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Competitive Team-Based Learning Vs. Student Teams-Achievement Divisions in a Reading Class

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Abstract

This study, which was conducted as part of the final thesis in the master's degree program in English didactics, attempted to measure the effects of Competitive Team-Based Learning (CTBL), developed by Hosseini (2000, 2020 & 2021) at Mashhad Education Office in Iran, vis-à-vis Student Teams-Achievement Divisions (STAD), developed by Slavin and associates (1977) at Johns Hopkins University in the U.S., on the reading comprehension of Iranian EFL intermediate students. As an emerging innovative Cooperative Learning (CL) oriented approach, CTBL accentuates systematic implementation of teamwork in competitive environments with democratic ambience. The findings of some researchers on the effectiveness of this revolutionary approach to language teaching/Education have been brought to the fore for the benefit of those interested. Sixty students were selected out of 75 based on their scores in a PET reading test. Then they were randomly assigned to two groups: control and experimental. Each group consisted thirty participants, which were divided into seven teams of four – the two remained students in each class worked in pairs. While the control group was instructed via STAD method of CL, the experimental group was instructed via Hosseini's approach to (language) teaching (i.e., CTBL). The reading comprehension test (posttest) was used at the end of the study to assess the probable progress in the reading comprehension ability of the students. The results on an independent T-test showed statistical significance at $P \leq 0.05$ level that can be attributed to the effect of CTBL on the participants' reading comprehension achievement. Probable reasons for the success of CTBL have been elaborated at length. Implications of the study as well as some suggestions to language teachers, syllabus designers, methodologists and researchers have also found a place at the end of this paper.

Keywords: competitive team-based learning, student teams-achievement divisions, reading comprehension, cooperative learning methods, team learning, competitive world

1. INTRODUCTION

No one could deny the significant contribution of reading comprehension to knowledge as well as nation building in today complicated world context of globalization. Perhaps this is the reason as to why improving reading comprehension abilities of students is the main goal of English Language Teaching (ELT) in some parts of the world like Iran. But ELT has not been a success particularly here in Iran until now. It is the antediluvian dictatorial didactic methods and approaches the Iranian teachers avail themselves of that has contributed to the failure of ELT. However, it is just recently that concurrent with the shift from teacher-centered teaching models to learner-centered teaching models, at international level, as one of the greatest changes in foreign language education, Iranian researchers are recalibrating their foci on the effectiveness of CL techniques/models. But the problem with Iranian educators, as it is with educators in some other parts of the world, is that they cannot apprehend cooperative learning group is totally different from group learning. It is a common belief that when students are working in small groups, the teacher is using cooperative learning group. But the fact is that merely putting students in a small group is not cooperative learning group. CL refers to a set of highly structured, psychologically and sociologically based techniques that lead to learning and obtaining a learning goal (Oxford, 1997). CL developed on the basis of learner-centered methodology, gives learners chances to participate in their own learning more actively. In this learning model, small groups of students work together to achieve a common goal. In fact, CL is a successful teaching model in which small groups, encompassing students with different levels of ability, use a variety of learning activities to jointly improve their understanding of a subject.

There are, however, different ways of group work or cooperative learning that can be applied by classroom teachers. This means that, CL learning is a general term that refers to a number of instructional methods that focus on group work to promote students' interaction which are favorable to the acquisition of language. Chief amongst the most popular methods of CL are mentioned below:

1. Student Teams Achievement Divisions (STAD) (Developed by Slavin, 1978),
2. Learning Together (LT) (Developed by Johnson & Johnson, 1975, 1999),
3. Teams-Games-Tournaments (TGT) (Developed by Edwards & DeVries, 1972),
4. Group Investigation (GI) (Developed by Sharan & Sharan, 1976, 1990),
5. Constructive Controversy (CC) (Developed by Johnson & Johnson, 1979),
6. Jigsaw (Developed by Aronson, et al., 1997),
7. Complex Instruction (CI) (Developed by Cohen, 1994),
8. Team Accelerated Instruction (TAI) (Developed by Slavin, Leavey & Madden, 1986),
9. Cooperative Structures (CS) (Developed by Kagan, 1989),
10. Cooperative Integrated Reading and Composition (CIRC) (Developed by Stevens, et al., 1989).

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Constructivists, whose ideas contributed to the emergence of CL methods, emphasize the significant role of social interaction in learning. From their vantage point, language learning is a kind of problem solving activity which occurs more effectively in situations where learners have the opportunities for mutual interaction and negotiation. The belief is that such learning together contexts bring with them rich and necessary opportunities for language learning. Advocates of CL believe that when students are motivated to learn and to encourage and help one another, a stage is created for cognitive development. Vygotsky (1978) argues that cooperation promotes learning because the process enables learners to operate within one another's zone of proximal development. Working with peers is academically beneficial because, when learners are closer to one another in their levels of development, they are able to explain things to each other in a simpler way that is easier to be comprehended than being explained by a person with a very different mental stage. In view of the fact that students, in CL settings, need to exchange information and advice in order to succeed in achieving their shared learning goals, CL has some benefits particularly for reading classes resulting from social interaction between students. Also, Mackey (2007) confirms the idea that classroom social interaction is beneficial to overall language development of students. It has been observed that students in CL settings interact and speak further and so achieve better in most cases than those who always keep silent (Khadidja, 2010). McCafferty (2006) has also commented that the significance of CL for language classes is that it focuses on *boosting the effectiveness of group work*, which has paramount effect on language learning. Consequently, CL has received an extensive attention of ELT experts in recent years.

It should be reminded that it was not until the mid-1960s that modern CL methods were introduced. The application of CL to classroom teaching finds its root in the 1970s when the United States began to design and study CL models for classroom context (Liang, 2002). Today, due to its rich history of theory, research and actual use in the classroom, CL is applied in almost all school content areas and, increasingly, in college and university contexts all over the world, and is claimed to be an effective teaching method in foreign/second language education by scholars (e.g., Long & Porter, 1985 & Hosseini, 2012, 2015).

The truth, however, is that in spite of their significant contribution to more comprehensive and real learning, CL methods have their own deficiencies. Hosseini (2012) believes that neglecting and even belittling the crucial importance of 'competition' in learning environments is one of the main problems of the present methods of CL. Another major drawback of such methods, as in the words of Hosseini, refers to their inability for bringing individual accountability of all team members. Unsystematic implementation of group work is also among the main problems with such methods that he mentions. It is in such a background that Hosseini (2000, 2019, 2020) formulated Competitive Team-Based Learning (CTBL) based on his edu-political theories in order to compensate the deficiencies of the particularly present CL methods and

approaches.

1.1 Statement of the Problem

Iranian English teachers have to encounter the problem of how to organize the various needs of the mixed-level students in their classes. Most teachers are facing large heterogeneous classes, making it difficult to serve the needs of all the students in the class. CL methods like STAD and particularly CTBL take advantage of this heterogeneity, by encouraging students to learn from one another and from more and less knowledgeable peers. Many studies (Hatch, 1978; Hosseini, 2012, 2015 & Long & Porter, 1985) have demonstrated the significant contribution of CL to the academic success of students when it is compared to more traditional methods of teaching.

In fact, the research results have shown that CL methods enhance learning more than the individualized or competitive methods. But in Iran no attention, to the best of the researchers' knowledge, has been given to the investigation of the effects of CTBL and STAD on the intermediate EFL learners' reading comprehension. The researchers considered comparing the effectiveness of CTBL vis-a-vis STAD as the former has been developed by one of them (Hosseini, 2000, 2010) and the latter by a western scholar, who is very popular for his contributions to CL methods the world over. But the main reason refers to the fact that CTBL and STAD have major considerable distinguishing factors in conducting teamwork for the benefit of particularly language classes (see Table 1). Hosseini, this researcher, is of the opinion that it is the implementation of team-based learning methods that has contributed to democracy and more civilized societies in the West. He believes the mechanisms underlying his innovative seminal approach to the education of the Oppressed could serve democracy as major building blocks as the theoretical foundations he (Hosseini, 2019, 2020) has provided for his approach consider all the essential requirements for establishing democratic societies in countries like Iran. It is in such a backdrop that these researchers think it is worth investigating whether the implementation of such methods and approaches would be pragmatic in countries like Iran, in the Middle East.

1.2 Purpose of the Study

Considering the positive outcomes of the implementation of CL methods in heterogeneous classes in the West and also considering the fact that such methods are not vastly implemented in Iranian classes, the purpose of the present study was to investigate the effects of two well-known CL methods namely CTBL and STAD on the reading performance of intermediate EFL students in Iran.

1.3 Question of the Study

The research question was formulated as under to be answered in the present study:

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RQ: Is there any significant difference between the effects of CTBL and STAD on the intermediate EFL students' reading performance?

1.4 The Significance of the Study

The researcher focused on CL methods because, today, in academic situations, there seems to be a move towards allowing students to be more directly involved in the teaching/learning process. While CL as an effective instructional method could be the best option for Iranian teachers as they could reap the best results out of its implementation, it is not frequently and widely used in Iran. So it is worth introducing this instructional method to Iranian educators. Therefore, the significance of this study refers to the fact that it focuses on an area in the field of educational research which has been overlooked by researchers particularly in Iran. The results of this study would contribute to (Iranian) language educators. The value of both the considered methods for language classes refers to their focus upon group work and discussion which are most important for language learning. Importantly, the study explores the effectiveness of two Western oriented instructional methods in an Asian context, in language classes in Iran. As researchers like Hosseini (2000, 2010) confirm, in spite of the widespread research on the effectiveness of CL methods in the West, there has been little research on their effectiveness in non-Western educational environments, particularly in relation to EFL settings. Another significant feature of this study is that it attempts to investigate the effectiveness of CL methods on the reading performance of intermediate students. This is important because this area has also been neglected by Iranian researchers. This researcher hopes that all involved stakeholders such as language teachers, material developers and researchers could take useful notes out of the results of the present study.

2. REVIEW OF THE LITERATURE

Many researchers have conducted studies to find out how better to use CL in developing students' reading skills. Many researchers have conducted studies to find out how better to use CL in developing students' reading skills. In a study, RimaniNikou, Bonyadi and Ebrahimi (2014) investigated the effect of STAD on language achievement of Iranian EFL students across gender. The study was a quasi-experimental research which used the two group pre-test post-test design. A total of 80 females and male (48 females and 32 males) EFL students at the intermediate level of English proficiency studying in Jahad Daneshgahi Language Institute in Urmia, Iran, were chosen and assigned to two groups based on the placement test results. The sample was divided into two groups of experimental group (n=40) and control group (n=40). The results of the study showed that there was a statistical significant difference at the level of 0.05 between the means of the performance of the experimental and control groups on the achievement test for the benefit of the experimental group. Therefore, the researchers concluded that STAD could effectively be implemented to improve the

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learners' language proficiency. The results indicated that there were no gender differences in students' language achievement after their being taught through STAD. Hence, ultimate result of the study indicated that STAD was more effective instructional paradigm for English as compared to the traditional method of teaching. Due to its provision for higher learning engagement, it proved to be an active learning strategy.

Mohseny and Jamour's (2012) study aimed at exploring the effect of applying STAD method on the vocabulary learning of Iranian pre-intermediate EFL learners. To this end, the researcher invited 50 students to participate in this experiment from Aryanpour Language Center in Tehran, in which the researcher had been teaching for two years. They were assigned to two groups. Each group consisted of 25 participants, one experimental and one control. The STAD method for learning vocabulary was applied to the experimental group while the control group received no special instruction and was taught using conventional ways. The results through an independent t-test showed that at the end of the period the experimental group scored higher than the control group.

In their study, Keshavarz, Shahrokhi and TalebiNejad (2014) investigated the effect of CL methods on promoting writing skill of Iranian EFL Learners. One hundred Iranian English Foreign Language learners participated as initial population of the study and 60 learners were selected after conducting a proficiency Test. The participants were at the intermediate level in compliance with Nelson English Language Proficiency Test. The selected participants were randomly divided into two experimental groups: STAD, Group Investigation (GI), and one control group Conventional Instruction (CI). The procedure lasted for 16 weeks. The statistical analysis of the results by one-way ANOVA showed that the experimental groups (STAD and GI) performed better on writing skills than the control group (CI).

In another study, Saniei and Najafi Ghadikolaei's (2015) tried to investigate the effectiveness of STAD in enhancing Iranian EFL (English as a foreign language) learners' knowledge of collocations. Sixty-four intermediate learners in two intact groups were selected as the participants of this study. They were proved homogeneous after administering the Preliminary English Test (PET) and then were assigned as an experimental and a control group. Each group took a researcher-made, validated pretest of collocations at the outset of the study whose reliability was estimated as 0.83 through Cronbach alpha. The experimental group received collocation instruction according to STAD procedures while the control group was exposed to an individualistic instruction. The content of the instruction was in accordance with the content of learners' course book, followed by a set of researcher-made collocation tasks performed by both study groups after receiving the instruction. At the end of the eight-session treatment, the same researcher-made pretest was administered as the post-test and the students' performance was analyzed through an independent samples t-test. The results of data analysis showed that STAD was a significantly effective cooperative method in bringing about improved collocation performance.

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Zarei and Keshavarz (2012) investigated the effects of the STAD and 'Cooperative Integrated Reading and Composition' (CIRC) on reading achievement and vocabulary learning of Iranian learners of English. 132 female Language learners of EFL participated in the study at National Iran English Language (NIEL) institute in Takestan. The four experimental groups were taught in cooperative learning for one semester with methods of the STAD and CIRC, the control groups were taught in a non-cooperative method. Data collected through reading comprehension and vocabulary post-tests were analyzed using four one-way ANOVA procedures. The results indicated that the cooperative learning model CIRC had statistically significant effects on reading comprehension and vocabulary learning, particularly for elementary EFL learners.

Khansir and Alipour (2015), in their study, determined the impact of STAD on Iranian EFL Learners Listening Comprehension. The total numbers of sixty Iranian students would be select base on their performance on Oxford Placement Test (OPT). For homogeneity of the learners, a proficiency test (Edwards, 2007) was administered to select the participants of this project. The Iranian students were in the age range of 18 to 25 studying English as their foreign language in a language institute in Bushehr city, Iran. Outcome of this research paper showed that there was a statistically significant difference between the participants of control and experimental groups' scores ($t = 6.50$, $p < 0.05$) on post-test.

A number of researchers have illustrated the significance and effectiveness of this researcher's instructional approach, CTBL, which have been elaborated by him (Hosseini, 2019 & Hosseini, 2020). However, despite the abundance of research findings that verify the advantage of CL over traditional methods of teaching, no research, to date, have essayed to directly compare the effectiveness of CTBL and STAD. And this researcher has addressed this lacuna in the related literature in the present study.

3. METHODS

3.1. Design

The study was a quasi-experimental research which used the two group pre-test treatment post-test design. While CTBL and STAD were the two independent variables of the study, the participants' reading performance was the dependent variable. With regard to the reading test, this researcher wanted students, in both the groups, to take a pre reading test at the initial stages of the study. At the end of the treatment, he required them to take the post test. Regarding randomized selection of the two groups, randomization process practically assured equivalency in many ways. For example, some internal variables like maturation, contemporary historical events, and pre-testing effects were controlled as both the groups experienced an equal effect of these variables. The effects of these variables, thereby, were equalized and cannot be mistaken in the effect of the treatment. Intersession developments, extraneous variables

that arise between pre-test and post-test, were also balanced out due to the presence of randomized selected groups.

3.2. Participants

Sixty Iranian intermediate EFL learners, who have studied English for six years hitherto, were the participants of this study. They were in two separate classes in Hosseini's institute, encompassing both male and female learners. They were homogeneous with regard to age, ethnicity, exposure to English, and educational and cultural background. All of the participants, ranging in age from sixteen to twenty-one, were native speakers of Persian, and they used English as a foreign language for general purposes.

One of the classes served our study as control group (STAD), and the other one as experimental group (CTBL), each including 30 subjects. While the students in the control group were allowed to build their teams of three or four members based on their interests, the students in the experimental group were divided into seven heterogeneous teams based on their performance on the PET Reading Test. To put it another way, each team, in the experimental group, consisted of four members: (a) one learner with a high PET score, (b) the two others with average PET scores, and (c) another with a low PET score. The PET was also used to confirm the homogeneity of experimental and control groups.

3.3. Instruments

The 3rd edition of *Interchange 3*, by Jack C. Richards with Jonathan Hall and Susan Proctor (2005), was the main text book which was used in this research. Shokouh language institute in Amol, Iran, uses this textbook for intermediate learners. The textbook consists of 16 units. The main purpose of this book is to integrate reading, grammar, pronunciation, vocabulary, listening, speaking, and writing. We focused upon the reading comprehension texts of this textbook, in the control and experimental groups in the present study.

The PET Reading Comprehension Test was also applied. This test was applied to demonstrate the level of the participants and homogenization, and also to check the reading comprehension of the participants of this study before and after the experiment. As noted 60 students were assessed through a PET reading comprehension test before the study. They were tested in order to have 2 homogenized groups of 30 participants each, based on their scores in the pretest. The same PET test was given after the study, after a-16-session practice, to see the effects of CTBL versus STAD on the control and the experimental groups. The test was similar both in format of the questions and their level for the two groups. The test consisted of 5 parts with a total of 13 questions:

Part 1: Three Option Multiple Choice

Part 2: Matching

Part 3: True False

Part 4: Four Option Multiple Choice

Part 5: Multiple Choice Cloze

Learners had 30 minutes to answer the questions. It should be mentioned that this test was used for two reasons: First, because there were raters who could reliably and validly score students' reading skill. The researcher knew that experienced teachers who specifically teach PET perpetration courses develop an ability to "guess" students mark with an acceptable degree of precision. The second reason for using PET test in the present study is the fact that it is internationally valid, reliable and easy to administer.

It should, however, be reminded that item facility and item discrimination were calculated for PET. The reliability of the test was found as high as 0.92. As a result of item analyses, no item was discarded. The researcher used the General Mark Schemes for writing by Cambridge in order to rate all the writings in this study. Content, organization, vocabulary, and language use were four aspects of writing which were rated. The rating was done on the basis of criteria stated in the rating scale, and possible range of score was 0-5. Later inter-rater reliability of the two raters' scores was calculated. 60 learners, from among 75 learners, who scored within one standard deviation above and below the mean were selected. They were then divided into 2 groups.

3.4. Procedure

A week prior to the treatment, the PET Reading Test was administered as a measure of homogeneity. After scoring the pre-test, students were ranked based on their performance and then cooperative groups were formed. In each class at intermediate level, the five students who scored highest on the pre-test were identified as high achievers and the five students who scored lowest were considered as low-achievers. The remained 20 students were identified as average-achievers. While in the control group, the students were permitted to shape their own teams of three to four members based on their interests, in the experimental group (CTBL), the students were assigned to seven teams of one high-achiever, one low-achiever and two average-achievers each. The reason for this type of team building in the experimental group was that it would provide opportunities for learners to peer-tutor and help each other to complete the shared learning goals. After grouping the students, in STAD and CTBL groups, the goals of the experiment and the class management techniques were explicated to the both classes.

3.4.1. Student Teams-Achievement Divisions

In STAD class, we followed Robert Slavin and his colleagues' below instructions. Slavin (1986) defines these five major components for STAD, which as the most important and direct model of CL, is favorably applied by math, language arts, social studies, and science teachers:

1. class presentations
2. teams study

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3. quizzes
4. individual improvement scores
5. Team recognition

We presented a lesson, and then students worked within their 4-member learning teams that were mixed in performance level, gender, and ethnicity to make sure that all team members had mastered the lesson. Despite the emphasis on intra-group cooperation, there were no inter-group relationships among groups in this class. At the end of each class, students took individual quizzes on the material in which they could not help one another. Students' quiz scores were compared to their own past averages, and points were granted based on the degree to which students met or exceeded their own earlier performance. These points were then summed to form team scores, and teams that met the assigned criteria were rewarded.

It is worth mentioning that as Hosseini (2012) puts it, in contrast to some methods of CL like GI which are purely student-centered, STAD pays more attention to the presence and the role of the teacher. Therefore, it is likely to attract those teachers who do not like to consider their students' contributions to making important decisions such as goal setting, group formation, and role assignment.

3.4.2. Competitive Team-Based Learning (CTBL)

This researcher (Hosseini, 2000, 2020) developed CTBL to compensate the deficiencies of current methods and approaches. See the introductory video to his initial thoughts, which contributed to CTBL at <https://www.aparat.com/v/mfx1q>, the video of the implementation of his approach in a real classroom situation at <https://youtu.be/cPtOUaIkJlk> and the video on Howabouts of the Transforming Power of his liberating approach at <https://www.aparat.com/v/fAerU>.

As shown in the videos also the procedure for introducing a text, in CTBL settings, has been designed in the way as it is illustrated in the below figure.

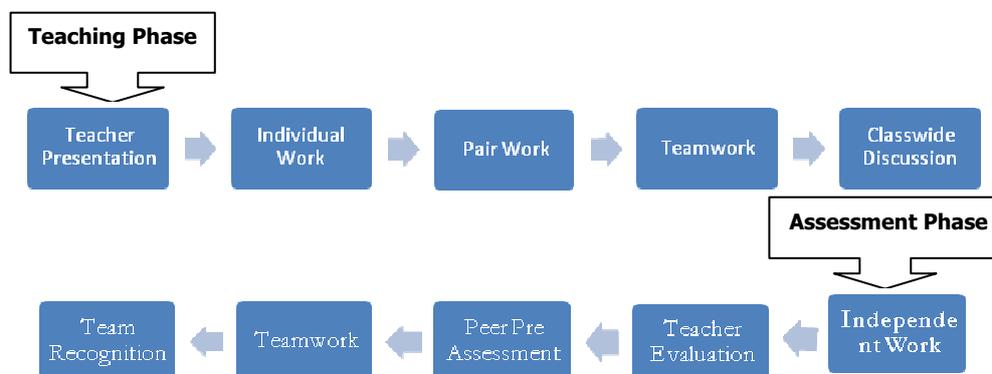


Figure 1.
Teaching and assessment process in CTBL class
Source: Hosseini, 2012, p. 96

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In the class conducted through CTBL, the teacher presented the lesson and heterogeneous teams of four put their efforts together and worked on the introduced tasks with the final goal of proving their superiority over other teams. In class activities team members had no option but to try to be sure that each member had mastered the assigned material because the teacher randomly called upon a student to answer for the team. Although in this method team members took the finals individually as in CIRC, TGT and STAD, they took quizzes cooperatively. Hosseini states that the philosophy beyond allowing students to take quizzes cooperatively is to subject them to more opportunities for transference of skills and strategies in a metacognitive way through listening to their teammates who are in actual fact thinking aloud. In CTBL, teams are evaluated not only on their members' improvements over their own past performances (as it is in CIRC & STAD) and over their same-level opponents in other teams (as in TGT), they were also recognized based on the extent to which they outgain other teams. Special rewards were also awarded both to best teams with the highest averages and to the most challenging individuals. This kind of grading system is used as an incentive to utilize competition for further cooperation amongst teams' members. To lower affective filter of participants, teams that achieved above a designated standard passed the course. (See Hosseini, 2012, or see the 17-minute VIDEO of the Hosseini's Approach to teaching at the end of the References.

In both STAD and CTBL groups, the participants were supposed to interact with group mates, share their own ideas with each other, and help each other to accomplish the common goal. During the treatment sessions, while students were working in their groups, the teacher was walking around to ensure that everyone did well. He gave them assistance when it was needed. But there were some specific differences in the two classes the distinguishing of which have been illustrated in table 1.

Table 1.
Distinguishing differences between STAD and CTBL

<i>STAD</i>	<i>CTBL</i>
Team members take quizzes individually.	Team members take quizzes collaboratively.
There are no intergroup relationships.	Teams compete against each other.
Teams are evaluated on their members' improvements over their own past performances.	Teams are evaluated not only on their members' improvements over their own past performances and over their same-level opponents in other teams, they are also recognized based on the extent to which they outgain other teams.
	Special rewards would also be awarded both to the best teams with the highest averages and to the most challenging individuals.
	More structured
Less structured	

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Unsystematic implementation of groupwork	Systematic implementation of teamwork
As a model of teaching does not have its own theoretical foundations	As an <i>approach</i> has its own theoretical foundations (see Hosseini, 2019)
Ignores language learning strategies	Encourages explicit as well as implicit presentation of language learning strategies

One more thing that should be mentioned here is that the special grading system in CTBL is used as an incentive to utilize competition for further cooperation amongst teams' members in an, of course, highly competitive environment. In addition, in order to lower affective filter of participants, teams that achieve above a designated standard would pass the course.

At the end of the experimental period, the post-test was administered to the control and experimental groups.

4. RESULTS AND DISCUSSION

The descriptive statistics of the results for the research question appear in Table 2.

Table 2.

Group Statistics: The average of the participants' reading comprehension in experimental and control groups

	Method	N	Mean	Std. Deviation	Std. Error Mean	Error
Reading comprehension	STAD	30	25.1071	4.41663	.83466	
	CTBL	30	28.4643	5.18175	.97926	

As it is shown in table 2, the average of the participants' reading comprehension in the experimental group (CTBL class) is higher than the average of the participants' reading comprehension in the control group (STAD class).

4.1. Inferential Statistics

A t-student test was applied to investigate the research question first. But before using t-student test, the researcher tested to see whether the two groups were normal with regard to their reading comprehensions. He also tested to see whether the variances were equal in these groups. The researcher applied One-Sample Kolmogorov-Smirnov Test for the former purpose. Equality of Variance test was also evaluated. See table 3.

As p-value (0.906) in Kolmogorov-Smirnov Test of reading comprehension in CTBL group is higher than 0.05, that this group is normal is not rejected. Similarly, as p-value (0.595) in Kolmogorov-Smirnov Test of reading comprehension in STAD group is higher than 0.05, that this group was normal is not rejected.

At this stage, the researcher applied Levene's Test for Equality of Variances in the two groups.

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Table 3.
One-sample Kolmogorov-Smirnov Test

		Reading comprehension in CTBL	Reading comprehension in STAD
N		30	30
Normal Parameters ^{a,b}	Mean	24.6710	28.4679
	Std. Deviation	4.52106	5.18175
Most Extreme Differences	Absolute	.113	.145
	Positive	.072	.104
	Negative	-.113	-.145
Kolmogorov-Smirnov Z		.566	.769
Asymp. Sig. (2-tailed)		.906	.595

a. Test distribution is Normal.

b. Calculated from data.

As table 3 suggests that p-value (0.384) in Levene's Test is higher than 0.05, that the variances in the two groups were equal is not rejected. At this juncture, the researcher conducted t-student test with the assumption of the equality of the variances of the two groups. The results appear in table 4.

Table 4.
Levene's test for equality of variances in the two groups

		Levene's Test for Variances	Equality of
		F	Sig.
Reading Skill	Equal variances assured	.772	.385
	Equal variances not assured		

As it is understood from table 4, the assumption of the equality of the average of reading comprehension in the two groups, with the assumption of the equality of the variance of the two groups, is rejected since p-value (0.012) in t-student test is less than 0.05. Also, as noted the average of reading comprehension in CTBL is higher than the average of reading comprehension in STAD. Therefore, it could be concluded that CTBL is more effective than STAD in developing reading comprehension of the Iranian EFL intermediate students.

Table 5.

Independent samples test

Reading comprehension	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	0.770	0.384	-2.609	54	0.012	-3.357	1.286	-5.936	-0.777
Equal variances not assumed			-2.609	52.678	0.012	-3.357	1.286	-5.938	-0.775

The results are congruent with the findings of a number of researchers in the related literature. Chief among these researchers are RimaniNikou, Bonyadi and Ebrahimi (2014), Mohsenyand Jamour (2012), and Zarei and Keshavarz (2012). But the results of this study were not completely in line with the findings of Nederhood (1986) who found no significant results for academic achievement of students in CL classes. Nederhood's study was a meta-analysis of 34 studies, which attempted to find out the effects of CL on reading comprehension, language arts, and mathematics of 1145 middle school students in 114 classrooms.

That some researchers have not been able to prove the effectiveness of CL may refer to the fact that they have not implemented effective structured CL methods. Palincsar and Brown (1986) have maintained that effective structured CL creates situations wherein the text becomes more meaningful and important to students. Consequently, students are encouraged to seek the help of others for comprehending key points, which in turn increases their understanding of the whole text. In the same lines, a number of researchers (e.g. Rabow, et al., 1994; Totten, Digby, & Russ, 1991) have stressed that shared learning, in cooperative learning situations, gives students opportunities to engage in a variety of discussion activities that engender critical thinking, which is favourable to their deeper understanding of the material.

5. CONCLUSION

The results of the present study rejected the null hypothesis and provided evidence supporting the hypothesis that CTBL can have a more significant effect on improving the reading comprehension of Iranian EFL intermediate students. One other possible reason for the success of CTBL in our classes in Iran, may relate to the nature,

typology, and interests of the target groups of this study. Students in higher levels of education seem to be inclined towards the mechanisms underlying CTBL rather than STAD in their learning environments as they are more systematic, motivating and organised. This claim was evident from the responses of the target groups of Hosseini's PhD thesis (2009) Attitude Questionnaire, which showed Iranian students more favourable attitudes towards CTBL. Another main reason for the success of CTBL refers to its dynamic nature. CTBL provides multiple opportunities for input-output treatment whereby students have access to multiple sources of input and output in meaningful situations. They receive repeated input and feedback from a variety of sources through teacher presentation, individual work, pair work, teamwork, and class wide discussions, followed by peer pre assessment and team evaluation. Furthermore, that the mechanisms underlying CTBL holds every member of the teams accountable for their own leaning contributed to the success of this innovative instructional method of teaching. Moreover, such mechanisms motivated them to put their efforts into the success of their team members during competing with other teams in the classroom. They also motivated team members to share their effective language learning strategies with one another all of which contributed to the success of CTBL. And finally, the evaluation system of CTBL increased effort for all team members into sharing not merely their knowledge but also their approaches to thinking, and (language) learning strategies, in their highly structured teams. CTBL evaluation system inspired high achievers to transfer their learning and reasoning strategies to their team members excitedly and in more effective ways which facilitated the course of empowerment of their less skilled team members.

The importance of CTBL for language classes refers to the fact that it focuses on systematic teamwork. Successful teamwork is conducive to the emergence of diverse and creative ideas and strategies, which are favorable to the reading comprehension of learners. In view of the fact that students, in CTBL settings, need to exchange information, strategies and advice in order to succeed in achieving their shared learning goals, their reading comprehensions developed meaningfully. The results of the present study corroborates the idea that if CTBL is employed thoroughly and systematically, it can significantly improve the reading comprehension performance of Iranian EFL intermediate students.

6. IMPLICATIONS OF THE STUDY

Based on the findings of the present study, it is suggested that teachers avail their classes of CTBL, which focuses on harnessing competition to the best advantage of teamwork. In addition, the literature suggests that additional reasons may motivate the instructors to use CTBL. For instance, increased interaction in English and easy management of large classes may be motivating factors for employing CTBL. Furthermore, CTBL's implementation is the need of the hour due to the demands of the present world context of globalization which is highly competitive. The ability to work

with others within a team and to develop interpersonal skills might be another acceptable justification for implementing CTBL, which has been developed by an Iranian scholar. But as noted, successful implementation of CTBL requires structurally planned teaching and learning activities. Language teachers, syllabus designers, methodologists and researchers should consider the fact that what differentiates CTBL from other CL methods refers to the emphasis it puts on the significance of 'competition', as a real world phenomenon, in cooperative learning settings. As Hosseini (2012) argues, the significance of competition should also be looked upon from another different angle – competition is an inevitable real world phenomenon: Today world is highly multicultural, incredibly complicated and of course developmentally and fiercely competitive. The bare truth is thereby that, in addition to skills for co-operation, survival in the present world context requires enormous skills and capacities for competition (p. 87). Urgent and pragmatic overhauling of syllabi and textbooks in our educational systems is the need of the hour if students ought to face the challenges of globalization.

7. SUGGESTIONS FOR FURTHER RESEARCH

Further related studies particularly in Iranian EFL environments are suggested. Such studies in schools of ministry of education (elementary and pre-intermediate levels) and universities (advance levels) where there are different students with different backgrounds and attitudes may help the authorities of foreign language learning in both ministries make decisions about implementing CTBL in schools and universities. More particularly, the researcher suggests language teachers and researchers to investigate the effectiveness of Hosseini's approach to language teaching (i.e., CTBL) in relation to other methods and approaches on other skills and sub skills. Also, as Dr Hosseini (2019) believes that his innovative approach to ELT/Education (i.e., CTBL) contributes to critical thinking, creativity of mind, nation building, more civilised societies and eventually modern democracy and world peace, these areas also exact more researches. Practical issues, unfortunately, prevented the efforts, suggested in this section, in current study.

Availability of data and materials

The data will be available upon requesting.

Abbreviations

EFL: English foreign language

CL: Cooperative learning

CTBL: Competitive team based learning

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CSPLLT: Cognitive socio-political language learning theory

MIOH: Multiple input-output hypothesis

CLT: Communicative Language Teaching

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Contributions

Dr H.R. Fatemipour was the supervisor and guided the project. Mr Akbarzadeh conducted the research, collected, analyzed, and interpreted the data. He produced the paper and revised it according to Dr. Hosseini's comments. Dr Hosseini read, summerised, modified and approved the final manuscript.

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Ethics declarations

Competing interests

The authors declare that they have no competing interests.

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