2008) while those in the control group had time to learn vocabularies and deepen their learning individually and researcher monitored and told them to memorize or paraphrase the vocabularies themselves individually. All the participants completed a self-efficacy questionnaire on vocabulary learning. The participants completed a questionnaire on self-efficacy learning twice, once before the treatment as the pretest and a second time after the treatment as the posttest. The data thus obtained were then analyzed through measuring the Analysis of Covariance (ANCOVA) to examine the trajectories of change in the participants’ self-efficacy over the treatment. The results indicated a significant increase in the self-efficacy indexes of the experimental group compared with the control group. The findings from the current study provide empirical evidence suggesting that through peer interaction it could be possible to enhance self-efficacy, which in turn may contribute to the development of language skills.

Index Terms—self-efficacy, peer interaction, control group, experimental group, ANCOVA

I. INTRODUCTION

Self-efficacy beliefs refer to the beliefs individuals hold about their ability to manage and carry out the courses of action required to deal with future circumstances (Bandura, 1986). In essence, self-efficacy is the assurance that individuals have in their own capabilities (Pajares, 2000).

People’s beliefs in their efficacy are a key factor in self-development, successful adjustment and change (Bandura, 1990). Self-efficacy beliefs function via their influence on cognitive, motivational, affective and decisional processes, and cause individuals to think positively and hopefully or negatively and cynically, in self-enhancing or self-debilitating manners. Such beliefs have an effect on people’s aims and aspirations and also on their level of motivation, determination and perseverance while encountering obstacles and hardships (Miller, 1995). They also form individuals’ outcome expectations – whether they anticipate their endeavors to generate desirable results or undesirable ones. Furthermore, efficacy beliefs determine how environmental changes and barriers are perceived. In the face of obstacles, people with low efficacy are simply convinced of the vanity of attempt and quickly stop trying; on the contrary, those with high efficacy believe that difficulties are surmountable via self-development and perseverant endeavor. Facing impediments, they show resistance and are resilient to hardship (Bandura, 1986).

What has came out from these studies is in concordance with Pajares’s (2000) contentions that students with high levels of self-efficacy beliefs move toward difficult tasks as obstacles to be surmounted rather than as menaces to be shunned. They have greater intrinsic motivation, select challenging purposes and keep strong commitment to them, and while facing a failure, they increase and continue their endeavors (Bandura, 1977).

Based on the prominent role that students’ self-efficacy plays in their academic achievements and success, it seems necessary to seek for the factors that may influence students’ efficacy beliefs. Peer interaction seems to be among those variables that may affect students’ efficacy beliefs (Bandura, 1977). The contention is that higher-interaction enhances higher learning skills leading to higher levels of language proficiency (Renner, 1996).

Nowadays, many teachers based on Vygotskyan approach have turned their classrooms to group of learners. Group works and evaluation can help students search and rebuild new science through a process of interactions and it is the knowledge that leads to new viewpoints. By implementing peer groups, learners are in the situation in which the feedback is given and self-efficacy is changed provided which may have a good deal of improvement in vocabulary learning (Bargh & Schul, 1980). So, classroom interaction creates a situation for students to practice the language use incidentally and at the same time increase their self-efficacy in vocabulary learning (Bandura, 1979).
Some studies, for example Pajares and Schunk, (1984), have shown that there are both pedagogic and social benefits for most learners in small groups. For example, in the field of first language (L1) education, studies have shown that learners working in groups which are exposed to a greater variety of viewpoints create new ways of understanding and develop greater critical thinking skills. One of these new ways might be on how words are acquired (Nation, 2008).

Vocabulary is obviously a very important element within a language as the majority of meaning is carried out lexically (Hunt & Beglar, 2001 cited in Richards & Renandya, 2002). Learning a language cannot be diminished to, of course, only learning vocabulary but, it is also true that no matter how well the student learns grammar, no matter how successfully the sounds of L2 are mastered, without words to express a wide range of meanings, communication in an L2 just cannot happen in any meaningful way (as cited in Mashhadia & Jamalifar, 2015).

Yet no study to date in Iran has investigated the effects of peer interaction on EFL learner’s self-efficacy in vocabulary learning.

A. Statement of the Problem

The ability in knowing words and word meaning and also the way to gain that ability efficiently is accepted as an important element in reading and listening comprehension, speaking and writing fluency. Vocabulary learning is usually the biggest problem a language learner faces with (Nation, 1990; Thornbury, 2002). Hence, vocabulary acquisition is currently receiving a great deal of attention in second language pedagogy and research (Decarrico, in Celce Murcia, 2001). But it is still a problematic issue how learners can learn vocabulary efficiently or how it can best be taught. The majority of students fail to understand the new terminologies that they are exposed to (Brown, 2007).

Many researchers (e.g., Nation & Chung, 2009) have attempted to develop new techniques and explore new teaching methods for facilitating and enhancing vocabulary learning and retention. Finding efficient methods to serve these purposes have become the major concern of vocabulary specialist and teaching experts in second/foreign language pedagogy.

The building of learners’ self-believe is a subject that has attracted much attention in education in recent years. Nearly two decades of research has revealed that self-beliefs are strong influential factors on academic achievements causing a new wave of attention to self-beliefs (Pajares, 2000). “Of all beliefs, self-efficacy is the most influential one which plays a powerful role in determining the choices people make, the effort they will persevere in the face of challenge, and the degree of anxiety or confidence they will bring to the task at hand” (Bandura, 1986, p. 397). It is this perceived self-efficacy that helps explain why people’s behaviors differ widely even when they have similar knowledge and skills (as cited in Heidari, Izadi, & Ahmadian, 2012).

So it might be a question whether peer interaction affects self-efficacy of students’ in vocabulary learning. No specific research has hitherto been done on the effect of peer interaction on EFL’s self-efficacy in vocabulary learning.

B. Significance of the Study


The results of this study also may help second or foreign language teachers to gain a comprehensive picture of the nature of Self-efficacy beliefs and peer interaction in Language learning and teaching might be facilitative in learners’ vocabulary acquisition. Also Iranian language learners can benefit from the outcome of this research by the virtue of the fact that they can resort to alternative ways of learning vocabularies which might ensure long term retention and retrieval of lexical items. The outcome of this study can help foreign language teachers to gain a better understanding of the nature of Self-efficacy beliefs and their impacts on learning and remembering vocabularies.

C. Purpose of the Study

This study looks into the effect of peer interaction on Iranian EFL learners’ self-efficacy in vocabulary learning. The objective of the study look for related objective is exploiting the current level of self-efficacy beliefs of Iranian EFL students by carrying out the Self-efficacy questionnaire and to finding out if peer interaction affects on self-efficacy beliefs of Iranian EFL students.

D. Research Question

RQ: Does Peer Interaction have any significant effects on Iranian EFL Learner’s Self-Efficacy in Vocabulary learning?

E. Research Null Hypothesis

H0: Peer interaction does not have a significant effect Self-efficacy beliefs in vocabulary learning.

II. REVIEW OF THE RELATED LITERATURE

Theoretical Background
1. Social Cognitive Theory

Self-efficacy is hypothesized to affect individuals’ task choices, efforts, persistence, and achievement (Bandura, 1977; Schunk, 1986). Compared with learners who doubt their capabilities, those who feel self-efficacious about learning or performing a task competently are apt to participate more readily, work harder, persist longer when they encounter difficulties, and achieve higher levels of performance. Self-efficacy is acquired from four primary sources: actual performances, vicarious experiences and physiological reactions. Students’ own performances offer the most reliable guides for gauging self-efficacy; effects of the other sources are more variable (Bandura, 1986). In general, successes raise and failures lower self-efficacy, although an occasional failure (success) after some successes (failures) is unlikely to have much impact (as cited in Zimmerman, 2000).

2. Role of self-efficacy in Academic Motivation

There is evidence (Bandura, 1997) that self-efficacious students participate more readily, work harder, persist longer, and have fewer adverse emotional reactions when they encounter difficulties than do those who doubt their capabilities. In terms of choice of activities, self-efficacious students undertake difficult and challenging tasks more readily than do inefficacious students. Bandura and Schunk (1981) found that students’ mathematical self-efficacy beliefs were predictive of their choice of engaging in subtraction problems rather than in a different type of task. The higher the children’s sense of efficacy, the greater their choice of the arithmetic activity. Zimmerman and Kitsantas (1999) also found self-efficacy to be highly correlated with students’ rated intrinsic interest in a motoric learning task as well as in a writing revision task. Furthermore, measures of self-efficacy correlate significantly with students’ choice of majors in college, success in course work, and perseverance (as cited in Zimmerman, 2000).

III. Methodology

A. Participants

The participants of the study included 64 intermediate EFL male students in two intact classes at Takhti high school and Pardis English Language Institute in Hamedan, Iran who were randomly sampled to take part in the study. It should be noted that due to time and cost constraints only sixty-four participants involved in the present study. However, enough care was exercised to provide a safe, positive and instructive atmosphere for the subjects.

The population of the present study was conveniently sampled. This can be explained in the light of the fact that due to small sample size (64 participants), an easily accessible or volunteer sample population, and the greater convenience of time and cost constraints for a single researcher, as documented by previous studies (Bryman, 1988; Creswell, 2003; Tashakkori & Teddie, 2003), this sampling technique was used.

During the research, the researcher tried to conduct the research in a way that the participants were not aware of the study since it could result in different reactions in participants. The participants aged 15-17 and were randomly positioned into one experimental and one control group.

B. Instrumentation

In this study, two self-efficacy tests were used as the pre-test and post-test. The Persian questionnaire of self-efficacy beliefs that is Adapted of the General Self-efficacy Scale which is made by Nezami, Schwarzer and Jerusalem (1996) was used.

The reliability of this questionnaire has been substantiated in different studies by (Heidari & Izadi, 2012) and (Rasekh & Ranjbar, 2003).

C. Materials

Students worked on vocabularies from Learning to read English for pre-University Students (Birjandi, Maftoon, Sharabyani, Nikopoor, 2001). All of the students covered the same book. Vocabularies are extracted from eight units of the book. This book is taught to pre-university students in Iran and English tests for university entrance exam.

D. Procedure

First of all, the participants were randomly assigned to an experimental group and a control group. Then, all the participants answered the self-efficacy-beliefs questionnaire as a pre-test to capture the initial differences among them regarding their initial level of self-efficacy belief.

Having conducted the pre-test, the researcher embarked on teaching and giving treatments to experimental group. 100 vocabularies were chosen from the book. Every session, 10 vocabularies were taught to the participants. These vocabularies were selected from pre-university English course book by (Birjandi, Maftoon, Sharabyani, Nikopoor, 2001).

In every session, the researcher put the 10 vocabularies on the board and taught them by paraphrasing and exemplifying and contextualizing the vocabularies. Up to here the treatment was the same for both control and experimental group. But then in experimental group, the teacher helped the students to discuss the new words or use other techniques in vocabulary learning in peers for example: Word Expert Cards (Schmitt, Schmitt, & Mann, 2011) in which:

- Each student in the group took the responsibility for thoroughly learning a few words then teaching them to peers.
- Each student took 2-5 words form a new unit or chapter.

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Each “word expert” constructed a card for each vocabulary word using a teacher-approved rough draft of the word’s definition, part of speech and an illustration.

After a “word expert” is finished with his cards, the student presented his cards to a classmate and they exchanged cards.

The teaching period continued for ten sessions, every session one and half hours for both groups.

Students in control group had time to learn vocabularies and deepen their learning individually and researcher monitored and told them to memorize or paraphrase the vocabularies themselves individually.

After giving treatment, the post-test was given to the participants. This test aimed at measuring the level of self-efficacy beliefs in both experimental group and the control group. The test included the self-efficacy beliefs questionnaire.

IV. RESULTS AND DISCUSSION

A. Descriptive Statistics

Tables 4.1 summarizes the basic descriptive statistics including mean, standard deviation as well as Skewness and Kurtosis values for the pre-test and post-test in this study for both experimental and control groups.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>32</td>
<td>32</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>Valid</td>
<td>32</td>
<td>32</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>Mean</td>
<td>59.0000</td>
<td>55.2188</td>
<td>78.0938</td>
<td>63.9688</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>10.47270</td>
<td>4.52758</td>
<td>8.94557</td>
<td>5.36106</td>
</tr>
<tr>
<td>Variance</td>
<td>109.677</td>
<td>20.499</td>
<td>80.023</td>
<td>28.741</td>
</tr>
<tr>
<td>Skewness</td>
<td>-.525</td>
<td>-.101</td>
<td>-.063</td>
<td>-.041</td>
</tr>
<tr>
<td>Std. Error of Skewness</td>
<td>.414</td>
<td>.414</td>
<td>.414</td>
<td>.414</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>.070</td>
<td>-.907</td>
<td>-.830</td>
<td>-.799</td>
</tr>
<tr>
<td>Std. Error of Kurtosis</td>
<td>.809</td>
<td>.809</td>
<td>.809</td>
<td>.809</td>
</tr>
<tr>
<td>Minimum</td>
<td>35.00</td>
<td>47.00</td>
<td>60.00</td>
<td>55.00</td>
</tr>
<tr>
<td>Maximum</td>
<td>77.00</td>
<td>63.00</td>
<td>94.00</td>
<td>75.00</td>
</tr>
</tbody>
</table>

Table 4-1 summarizes the descriptive statistics for the groups in the pretest and the posttest including the means, standard deviations, maximum and minimum scores and Skewness and Kurtosis values. As the table indicates, the Skewness and Kurtosis values were between ±2, which implied that the data were descriptively normal. This normality is also reflected in the normal distribution curves and box plots for outlier and extreme scores below.

B. Testing Normality Assumptions

1. Testing Normality of the Distribution of Test Scores

To assess the normality of test scores, Kolmogorov-Smirnov statistics and Shapiro-Wilk statistics were used.

Table 4.2 shows the results of the Kolmogorov-Smirnov and Shapiro-Wilk statistics for the pretest and posttest scores. Here, a non-significant Sig. value of more than .05 is indicative of normality. In our study, the Sig. values obtained in both cases were larger than .05, suggesting the assumption of normality for our pretest and posttest.

2. Homogeneity of Error Variances

To check this assumption, Leven’s Statistic is used.
As Table 4.3 indicates, the Leven’s value obtained was $f(1,62)= 3.58$, $\text{Sig}=.063$ which was larger than the cut-off value of .05, implying that the equality of error variances assumption was not violated.

3. Linearity of Regression Lines

To check this assumption a grouped scatterplot of the covariate, post-test scores of the dependent variable and independent variable was plotted. As Figure 4.7 below shows, there was a linear relationship between the dependent variable (scores of post-test) and the covariate (scores of pre-test) for our groups.

4. Homogeneity of Regression Slopes

The final assumption (homogeneity of regression slopes) investigates the relationship between the covariate and the dependent variable for each of our groups to check if there is any interaction between the covariate and the treatment. In the output obtained in Table 4.5, the value obtained for the interaction term was $f(1,60)= .001$, $\text{Sig}=.981$, which indicated that the assumption of homogeneity of regression slopes was not violated.

Now that the normality assumptions have been checked, we can proceed with the ANCOVA analysis to find out the differences between our groups.

C. Testing the Research Hypothesis
The main ANCOVA results are presented in Table 4.6.

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>4157.093</td>
<td>2</td>
<td>2078.546</td>
<td>52.679</td>
<td>.000</td>
<td>.633</td>
</tr>
<tr>
<td>Intercept</td>
<td>2255.534</td>
<td>1</td>
<td>2255.534</td>
<td>57.165</td>
<td>.000</td>
<td>.484</td>
</tr>
<tr>
<td>group</td>
<td>2281.880</td>
<td>1</td>
<td>2281.880</td>
<td>57.833</td>
<td>.000</td>
<td>.487</td>
</tr>
<tr>
<td>Error</td>
<td>2406.845</td>
<td>61</td>
<td>39.456</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>329472.000</td>
<td>64</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>6563.937</td>
<td>63</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. R Squared = .633 (Adjusted R Squared = .621)

Here we wanted to know whether the groups were significantly different in terms of their scores on the dependent variable (post-test) while controlling for possible effects of the covariate (pretest). As the table shows, the value obtained for the Group was \[\text{F}(1.64)= 57.83, \text{P}= .00 \text{ partial } \eta^2 = .487\]. This could imply that groups differed significantly. Therefore, the results were significant. That is, there was a significant difference between the self-efficacy clause for subjects in the Control Group and Experimental Group, after controlling for the possible effects of the pretest.

Another piece of information which can be of interest is the effect size, as indicated by the corresponding Partial Eta Squared value. The value in this case was .478 that was a great effect size according to Cohen’s (1988) guidelines. This value also shows how much of the variance in the dependent variable is explained by the independent variable. We can convert the partial eta square value to a percentage by multiplying the value by 100. In our study, this explains for 47.8 percent of the variance.

D. Estimated Marginal Means

Table 4.7 shows the mean differences between the performances of the groups

<table>
<thead>
<tr>
<th>Pairwise Comparisons</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>95% Confidence Interval for Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>(I) group</td>
<td>(J) group</td>
<td></td>
<td></td>
<td>Lower Bound</td>
</tr>
<tr>
<td>experimental</td>
<td>control</td>
<td>12.276</td>
<td>1.614</td>
<td>0.00</td>
</tr>
<tr>
<td>control</td>
<td>experimental</td>
<td>12.276</td>
<td>1.614</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Based on estimated marginal means

a. The mean difference is significant at the .05 level.

As the table reflects, the mean differences between the groups (MD= 12.2778) was significant at P= 0.00 which pointed to a better performance of the experimental group.

V. CONCLUSION

The study reported here aimed at examining whether peer interaction would significantly affect EFL learner’s self-efficacy in vocabulary learning. The results of the study indicated that in the experimental group, in contrast to the control group, there was a considerable self-efficacy enhancement. As the results of analysis of covariance (ANCOVA) indicated, the null hypothesis of the study was rejected, and it can be concluded that peer interaction can significantly contribute to learners’ self-efficacy belief in vocabulary learning.

VI. PEDAGOGICAL IMPLICATIONS

The present study has some implications for Iranian EFL teachers, students and curriculum developers as it was shown that peer interaction could have positive impact on Self-efficacy beliefs in vocabulary acquisition.

First teachers should find out that learning does not happen easily and diversity of elements must be carefully taken into account. So, it is highly recommended that students must have different opportunities to successfully enhance their Self-efficacy.

Here, working in peers provides ample opportunities for learners to enhance their self-efficacy in vocabulary learning by creating flash cards and practicing with each other.

Moreover, the findings of the study imply that students should not only rely on themselves to improve their level of self-efficacy but also should accommodate their learning tasks in group activities which give them more opportunities to be more self-efficacious in vocabulary learning.
Textbook writers and course developers should also understand the importance of peer interaction and cooperative learning in self-efficacy enhancement in successful acquisition of lexical items. Therefore, it is highly recommended that lexical items be presented in a cooperative and collaborative context.

APPENDIX. SELF-EFFICACY QUESTIONNAIRE (PERSIAN ADAPTATION) AS POSTTEST AND PRETEST

<table>
<thead>
<tr>
<th>Number</th>
<th>Question</th>
<th>Correct Answer</th>
<th>Your Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>به راهی می‌توانیم اهداف را نهایی و به مقصود بررسی‌ها آنها را چطور بپردازیم؟</td>
<td>صحیح</td>
<td>ناصحیح</td>
</tr>
<tr>
<td>2</td>
<td>اگر کسی با من مخالفت کند، می‌توانم به روشی برای رسیدن به انتخاب من همکاری کنم.</td>
<td>صحیح</td>
<td>ناصحیح</td>
</tr>
<tr>
<td>3</td>
<td>اگر به انتزاع کاملاً خود را همکاری کنید، به مقصود بررسی‌نامه‌ها را چه‌گونه مبادرتی می‌کنید؟</td>
<td>صحیح</td>
<td>ناصحیح</td>
</tr>
<tr>
<td>4</td>
<td>اگر به انتزاع کاملاً خود را همکاری کنید، به مقصود بررسی‌نامه‌ها را چه‌گونه مبادرتی می‌کنید؟</td>
<td>صحیح</td>
<td>ناصحیح</td>
</tr>
<tr>
<td>5</td>
<td>در مرحله‌ی یک، می‌توانم به روشی برای رسیدن به انتخاب من همکاری کنم.</td>
<td>صحیح</td>
<td>ناصحیح</td>
</tr>
<tr>
<td>6</td>
<td>اگر به انتزاع کاملاً خود را همکاری کنید، به مقصود بررسی‌نامه‌ها را چه‌گونه مبادرتی می‌کنید؟</td>
<td>صحیح</td>
<td>ناصحیح</td>
</tr>
<tr>
<td>7</td>
<td>اگر به انتزاع کاملاً خود را همکاری کنید، به مقصود بررسی‌نامه‌ها را چه‌گونه مبادرتی می‌کنید؟</td>
<td>صحیح</td>
<td>ناصحیح</td>
</tr>
<tr>
<td>8</td>
<td>اگر به انتزاع کاملاً خود را همکاری کنید، به مقصود بررسی‌نامه‌ها را چه‌گونه مبادرتی می‌کنید؟</td>
<td>صحیح</td>
<td>ناصحیح</td>
</tr>
<tr>
<td>9</td>
<td>اگر به انتزاع کاملاً خود را همکاری کنید، به مقصود بررسی‌نامه‌ها را چه‌گونه مبادرتی می‌کنید؟</td>
<td>صحیح</td>
<td>ناصحیح</td>
</tr>
<tr>
<td>10</td>
<td>اگر به انتزاع کاملاً خود را همکاری کنید، به مقصود بررسی‌نامه‌ها را چه‌گونه مبادرتی می‌کنید؟</td>
<td>صحیح</td>
<td>ناصحیح</td>
</tr>
</tbody>
</table>

REFERENCES


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