

The Effect of Project-Based Activities on Intermediate EFL Students' Reading Comprehension Ability

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Abstract

The present study investigates the relationship between the use of Project-based activities and intermediate EFL students' reading comprehension. The study addresses the questions of whether students' reading comprehension differs after implementing Project-based activities, and whether different projects lead to different degrees of reading comprehension. One hundred twenty intermediate female students from Kish English Institute of Rasht participated in this study. Using a standard test, participants were randomly assigned to two experimental groups, receiving English language instruction in a Project-based context, and one control group receiving instruction in a CLT approach. The first experimental group was asked to make four magazines during a period of four months, while, the second experimental group was supposed to make four wall newspapers during the same period. To compare the performances of the groups, two multiple-choice reading comprehension tests were administered to measure the effectiveness of project -based activities both at the beginning and at the end of the study. The numerical data obtained from the samples was analyzed using the one way ANOVA. The result indicated that at $\alpha = .05$, there is a significant positive relationship between the use of Project-based activities and reading comprehension ability. The study also indicated that there is no significant difference between the reading comprehension ability of the two experimental groups. These findings provide evidence to support further implementation of PBL activities in English learning classes irrespective of the nature of the PBL activity.

Keywords: Project-based learning, reading comprehension.

Reading ability has been shown to have a critical impact on students' learning and performance (Leppanen, Aunola, & Nurmi, 2005), and supportive strategies for its development are essential.

As a teacher, I have always seen my students being challenged by reading tasks, and having difficulty in understanding them. In Iran English is considered as a foreign language, and is not used in formal or informal settings outside the classrooms; therefore, Iranian

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students face challenging learning contexts in which few opportunities are provided for learners to practice English communicatively. I hypothesize that doing projects will provide students with the opportunity of being exposed to a foreign language, and practicing their language while they are not in the learning environment of the class.

Project-based learning approach to education may positively affect students' ability in understanding a written text, as students actively explore, select, collect, analyze, and comprehend information sources (Kuhlthau, 1997). In project-based learning, students will read through a vast area of reading materials, for the sources ranging over books, magazines, newspapers, articles to surfing the net. In addition, the use of computers and technology in learning activities has been shown to have a positive correlation with higher reading comprehension ability. (Chu, Tse, Loh, & Chow, 2011)

For many years in Iran English classes have been designed with old and dogmatic strategies. The time has come for old methods and strategies to be replaced with new and innovative ones. Part of this study is set up in the hope that it can provide more insights into the constructs that may be associated with the students' and teachers' knowledge of Project-based learning and reading comprehension. The second purpose of the study, which differentiates it from other studies being done in this area up to now, is going to see what role the nature of the project plays in improving one's ability. If the first null hypothesis in this study is rejected then we can claim that teachers and students are taking more benefits from new methods rather than old ones, however the rejection of the second one will lead us to the conclusion that certain types of projects are better conducive to improving reading ability.

Research Questions and Hypotheses

The study addresses the following questions:

1. Is there a significant relationship between Project-based learning and intermediate EFL students' reading comprehension ability?
2. Between such group projects as Wall Newspaper and class Magazine which activity is better conducive to reading comprehension ability?

The following null hypotheses are formulated to investigate the questions justifiably:

Hypothesis 1: Project work does **not** lead to better reading comprehension.

Hypothesis 2: There is **no** difference between such group projects as Wall Newspaper and Class Magazine in enhancing reading comprehension.

Theoretical Background

The Team Project

Project-based learning is part of the instructional approach originating from Dewey (1938), who considered practical experience in learning as a crucial factor. In Project-based learning, students work in small groups on academic tasks. The task can be in the form of investigation or research on a particular topic. The topic being studied usually integrates concepts from a number of disciplines or fields of study. Students in the same small group cooperate with one another to reach a collective outcome over a period of time. This is done by asking and refining questions, expressing ideas, making predictions, collecting and analyzing data, reaching to conclusions, and communicating their findings to others. This approach is widely believed to be a powerful teaching strategy to enhance students' motivation and self-directed learning (Blumenfeld et al., 1991).

Projects are one option among many educational options that encourage students to learn in a Project-based learning. Generally, projects require a driving question or problem that directs the activities that lead to a final product (Peterson & Mayer, 1995). Projects also include the improvement of a product, presentation or a performance that can be observed and utilized; they deal with real life problems that arouse interest in students, who interact with the real life through these projects (Curtis, 2002). Eventually, projects enable students to come up with products or works that are believed to be the solutions to the questions or problems given at the beginning of the learning process.

The English Magazine and Wall Newspaper Projects are based on the rationale of Project-Based Learning (PBL). In Project-based learning, projects need extended time period that ranges from a few lessons to a whole year of education process (Moursund, Bielefeldt, & Underwood, 1997). A good project is not an activity of a single move and needs active involvement and attention. Additionally, projects also require working cooperatively to achieve the objectives in defined time period. So, students must work in teams that can be made up of two or more members (Simkins, 1999). Projects also incorporate many disciplines. With Project-based learning, students are able to make interdisciplinary connections between various ideas (Curtis, 2002). One of the most important features that differentiates Project-based learning from traditional educational approaches is that it is student oriented. In Project-based learning, students can define the problems, discuss the views or predictions, collect information, evaluate the collected information, make conclusions, combine views and create a product (Blumenfeld et al, 1991). These tasks involve students' problem solving, decision making, and investigative skills. Eventually, each completed task enables students to build the knowledge that must be acquired. Throughout the tasks, students are encouraged to take charge of their own learning and become autonomous for their decisions (Liu & Hsiao, 2002).

Normally, communicative activities in language classrooms create a feeling of anxiety and stress. To help eliminate these unhealthy feelings, the socio-affective strategy is needed, which is a combination of both social strategies and affective areas. According to Oxford (1990), affective strategies enable learners to control feelings, motivations, and

attitudes related to language learning. Meanwhile, social strategies facilitate interaction with others, often in a discourse situation.

Thus, team projects are the best classroom devices to practice socio-affective strategies as they provide tasks to be solved, require high team work, activate creative thinking skills and involve the presentation of a product using English language. All movements and achievement of the team will be based on their cooperation and interpersonal skills. This gradually develops confidence in students and prepares them for their higher educational levels. After all, the ultimate goal of language learning strategies is to guide students to become better, autonomous and confident learners (Chamot, 1999).

In completing a team project assignment, cooperation is very important. Cooperative learning strategies have been shown to improve academic performance (Slavin, 1987), increase time on task (Cohen & Benton, 1988), lead to a higher self-esteem (Johnson & Johnson, 1989), motivate students toward learning (Garibaldi, 1979), and lead to more positive social behaviors (Lloyd, Crowley, Kohler, & Strain, 1988).

While learning a language, learning strategies are considered of vital importance in building learners' new knowledge and in expanding their competence. They can be defined as behaviours of a learner that are intended to influence how the learner processes information (Weinstein & Mayer, 1986). Team project activities provide the opportunity for learners to acquire learning strategies while they are involved in doing projects. Clearly, learning strategies are involved in all levels of learning, regardless of the content and context. Therefore, learning strategies are used in learning and teaching math, science, history, languages and other subjects, both in classroom settings as well as in more informal learning environments (Lessard-Clouston, 1997). It is believed that a communicative activity is a process in familiarizing language learners with the common functions of language and building their self-confidence to utter their own sentences. In addition to that, it is believed that throughout the communicative activities, the learners employ several strategies to accomplish their tasks. The common strategies identified are socio-affective strategies. These strategies are widely practiced by learners as they involve in oral communication with other people surrounding them. They normally ask their friends, teachers, parents, and seniors to help them with the tasks. They also like to assimilate with the other groups in order to practice their communicative skills. In other words they like to involve or invite other people to assist them in language learning. Thus, language learning strategies play a role in completing learners' project works. Language learning strategies are the conscious steps or behaviors used by language learners to enhance the acquisition, storage, retention, recall and use of new information (Oxford, 1990).

For many students, the appeal of this learning style comes from the authenticity of the experience. Students take on the role and behavior of those working in a particular discipline. Whether they are making a documentary video about an environmental concern, designing a travel brochure to highlight sites of historical significance in their community, or developing a multimedia presentation, students are engaged in real-world activities that have implications beyond the classroom. For teachers, additional benefits include enhanced professionalism and collaboration among colleagues, and opportunities to build

relationships with students (Thomas, 2000). Furthermore, many teachers are pleased to find a model that accommodates diverse learners by introducing a wider range of learning opportunities into the classroom. Teachers find that students who benefit the most from project-based learning tend to be those for whom traditional instructional methods and approaches are not effective (SRI, 2000).

Reading Comprehension

Chastain (1988) defined reading as an active cognitive system operating on printed material for comprehension (Chastain, 1988). Goodman (1988, p. 11) mentioned two views on reading; the first accepting it as "matching sounds to letters", and the second stating it to be a mystery, that "nobody knows how reading works". However, thanks to recent research into the reading process, reading no longer remains a mystery. Contrary to the previous views to reading comprehension, it is now considered as an active and fluent process (Anderson, 1999). Chastain (1988) proposed that in the reading process, the reader's task is to activate background and linguistic knowledge to recreate the writer's intended meaning. To achieve meaning readers are then supposed to go beyond the printed material. In support of this idea, Harmer (2001) has similarly stated that a reader uses a variety of clues to understand what the writer is implying, by which the reader is able to see beyond the literal meaning of the words.

Reading Models

According to Wallace (2001), the role of the reader changed in the 1980s and 1990s. She pointed out that in early versions of bottom-up models reading was considered a passive skill, where a reader goes through a mechanical pattern by creating a piece-by-piece mental translation of the information in the text (Anderson, 1999). In this model the interaction between the reader and the text includes little or no interference from the reader's own background knowledge. However, later on it was clarified that the reader played an active role in the process, including extracting meaning from texts in top-down models, whereby the reader is expected to bring her background knowledge to the text. Anderson has indicated that recently, reading has begun to be described as 'interactive' which combines elements of both bottom-up and top-down models as the most comprehensive description of the reading process. Reading is an interaction between reader and text, which can be further segmented into different levels, all of which happen concurrently.

Language students need large amounts of comprehensible input, and reading materials provide the most readily available source. All types of written materials from advertisements to literature can be used to improve students' reading ability. In their first language students have ready access to language used in meaningful contexts, and they incorporate needed patterns from those models into their own changing and evolving linguistic system. What they often lack in the language classroom is the opportunity to develop a sufficient language base from which to generate messages they would like to communicate to someone else (Chastain, 1988).

Method

Participants

Initially the project was launched in four first intermediate English classes. At this level students are able to present clear, detailed descriptions on a wide range of subjects related to their field of interest. They can also interact with a degree of fluency and spontaneity that makes regular interaction with native speakers quite possible. Comprising a total of 120 intermediate students from Kish English Institute Of Rasht, the capital city of Guilan province 80 students were ultimately assigned to two experimental groups, receiving English language instructions in a Project-based context, and 40 students were assigned to the control group, receiving English in a Communicative context. All the participants, ranging from 18 to 24 years old, were to study units 1 to 4 of the institute textbook for intermediate students.

Procedure

After obtaining the Institute manager's permission, I was given four classes of twenty intermediate students. Students were then divided to two Project-based classes: with one group developing magazines and the other Wall Newspaper. At the same time the control group was taught English using communicative language teaching method.

The subjects seemed to be a little unwilling to participate in the projects at first as, they were not accustomed to this method of language learning. Nonetheless, when the first series of magazines and wall newspapers were published, they took a completely positive attitude. A copy of the magazines was then sent to Kish Administrative Office in Tehran, and much to the students' surprise, they were given a thirty five percent discount on the following two terms' tuition!

The processes of developing such projects were basically the same. It took three sessions for each type of project to be completed. Before getting engaged in the actual project, the students were given absolute freedom to form their own groups and to choose their team members. Each group was composed of four people.

The first session of each phase was devoted to introducing and brain storming on the topics, which were all related to what was covered in their textbooks. Students decided on the aspects of the topic they wanted to work on for the next session. They would then share what they had agreed to work on with the whole class. The classes were then dismissed with the students required to collect relevant data from various sources on the given topics. The next session they would come to class and would share what they had found with their peers. A representative from each group would then be responsible for giving a report of what her group had found to the whole class. The data were then sent to one of the students in class, who was to decide on groups' findings and to come up with a one-page summary of them. She was also responsible for providing different groups with a copy of the summary before the students could meet for the third session. It is well worth mentioning that the responsibility of blending groups' findings was each time assigned to a different individual.

The third session of the class would require the students to come to class with a designed blueprint of the layout. Groups would then meet again to select a design appropriate enough to be shown to other groups, however, among the five presented designs, only one would ultimately be chosen to appear in the magazine or the wall newspaper. Four issues of magazines and wall newspapers were published in the course of the project. While the experimental groups were engaged in doing their projects the control group was taught the lessons using a communicative language teaching method which is the method currently practiced at the institute.

Data Collection

In order to assess the academic achievement of the students across the two experimental groups, and further to compare the experimental groups' performance with that of control group's the quantitative data collection method was used both at the beginning and end of the term.

Data Analysis

This study utilized the quantitative method of data analysis for the evaluation of the null hypotheses set forth at the beginning of this study. First the students' responses were given numeric values such that, the marks ranged from zero to fifty, which was the highest mark one could achieve. This means that at this preliminary stage, the nominal data were converted to numeral data. In this conversion, the students received one positive mark for each correct answer they gave, and they were not penalized for their wrong answers.

Results

The purpose of this study was to evaluate the effect of the Project-based tasks on the reading comprehension ability of the Iranian intermediate EFL learners which was conducted at Kish Language Institute using two types of tasks namely developing Magazines and Wall Newspaper.

Intermediate EFL learners ($N = 120$, selected based on an OPT test direction) were assigned randomly into two experimental and one control group. The first experimental group (A) received training on how to develop Magazines, while the second experimental group (B) practiced developing Wall Newspapers and the control group (C) was taught the lessons using CLT approach. Two multiple-choice reading comprehension tests (adopted from NELSON 050A) were used to measure the effectiveness of Project -based activities both at the beginning and at the end of the study. The results of the statistical analyses are presented in the following section:

Pilot Study

Prior to the study, the reading test was piloted on a group of 15 examinees whose characteristics were similar to those of the target group. The purpose behind piloting the test

was to estimate its reliability. The reliability index for the reading comprehension test estimated through Cronbach's Alpha showed an acceptable index ($r = .81$). The face validity of the reading comprehension test was also examined and confirmed by an expert in the field.

Table 1: Reliability Statistics of the Reading Test (pilot study).

Cronbach's Alpha	N
0.81	50

Measure of L2 Proficiency (OPT test for the sampling purpose)

To select the main sample, the standardized Oxford Placement test (OPT) was administered to 200 EFL students. The participants took the structure, vocabulary and reading comprehension sections of the test with a maximum possible score of 60 points. Based on OPT test direction 120 intermediate students whose score was 31+ in grammar and vocabulary and 8+ in reading section were selected as the main sample for the present study. The results of the OPT test for 200 students are presented in the following table.

Table 2: Statistics.

Total N	Valid Missing	200 0
Mean		32.7300
Std. Error of Mean		.72145
Median		34.0000
Mode		29.00
Std. Deviation		10.20282
Variance		104.098
Skewness		-.189
Std. Error of Skewness		.172
Kurtosis		-1.256
Std. Error of Kurtosis		.342
Range		35.00
Minimum		14.00
Maximum		49.00
Sum		6546.00

Examining the normality of the distributions

Before interpreting the results of the analyses, the main assumption of One Way ANOVA namely, normality was examined. Skewness analysis was used to examine the normality

of the distributions. The results of the Skewness analysis, as it is indicated in Table 3, obtained by dividing the statistic of Skewness by the standard error revealed that the assumption of normality was observed in the distribution of the scores.

Table 3: Skewness analysis.

Statistics		Ex. A	Ex. B	Control group	Ex. A	Ex. B	Control group
		Post-test	Post-test	Post-test	Pre-test	Pre-test	Pre-test
N	Valid	40	40	40	40	40	40
	Missing	0	0	0	0	0	0
Mean		36.3250	36.9000	32.1500	24.5750	23.9250	24.6250
Std. Error of Mean		.58220	.44405	.48112	.68677	.72181	.62295
Median		36.0000	37.0000	32.0000	24.0000	23.0000	25.0000
Mode		38.00	38.00	32.00	21.00 ^a	21.00	25.00
Std. Deviation		3.68216	2.80841	3.04286	4.34350	4.56513	3.93985
Variance		13.558	7.887	9.259	18.866	20.840	15.522
Skewness		.071	-.017	.252	.372	.512	.162
Std. Error of Skewness		.374	.374	.374	.374	.374	.374
Kurtosis		-1.027	-.714	-.520	-.721	-.446	-.436
Std. Error of Kurtosis		.733	.733	.733	.733	.733	.733
Range		13.00	11.00	12.00	16.00	17.00	16.00
Minimum		30.00	31.00	26.00	18.00	17.00	16.00
Maximum		43.00	42.00	38.00	34.00	34.00	32.00
Sum		1453.00	1476.00	1286.00	983.00	957.00	985.00

a. Multiple modes exist. The smallest value is shown

Descriptive Statistics for the Pre -Test Scores of Reading Comprehension

At the beginning of the study all the participants took part in the pre-test. The purpose was to establish a baseline from which gains on the post-test could be measured. Results of One Way ANOVA showed that there was no significant difference in learners' performance on the pre-test across the control and experimental groups ($F = 1.186, p (.309) > 0.05$).

The results of the pre-test showed that the means of the experimental ($Mean (A) = 24.5750, Mean (B) = 23.9250$) and control group ($Mean control = 25.3500$), did not differ statistically. Tables 4 and 5 show the descriptive statistics and the results of ANOVA for the pretest.

Table 5 shows the results of One-Way ANOVA used to analyze EFL learners' scores in the first administration of the reading test. Based on Table 5, there is no significant difference between the mean scores of the three groups in pre-test of reading comprehension

Table 4: Descriptive statistics for the Pre -Test Scores of Reading Comprehension test.

Pre test	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	Minimum	Maximum
					Lower Bound	Upper Bound	
Experimental A	40	24.5750	4.34350	.68677	23.1859	25.9641	18.00
Experimental B	40	23.9250	4.56513	.72181	22.4650	25.3850	17.00
Control group	40	25.3500	3.43100	.54249	24.2527	26.4473	20.00
Total	120	24.6167	4.14888	.37874	23.8667	25.3666	17.00

Table 5: One Way ANOVA.

Pre test	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	40.717	2	20.358	1.186	.309
Within Groups	2007.650	117	17.159		
Total	2048.367	119			

($p (.309) > 0.05$), that is the control and experimental groups were almost at the same level of proficiency in terms of their reading comprehension at the beginning of the study.

Considering the fact that the three groups were equal in terms of their reading comprehension proficiency at the beginning of the study, data from the post-test was used to compare and evaluate the effect of treatment namely Project- based activities on EFL learners' reading comprehension. Another One -Way ANOVA was run for the post-test scores.

Descriptive Statistics for the Post -Test Scores of Reading Comprehension

To examine the effect of Project-based activities namely developing Magazines and Wall Newspapers on EFL learners' reading comprehension, another One Way ANOVA was run. Table 6 shows the means and standard deviations, as well as the overall values, for each group on post- test.

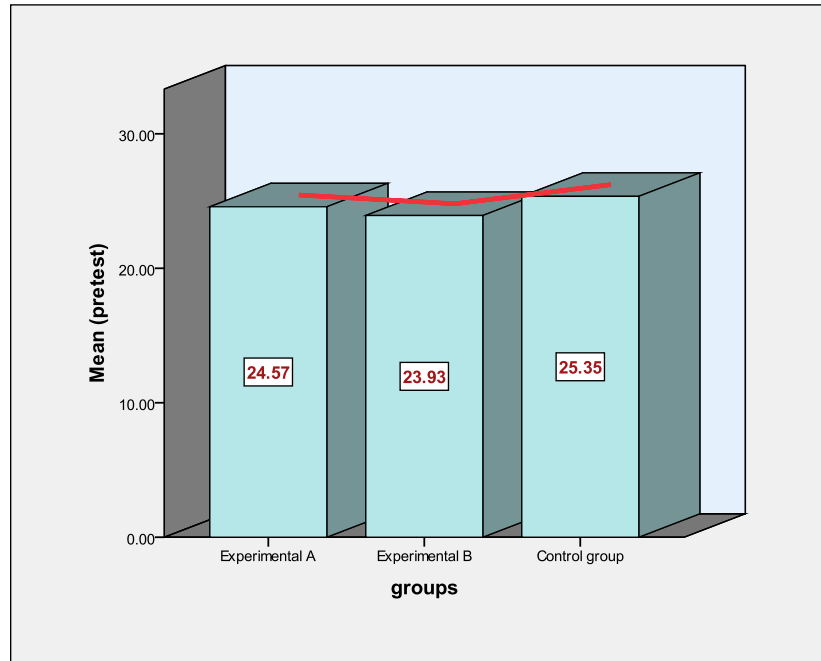


Figure 1: The Comparison of the Three Groups on Pre- Test

Table 6: Descriptive Statistics for the Results of the Post- Test.

post test	N	Mean	Std. De- viation	Std. Error	95% Confidence Interval for Mean Lower Bound	Upper Bound	Minimum	Maximum
Experimental A	40	36.32	3.682	.5822	35.147	37.502	30.00	43
Experimental B	40	36.90	2.808	.4440	36.001	37.798	31.00	42
Control group	40	32.15	3.042	.4811	31.176	33.123	26.00	38
Total	120	35.12	3.818	.3485	34.434	35.815	26.00	43

A comparison of the means across the three groups showed that the experimental group (B) (*Mean* = 36.90) performed generally better than the experimental group (A) (*Mean* = 36.32), as well as the control group (C) (*Mean* = 32.15).

The relatively high value of $F = 26.266$ showed that there is, indeed, a significant positive relationship between using Project-based tasks and improving reading comprehension.

Table 7: One-Way ANOVA for the Three Groups on Post-Test.

Post test	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	537.650	2	268.825	26.266	.000
Within Groups	1197.475	117	10.235		
Total	1735.125	119			

The First Research Question:

This study was aimed to investigate whether Project-based tasks affect the three groups' reading comprehension proficiency differently. To this end One- Way ANOVA was run to the results of the reading comprehension post- test to compare the two experimental groups' and the control group's performance . This time the results revealed that practicing Project-based tasks affected the reading comprehension of the three groups differently ($p(0.00 < 0.05)$). In fact, learners' performance in experimental groups far outweighed that of control group's in post- test.

In terms of the mean difference of the three groups on reading comprehension test, it can be seen that the positive influence of developing Project-based activities has made the largest difference between the mean scores of the experimental group (B) and the control group (C) (*mean difference* = 4.75000). Therefore, the hypothesis that Project- based tasks have no significant effect on intermediate EFL learners' reading comprehension is rejected, as there is considerable effect of developing Wall Newspapers and Magazines on EFL learners' reading comprehension scores.

To find out the location of the differences among the three groups, a Tukey test was run. The following table makes multiple comparisons among the three groups based on the results of Tukey test.

As it is shown in Table 8, the mean difference between the experimental group (B) and the control group is (*mean difference* = 4.75000) and $p(0.00) < 0.05$ resulting that there is a significant effect of developing Wall Newspaper on EFL learners' reading comprehension. Therefore, the first null hypothesis is rejected.

The Second Research Question

The results of One Way ANOVA showed that although there is a meaningful difference between the three groups in terms of their reading score ($p = 0.00$), the significant difference is only between the experimental group (A) and the control group ($p = 0.00$) and experimental group (B) and the control group (C) ($p = 0.00$). The findings indicated that the reading scores of the experimental (A) and the experimental (B) are nearly the same ($p = .701$). In other words there is not a significant difference between reading comprehension

Table 8: Multiple Comparisons for the Three Groups on Post-Test.

Multiple Comparisons									
Post test									
Tukey HSD									
(I) group	(J) group		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval			
						Lower Bound	Upper Bound		
Dimension 2	Experimental A	Dimension 3	Experimental B	-.57500	.71536	.701	-2.2732	1.1232	
			control group	4.17500*	.71536	.000	2.4768	5.8732	
	Experimental B	Dimension 3	Experimental A	.57500	.71536	.701	-1.1232	2.2732	
			control group	4.75000*	.71536	.000	3.0518	6.4482	
	control group	Dimension 3	Experimental A	-4.17500*	.71536	.000	-5.8732	-2.4768	
			Experimental B	-4.75000*	.71536	.000	-6.4482	-3.0518	

*. The mean difference is significant at the 0.05 level.

scores of the two experimental groups. Table 8 showed that the mean difference between the two experimental groups was .57500 and $p(.701) \geq (0.05)$.

Finally, there is no significant difference between the two experimental groups in terms of their reading comprehension scores, providing empirical support for the second null hypothesis predicting that there is no difference between the effects of two types of project-based tasks (developing Magazines and Wall Newspapers) on EFL learners' reading comprehension. So the second null hypothesis is supported.

Discussion

Project-based learning and reading comprehension.

The main purpose of this study was to investigate the possible link between intermediate students' application of Project-based activities and their improvement in reading comprehension. Administration of a standard reading comprehension test revealed the truth about the nature of these activities. Through data analysis, it was found that there is a significant positive relationship between using project-based activities and students' reading comprehension.

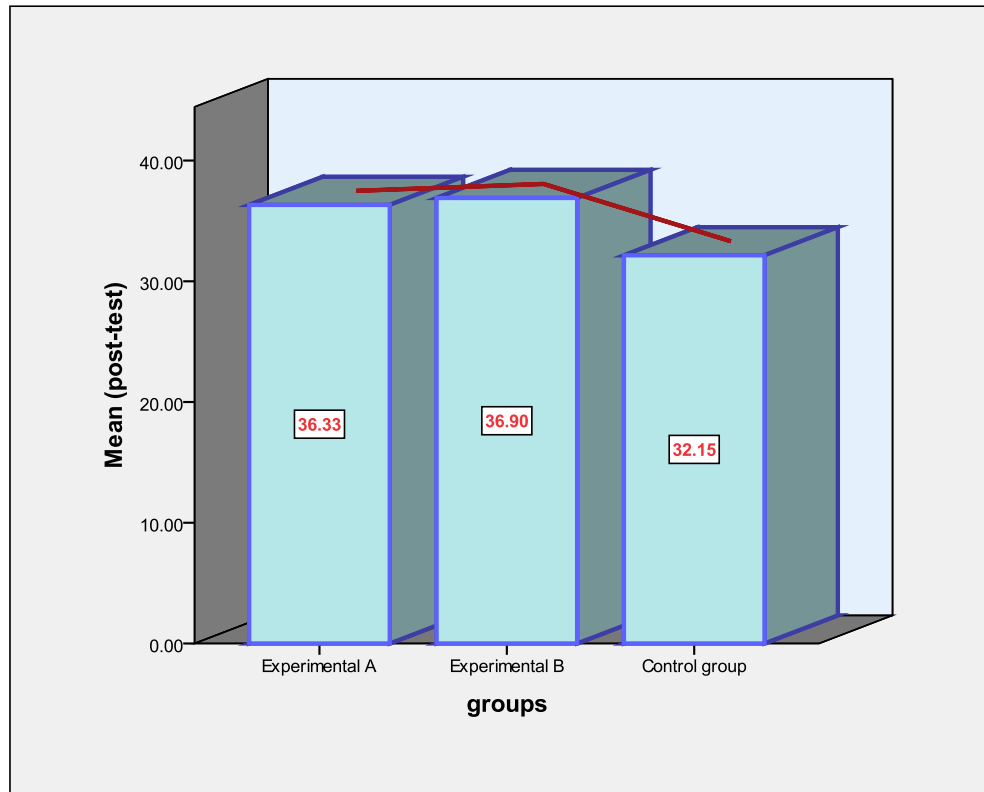


Figure 2: The Comparison of the Three Groups on Post- Test

These findings concur with those of other researchers, such as Grant & Branch (2005), Tuncay and Ekizglua (2010), and Chu et al. (2011), who attest to the fact that there is a significant positive relationship between implying Project-based activities and students learning improvement. It has also been suggested that focusing on Project-based activities increases students' motivation to read (Owens, Hester, & Teale, 2002). The findings of this study provide further evidence for this finding, as shown by the students' improvements on the test.

It must not be forgotten, however, that vocabulary also plays a crucial role in reading comprehension, and there is increasing evidence showing a positive relationship between vocabulary and reading achievement (Schoonen, Hulstijn, & Bossers, 1998). In this study, students reviewed their findings at least three times: once alone at home, once in class with their partners and finally they recited their findings to the whole class, and those who didn't have the chance of presenting their findings for a specific session were actively involved in listening to their peers; therefore, what cannot be ignored is the importance of this review and practice, which I feel indirectly made them review at least a certain number of new words.

Although the emphasis of the searches students did was not on memorizing the new words, but to transfer what they had understood from the new materials to the class, encountering new words and structures while reading a new text is an inevitable phenomenon. While this study did not examine vocabulary, it was acknowledged by students dur-

ing the sessions that this is an area that needs to be improved among them.

The PBL approach used in this study was based on the constructivist ideology, and it is suggested that such an approach offers greater possibilities for generalized learning. Surfing the net or going through different sources of information, I believe, could have contributed to the students' improvements in their vocabulary and reading abilities.

Nature of Project-based Activity and Reading Ability

Even though a lot of researchers have examined the effect of project-based methods of learning on improving different skills, no studies have studied the effectiveness of a specific type of project rather than another. Testing the second hypothesis, which focuses on the effect of different project-based activities on reading comprehension, as mentioned before, revealed no difference in subjects' performance. So once again it can be stated that the nature of project-based learning does not play a significant role in improving the reading comprehension ability.

Suggestions for Future Research

The study documented the relationship between using project-based activities and students' rate of reading comprehension among 80 intermediate female students in Rasht Kish English Institute. A replication of this study involving a larger number of students at various levels of proficiency in other institutes might give us better insight into the phenomenon. Second, a qualitative investigation, using students' opinions, class observations, and teacher interviews can be undertaken to gain an in-depth opinion of the existing relationship. Further, there are different kinds of learning projects. This study only made use of magazine and wall newspaper formats. Application of other learning projects might open a new horizon in research into this area.

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