



Exploring the Iranian EFL Learners' Reading Performance: The Effect of Teaching Method

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Abstract

The present study was an attempt to compare the reading achievement of learners who received the jigsaw method of instruction and that of those students who received the traditional teacher-fronted method of teaching. To achieve the purpose of the study, two intact classes were assigned randomly as the control and experimental groups. The experimental group consisted of 40 freshman and sophomore intermediate level male (N=18) and female (N=22) learners and the control group consisted of 38 freshman and sophomore intermediate level male (N=17) and female (N=21) students. The control participants received the traditional teacher-fronted method of teaching while the experimental group participants were exposed to the jigsaw method of teaching. After gathering the required data, the results of independent samples T-test indicated statistically significant differences ($P= 0.000$) between the experimental and control groups. These positive results attained were attributed to the major specificities of the cooperative teaching such as positive interdependence, group formation, individual accountability, social skills, and structuring and structures. Results are further discussed.

Key words: cooperative teaching, jigsaw, traditional teacher-fronted, reading comprehension.

1. Introduction

Throughout history, foreign language learning has always been an important practical concern (Richards & Rodgers, 2001). The importance placed on foreign language learning has led to the constant developmental changes in language teaching to better fit the needs of the learners for a better outcome in learning. One such development was the use of cooperative methods in language teaching. In other words, the cooperative methods are based on the constructivist models (Nunan, 2001). The recent constructivists and cooperative models see learning not as linear and sequential but as collaboratively constructed by the individuals in a dynamic pattern. Therefore, the constructivists' models of learning constitute the core of cooperative learning methods. Constructivism is essentially based on the mediation view of learning introduced by Widdowson (1990, p. 119). The mediation view in contrast to the medium view focuses on the "achievement of meaning by the pragmatic mediation of the language user" (p. 122). This is in line with the argument that in constructivist classrooms teachers should not be the agents from whom the knowledge is transmitted to the learners. In fact, a thinking curriculum type is advocated. This curriculum type contrasts with the transmission of knowledge and buttresses the development of thinking, reasoning, and learning how to learn (Gipps, 1994, p. 25).

Based on the model of constructivism, cooperative learning according to Jacobs and Hall (1994) is a group work activity which requires students to work in group of two to six. It reveals that cooperative learning helps students improve both social and academic skills. The cooperative language learning approach puts primary importance



on interaction and meaning negotiation. The main goal of this approach is to enable students to communicate using target language.

2. Literature Review

Cooperative learning techniques, as opposed to conventional strategies, provide learners with opportunities to take more active roles in their own learning. Cooperative learning activities lead to peer interaction which itself promotes the development of language and the learning of concepts and content. This strategy is preferred to more solitary-oriented reading techniques. Jigsaw as one of the main task types advocated by CL proponents is an effective means of reaching satisfying conclusions with reading. Abd El Sami Ali (2001) conducted a study to find out the effect of using the jigsaw reading technique on the EFL prospective teachers' reading anxiety and comprehension. The findings of the study showed that:

Students, through working together on reading texts, getting feedback from each other, exchanging experiences throughout the texts, as Epstein (1991) asserted, had a wide variety of learning opportunities in a relaxed atmosphere optimum for tension relieving. They also made use of other skills in addition to reading such as note-taking, note-making and sharing responsibilities with each other. (Abd El Sami Ali, 2001, p. 14)

Cooperative learning is based on the experiential model of learning as opposed to the traditional model. In the experiential model learners' experiences, beliefs, thoughts, and perceptions are taken as the point of departure. In other words, teachers move from what the students already know to the learning of new points and materials.

The success of cooperative teaching methods in contrast to the traditional teacher-fronted method lies in the employment of five key elements.

2.1. Elements of Cooperative Teaching Methods

2.1.1 Positive Interdependence

Positive interdependence takes place if the group members are of the idea that what helps one helps all the members and what hurts one hurts all the members. It is created when there is mutual warmth between the group members. Also, it supports the central assumption of cooperative language learning that learning is more effective if there is cooperating rather than competition between the individuals. Individual members should be instructed to help and respect the other members in the group and that the eventual goal is not possible unless all the members assume that they are part of a group. Positive Interdependence is the heart of cooperative learning. If there is no positive interdependence, there is no cooperation.

2.1.2 Group Formation

Another more important element of a successful cooperative learning group work is group formation. Group formation is seen to be a prerequisite for the development of positive interdependence. According to Olsen and Kagan (as cited in Richards & Rodgers, 2001), group formation involves the consideration of the following factors:

1. The size of the group
2. Assignment of students to the groups
3. Student roles in the groups

2.1.3 Individual Accountability

This is based on the assumption that although students work together, each student is individually accountable. Kagan (2005) includes three key components of individual accountability:

1. The performance is done without help
2. Someone witnesses the performance
3. The performance is required.

These three elements suggest that lessons, activities, and projects will be much more efficient if they involve individual accountability. Kagan supports the fact that "to release the full power of individual accountability, performance must be individual, public, and required" (p. 29).

2.1.4 Social Skills

Social skills concern the different ways in which the group members interact with each other. These are the skills to deal with problematic individuals, the student who refuses to work with others, the rejected student, the hostile student, the shy student, and so on. These skills are to socialize the students to act in appropriate ways so that the overall attempt of the individuals is not destroyed.



2.1.5 Structuring and Structures

Structuring and structures refer to the different ways in which the cooperative-based activities are to be dealt with. In other words, it refers to the activity types supported by the cooperative learning principles. Some examples provided by Olsen and Kagan (as cited in Richards & Rodgers, 2001) are:

1. Three-step interview
2. Roundtable
3. Think-pair-share
4. Solve-pair-share
5. Numbered heads

Therefore, the above-mentioned key elements underlie the effectiveness of cooperative methods in language teaching. In fact, these approaches attempt to focus on the learners' mental and cognitive processes during learning not the end product. In traditional teacher-fronted teaching, however, these elements are not utilized. In contrast, traditional approaches to language teaching focus entirely on the product of learning. Pica (2000) categorizes grammar exercises, dictation, and recitation under the heading of traditional activities which she believes rely on traditional methods of sequencing rule teaching and corrective feedback. In other words, traditional teacher-led approaches to language teaching focus mainly on the transmission of a fixed body of knowledge from the teacher to the students and does not take into account teacher creativity and learner activeness. The purpose is to make sure whether the body of knowledge has been completely received by the learners.

2.2 Methods of Cooperative Learning

Cooperative learning as means of promoting student interaction which itself leads to the development of social skills have many different methods. Shaaban & Ghaith (2005) introduce the work of several scholars done in this area:

These techniques and structures include Learning Together (LT) (Johnson & Johnson, 1975/1999), Teams-Games-Tournaments (TGT) (DeVries & Edwards, 1974), Group Investigation (GI) (Sharan & Sharan, 1976, 1992), Constructive Controversy (CC) (Johnson & Johnson, 1979), Jigsaw (Aronson, Blaney, Sikes, Stephan, & Snapp, 1978), Student Teams Achievement Divisions (STAD) (Slavin, 1978), Complex Instruction (CI) (Cohen, 1986), Team Accelerated Instruction (TAI) (Slavin, Leavey, & Madden, 1986), Cooperative Structures (CS) (Kagan, 1985), and Curriculum Packages: Cooperative Integrated Reading and Composition (CIRC) (Stevens, Madden, Slavin, & Farnish, 1987).

2.3 Jigsaw

This method is based on the development of interaction among students in both their home groups and expert groups to enable them to achieve the end product and outcome of the activity. This method is based on the following steps:

1. Reading the assigned material,
2. Expert group discussion,
3. Team reporting
4. Finally team recognition as in TGT.

According to Moskowitz, Malvin, Schaeffer, & Schaps (1985):

Jigsaw is a cooperative learning technique in which students teach part of the regular curriculum to a small group of their peers (Aronson et al., 1978). The classroom teacher divides a lesson into five or six parts and gives one part of the lesson to each student in a Jigsaw group of five or six students. Prior to teaching in Jigsaw groups, students meet in "expert" groups with their counterparts from other Jigsaw groups to help each other prepare to teach their part to their respective Jigsaw groups. In the Jigsaw group, each student teaches a necessary and unique piece of information to help the group master the assigned work. When the unit is completed, the students are tested and they each receive a grade based upon their own test performance. (p.104)

2.4 Cooperative learning and the Reading Skill

As with the other skills, the reading skill is assumed to be improved and enhanced by means of the application of the cooperative learning techniques. The following studies pinpoint these findings.

Chen (2005) reported the results of investigation into the effects of cooperative techniques and traditional lecture-based techniques in the development of students' reading comprehension and their attitudes toward the learning of language. The findings of the study showed no significant differences between the experimental and control group but the experimental group participants had slightly higher positive attitudes toward the learning of language.

Durukan (2011) investigated effects of cooperative integrated reading and composition (CIRC) technique and the traditional reading and writing teaching methods on reading-writing skills of students. The CIRC method was based on the principles of cooperative teaching and used small groups to integrate the reading and writing skills. However, the traditional approach was based on the conventional techniques which focused on the individualistic ways of teaching reading and writing skills. Having compared these two techniques with each other, Durukan concluded that the students' reading and writing skills were enhanced by means of the CIRC technique.

2.5 Cooperative Learning and the Reading Skill in Iran

Khorshidi (1999) examined the possible relationship between the cooperative method or the teacher-fronted method and the reading comprehension achievement of students. The study was also an attempt to compare the effectiveness of homogeneous and heterogeneous groups with regard to their reading comprehension performance. Heterogeneity and homogeneity were considered according the criteria of field of study. Four different fields of study were included in the study as heterogeneous students. Results signified a statistically significant difference among the experimental groups and the control group. Specifically, the heterogeneous group outperformed the homogeneous group and both performed better than the control group.

Jalilifar (2009) investigated the effectiveness of two methods of cooperative teaching, namely the student team achievement divisions (STAD) and group investigation (GI) with regard to the reading achievement of students. The experimental groups received each method of cooperative teaching and the control group received the conventional teacher-fronted method. Results of quantitative data analyses showed significant differences among the groups, with the STAD group having a higher performance than the other groups.

Rahvard (2010) evaluated the effects of cooperative techniques on the reading comprehension of intermediate level Iranian EFL students. The experimental group read the stories in groups of four whereas the control group received no treatment of cooperative type. Results showed that there were statistically significant differences between the experimental and control groups in favor of the experimental group. She attributed the conclusion to the fact that to be cooperative, a group must have clear positive interdependence; use their skills as a group to work together and each member must hold each other personally and individually accountable to do his or her fair share of the work.

2.6 Jigsaw and the Reading Skill

Abd El Sami Ali (2001) looked at the effect of using the jigsaw reading technique on the EFL pre-service teachers' reading anxiety and comprehension. The experimental group was instructed to read reading passages using the Jigsaw Reading technique while the control group read the same passages individually. Participants' comprehension was checked via a TOEFL test and their anxiety was evaluated using a questionnaire designed by the author. Results showed that the lower anxiety among the experimental group participants led to their better performance in the comprehension of the reading passages.

Badawi (2008) attempted to investigate the improvements in learners' reading achievement and motivation as a result of the employment of jigsaw technique in contrast to the holistic approach. To this end, 44 participants took part in the study and the treatment lasted for 8 weeks. The results of treatment showed that although there were no differences between the experimental and control groups with regard to the vocabulary acquisition and reading achievement, there were significant effects for the students' affective aspects such as self-concept, their value, and motivation.

This research was an attempt to investigate the differences between the traditional teacher-fronted method and the cooperative jigsaw method of instruction.

3. Research Question

In line with different research studies done in this area and in order to understand the effect of jigsaw technique on Iranian EFL learners' reading achievement, the following research question was proposed:

1. Is there any significant difference between the ability of the students who receive Jigsaw technique and that of those who do not?



4. Method

4.1 Participants

Two intact classes which assigned randomly as experimental and control groups and consisted of 91 Guilan university students totally, participated in this study. However, because of the lower level of proficiency of some test takers and the elimination of misfitting test takers based on test analysis, the number of the participants dropped to 78. The experimental group participants consisted of 40 freshman and sophomore intermediate level male (N=18) and female (N=22) learners. The mean age of these students was 18.5 and their majors in the university were engineering, chemistry and biology. The control group participants included 38 freshman and sophomore intermediate level male (N=17) and female students (N=21). The mean age of these students, too, was 18.5 and their majors in the university were engineering, management and biology. All the students were at the intermediate level of proficiency according to the results of the TOEFL test administered prior to the study. All participants were native Persian-speaking learners of English as a foreign language who have never lived or travelled to an English-speaking country. However, almost all of the students took English classes in language centers before the study. Both groups received pre-test and post-test; however, they were taught through different instructions. Jigsaw technique was employed with the experimental group participants while conventional teacher-fronted instruction was utilized in the control group.

4.2 Instrumentations

For both the proficiency and reading achievement purposes the TOEFL test was administered to the participants. This test was taken from the TOEFL Preparation Kit (2003). The reading comprehension questions required the learners to provide answers to the questions related to the text. There were a variety of questions including main idea questions, directly answered detailed questions, and implied detailed questions. It should be mentioned that only the reading section of the TOEFL test was used and the listening and grammar sections were excluded. Also, the textbook that was used in the classroom was the "Reading through Interaction" book (Mirhassani & Farhady, 1941). This book was considered to be an appropriate book for learners of intermediate level of proficiency. It consists of general-content reading passages that are of high interest for students of different majors and includes useful reading strategies and techniques, vocabularies, grammar, and writing exercises. In sum, the book encompasses all the four language skill which is quite in line with the assumption of the cooperative language learning, specially the jigsaw method used in the study.

4.3 Procedure

Both the control group and the experimental group participants attended the general English classes 2 days a week each session lasting about one hour and thirty minutes. Both the experimental and the control group participants were pre-tested (TOEFL test) prior to the treatment to ascertain that the groups were homogeneous. After the homogenization process, cooperative learning activities were practiced with the experimental group participants during 10 sessions of the semester. Each class time was organized in the following way. First ten minutes were spent on greeting and checking the presence of students in the class. Later, the teacher introduced the students to the topic of the reading passage and asked some pre-reading questions as a way of activating their background knowledge or providing them with the sufficient knowledge. The implementation of the jigsaw technique to the experimental group went through the following steps based on the guidelines identified by Coelho (as cited in Richards & Rodgers, 2001):

1. Each unit was divided into four independent subunits and each group member received a different subunit. It is necessary to mention that in the present study the number of subunits was varied depending on the length of the reading texts. Each member of the home group read the title of the subunit assigned to her to other members so that all the group members became familiar with the sequence of the material.
2. Students regrouped in topic groups (expert groups) composed of people with the same piece to master the material and prepare to teach it. In the present study
3. Students returned to home groups (jigsaw groups) to share their information with each other.
4. Students synthesized the information through discussion.
5. Each student produced an assignment of part of a group project, or took a test, to demonstrate synthesis of all the information presented by all group members. Thus, the instructor could evaluate the understanding of the entire unit through the students' presentation.

The above steps were carefully followed in the experimental group which took 40 minutes of class time.

In contrast to the experimental group participants, the control group students received traditional teacher-fronted instruction throughout the classroom time. In this class the teacher began each new reading passage by reading it aloud and then translating each sentence into the students' native language, i.e., Persian. After transmitting the required knowledge, the teacher asked some of the students to answer the exercises individually. She taught the new vocabulary items via using native language translations and also taught the grammar points of each chapter deductively in the native language. Students could ask question about the unclear points. Classroom interaction was largely teacher-initiated, with the teacher starting the conversion and the learner-learner interaction was limited. It should be mentioned that the same teacher instructed the experimental and control groups. After the 10 sessions of the above practices a post-test (TOEFL reading passages) was administered to the participants to evaluate their possible improvement. The post-test like the pre-test consisted of 50 multiple choice questions assessing learners' understanding and comprehension of the passages.

5. Results

In order to investigate the research question dealing with the effectiveness of each of the methods, an independent sample T-test was run. Firstly, the results of descriptive statistics are reported in table 1.

Table 1. Descriptive statistics for the experimental and control groups

	Groups	N	Mean	Std. Deviation	Std. Error Mean
Posttest	Control	38	23.8684	3.49649	.56721
	experimental	40	28.6500	4.27005	.67515

As the above table shows, the experimental group that received the jigsaw cooperative instruction outperformed the control group in terms of the mean scores. Below the results of independent samples T-test are shown.

Table 2. Independent samples t-test results for the experimental and control groups

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Posttest	Equal variances assumed	.429	.515	-5.395	76	.000	-4.78158	.88632	-6.54684	-3.01632
	Equal variances not assumed			-5.423	74.409	.000	-4.78158	.88179	-6.53843	-3.02473

The results showed that the significance level of Levene's test was $p=.515$, which means that the variances for the two groups (experimental and control) were the same. The results of t-test showed that there was a significant difference in the reading comprehension performance of experimental group and control group participants ($t(76) = -5.395, p = 0.000$). This finding is supported by the results obtained from descriptive analysis. The descriptive means showed that there was a significant difference between experimental and control group participants regarding the mean scores, with the experimental group participants outperforming the control group peers.

Figure 1 below shows the differences schematically

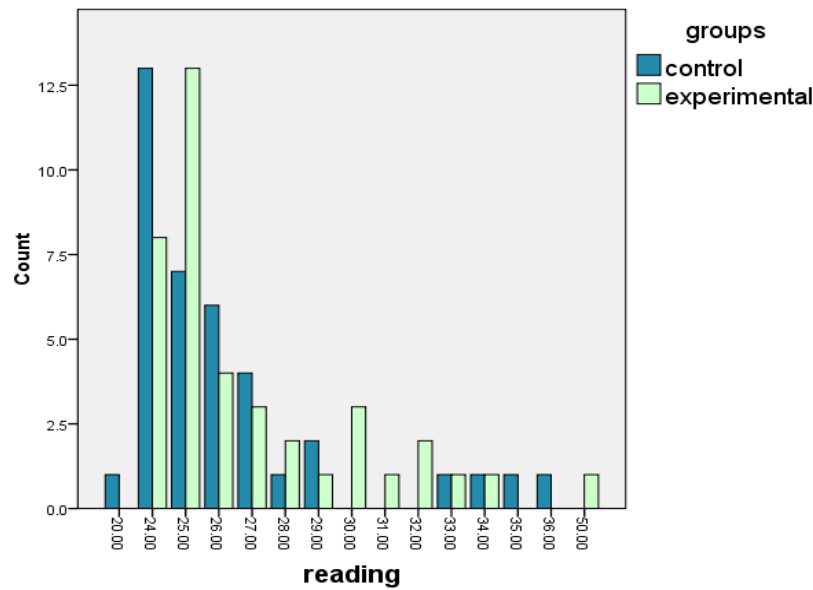


Figure1. The difference between the experimental and control group participants

The results of the quantitative analyses indicated the positive influence of the jigsaw technique as one form of cooperative learning methods as opposed to the traditional grammar-based teaching method on the improvement of the students reading skill. This finding supports the findings of other scholars in the area (e.g., Khorshidi, 1999; Abd El Sami Ali, 2001; Badawi, 2008; Jalilifar, 2010; Rahvard, 2010; Durukan, 2011). All of the above scholars have pointed out that the cooperative learning techniques in relation to the reading achievement ability of the learners resulted in significantly better performance after the treatment.

6. Discussion

The study aimed to investigate the possible effectiveness of the jigsaw method as opposed to the traditional teacher-fronted method. As it was previously discussed the jigsaw technique attempts to use the principles of the cooperative teaching to create the conditions such as positive interdependence, sociability, interactiveness and so many others to enhance the efficient learning of students. The assumption is that having learners interacting in the process of learning leads to success in learning. The belief is consistent with the tenets of Vygotskian theories where interaction can provide a basis for the scaffolding of the learners and children with low proficiency. Here, the expert provides a context where the learners can act in their learning with the help of the expert in areas where they cannot perform independently. This is important since it causes movement from object-regulation to other-regulation and finally to self-regulation where the individual can function independently. In the traditional teacher-fronted method, however, the instruction is totally teacher-oriented in which the learners are not encouraged to cooperate with each other to achieve the goals of the task. In other words, in the traditional classroom, the teacher is the sole source of all knowledge. The teacher stands in the front of the classroom and imparts her knowledge, mostly a steady stream of facts. Therefore, the cooperative and traditional teaching methods assume very different perspectives of the effective language learning.

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