

## **Evaluation of the Effectiveness of Cooperative Learning Method versus Traditional Learning Method on the Reading Comprehension of the Students**

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This study focused to find the effect of cooperative learning and traditional learning on the reading skill of the students of 8<sup>th</sup> class. It was an experimental and its sample size was 128 students. Sixty-four students were included in each of the experimental and control group. Pre-test, post-test equivalent group design was used. Treatment of planned cooperative learning (STAD) was provided to experimental group while control group was taught by using traditional method. At the end of treatment, a teacher made post-test was administered to measure the achievement of the students. To determine the effect of cooperative learning on the reading comprehension the significance of difference between the scores of groups at 0.05 level was tested by applying t-test and analysis of variance. Data analysis reveals that cooperative learning was more effective instructional paradigm for English as compared to the traditional method of teaching.

**Keywords:** *Cooperative learning, team achievement division (STAD), traditional learning, reading comprehension, second language (L2).*

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### **Introduction**

English is taught as compulsory subject and is valued for its educational and cultural significance. Yet, there is more emphasis on teaching English for communication in the domains of science, trade, and technology in Pakistan. However, instruction of English does not provide opportunities for active learning and meaningful communication among learners. There is a need to examine cooperative learning as an instructional approach in a traditional school context based on the assumption that it would promote active learning and meaningful interaction among learners.

Teaching reading skill of English language is very difficult task for a teacher in Pakistan, Most of the students do not attain the required competency particularly in reading. This problem is more acute in government schools where English is taught only as a compulsory subject and it is not used as a medium of instruction. In most of the government schools, teacher has to teach large class in which

sixty to seventy students learn together. Majority of the teachers in government schools are using traditional competitive and individual learning method with lockstep or traditional learning group arrangements. So the instructional methods need improvement in schools particularly in government schools.

According to Johnson and Johnson (1998), "Some teachers use traditional learning group. In this instructional method, a group whose members are assigned to work together but they have no interest in group work. This type of structure promotes competition, on the other side in cooperative learning group; members meet all teachers' expectations. In cooperative group, students work together on specific tasks or projects in such a way that all students in the group benefit from the interactive experience." (p.26)

With a large class, or mixed class, cooperative learning group may particularly be useful for week students. Activities which are not feasible in a

lockstep situation such as using a picture or using games may become perfectly feasible when done in groups. Cooperation means working together to accomplish shared goals. Within cooperative situations, individuals seek results that are beneficial for all members of a group. Students work together to maximize their own and each other's learning. It may be contrasted with competitive learning in which students work against each other to achieve an academic goal and individualistic learning in which students work by them to accomplish training goals unrelated to those of other students.

Competitive and individualistic traditional learning methods are popular among Pakistani teachers. Some teachers use traditional learning group. In this instructional method, a group whose members are assigned to work together but they have no interest in doing so. The structure may promote competition at close quarters, on the other side in cooperative learning group; members of a cooperative group may meet all reasonable expectations, which are given to them. In cooperative group, students work together on specific tasks or projects in such a way that all students in the group benefit from the interactive experience. The students of English class have to cover the syllabus in a limited period of time. There is no opportunity for a teacher in traditional learning method to give individual attention to all the students equally. There is severe curtailment of student reading comprehension in traditional learning methods. Many teachers use traditional learning method in Pakistan. Researcher will review the studies on cooperative learning with the reference of English subject and propose the strategy for the affective learning of reading skill of English language. According to Zoghi, Mustapha, Massum (2010), Reading skills are enhanced in a learning environment where learners interact and use language for socially constructing meaning.

The main objectives of the study were:

- (i) To assess the effects of cooperative learning and traditional learning methods on the achievement of students in the subject of English.
- (ii) To assess the effects of cooperative learning and traditional learning methods on reading comprehension of the students.

## Hypotheses of the Study

In order to investigate the various dimensions of reading comprehension and writing ability the following null hypotheses were tested:

- i. There is no significant effect of cooperative learning on the reading comprehension of the sample students.
- ii. There is no significant effect of cooperative learning on the reading literal comprehension of the sample students.
- iii. There is no significant effect of cooperative learning on the evaluative level of reading comprehension of the sample students.

## Review of Literature

Johnson and Johnson (1998) state that "cooperative learning is the instructional use of small groups so that students work together to maximize their own and each other's learning. It may be contrasted with competitive and individualistic learning". (p. 5)

Cooperative learning requires students to engage in group activities that increase learning and adds other important dimensions. The positive outcomes include academic gains, improved race relations and increased personal and social development (Brown & Ciuffetelli, 2009).

According to Vygotsky (1978) "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (p. 47).

Hartman (1999) relates Piaget's concept of assimilation and accommodation with cooperative learning. "Assimilation, in which students can make prediction and confront misconception by activating prior knowledge", he further explains in which student's progress from discovery stage of concrete exploration to an abstract discussion. For these both processes a cooperative learning group setting provides the best opportunity to occur rather than traditional instruction" (p. 148).

Webb (1989) observed that the students who gained the most from cooperative activities were

those who provided elaborated explanations to others. The students who received elaborated explanations learned more than those who worked alone but not as much as those who served as explainers. Brown & Ciuffetelli (2009) state students demonstrate academic achievement. Cooperative learning methods are usually equally effective for all ability levels and effective for all ethnic groups. Student perceptions of one another are enhanced when given the opportunity to work with one another. Cooperative learning increases self-esteem and self-concept. Ethnic and physically/mentally handicapped barriers are broken down allowing for positive interactions and friendships to occur.

Tsay & Miranda (2010) observed that students who fully participate in group activities, exhibit collaborative behaviors, provide constructive feedback, and cooperate with their groups have a higher likelihood of receiving higher test scores and course grades at the end of the semester. Cooperative learning is an active pedagogy that fosters higher academic achievement.

According to Slavin (1987a) extrinsic motivation is preferable over intrinsic motivation. He argues that students receive about 900 hours of instruction every year. It is unrealistic to expect that intrinsic interest and internal motivation will keep them enthusiastically working day in and day out. Evidently, motivational theorists have built group rewards into their cooperative learning methods.

Bueno (1995) finds that collaborative small group tasks enable students “to recycle vocabulary, review difficult areas of grammar, express their own opinions and take part in more natural language interactions” (p. 78).

Seetape (2003) studied the effects of cooperative learning on reading achievement and the students’ behavior. The results of the study showed that the cooperative behavior had increasingly developed. Some elements of poor behavior had decreased by up to 14.29 percent. Donato (1994) finds that learners of second language can provide guided support to their peers during collaborative second language interactions and that collective scaffolding occurs, when students work together on language learning tasks. Collective scaffolding may lead to linguistic development within the learners. Fosnot

and Perry (2005) indicated that English reading materials could be learned through social interaction by undergoing re-definition and reconceptualization of the materials to become internalized.

According to Dornyei (1994), cooperative learning has been found to be a highly effective instructional approach in second language learning. He investigates reasons for the success of cooperative learning from a psychological perspective, focusing on two interrelated processes: the unique group dynamics of cooperative learning classes and the motivational system generated by peer cooperation.

Qin, S. Johnson, D. W. & Johnson, R. T. (1995) assert “Cooperative efforts result in better preference in problem solving than competitive efforts do. This is true at all grade level, for both linguistic and non-linguistic problems, and regardless of whatever a problem has a clearly defined operation and solution or operations and solutions that are less clear or are ill defined”. Liao (2009) states that the success of cooperative learning in promoting student reading comprehension can attribute to the cognitive processes of cooperative learning. Group discussions facilitate student reading comprehension by fostering a supportive learning atmosphere, which provides more opportunities for explanation, logical inference, and debates to elaborate student understanding of reading materials, and makes ideas concrete.

McGroarley (1993) asserts that Cooperative groups increase opportunities for students to produce and comprehend language and to obtain modeling and feedback from their peers.

Nowka and Louis, (1999), observed that cooperative learning helped students, understanding of the material. Minor questions were asked and answered in the group. Group discussion gave students and opportunity to be part of discussion.

Slavin (1995) examined several studies that used a variety of cooperative – learning methods. Sixty-three (63%) of the ninety-nine experimental-control comparison favored cooperative learning. Only five percent students significantly favored the control group. Overall, students in cooperative-learning groups scored about one-fourth of a standard

deviation higher on achievement test than did students who were taught conventionally.

Singhanayok and Hooper (1996) found that cooperative groups spent more time engaged in the task, checked their concept learning more often and scored higher on posttests than students working individually.

Kewely (1998) concluded that peer collaboration encourages maximum student participation, resulting in more flexible thinking, multiple solutions, and a clearer understanding of the steps leading up to those solutions.

Bibi (2002) observed that teaching English grammar through group work activities played a positive role in improving the academic achievement, the four language skills of the students studying English at elementary as well as secondary stage (p. 101).

According to Hammond, Barron, Pearson, Schoenfeld, Stage, and Tilson (2008), "Students learn more deeply when they can apply classroom and when they take part in projects that require sustained engagement and collaboration. Active-learning practices have a more significant impact on student performance than any other variable, including student background and prior achievement. Students are most successful when they are taught how to learn as well as what to learn". According to Moenich (2000), when cooperative learning structure was used, it was observed that all students were engaged and all students were learned both content and the language of instruction.

Kagan & Kagan (2000) describe, students adjust their speech according to the level of their partner in cooperative learning. Language is used in real-life, functional interaction, reducing problems of transference. Students have the opportunity to adjust their language output to make sure they understand each other. Whereas it is frightening to speak out in front of the whole class, it is easy for students to talk with a supportive teammate. According to Bolukbas, Keskin, Polat, (2011) practically employed cooperative learning helps learners participate in reading lessons effectively, create an abundant and

healthy learning environment, make language learning more meaningful, and increase acquisition.

In the light of above mentioned studies, it was concluded that cooperative learning is more effective as a teaching – learning technique. The present study aimed at evaluating the effectiveness of cooperative learning method on the reading comprehension of the students in over-crowded class.

## Methodology

In this design, Pre-test was administered before the application of the experimental and control treatments and post-tests at the end of the treatment period. A technique of cooperative learning (STAD) (adopted from Slavin, 1995, P.131) was selected as the form of intervention in this study because it encompasses all the cooperative learning elements of heterogeneous grouping, positive interdependence, individual accountability, social and collaborative skills, and group processing.

## Sample

Students studying at elementary level constituted the population of study. Sample of the study consisted of 128 students of 8<sup>th</sup> classes of Government Comprehensive High School Rawalpindi. Their ages ranged from 13 to 14 years. The participants were selected from that school which represents population of typical government schools in Pakistan i.e. large classes, spacious rooms, and students of different socio-economic status. The experimental group included 64 participants who studied together in sixteen teams of four members each according to the dynamics of cooperative learning. In the group of four members, one was high achiever one low achiever and two were average on the basis of pre-test. In the control group, 64 participants studied the same material with traditional learning method.

All students were randomly selected from all three sections of 8<sup>th</sup> class of the school. These students were separated into two groups of experimental and control group on the basis of result of pre-test score. The score of the test was used to equate the groups i.e. each student of experimental group was equated with the corresponding student in the control group. Students were allotted randomly to control and experimental groups as under:

**Table 1: Sample distribution**

<b>Subject</b>	<b>Experimental</b>	<b>Control</b>
Urdu medium section (Low achiever+ high achiever + Average)	64 16+16+32	64 16+16+32

Table 1 showed that total sample was 128, which was divided into two groups (i.e. experimental and control) of 64 students each. Experimental group had 64 students. Grouping of the students were based on the high achievers, low achievers and average. In group of 64 students, sixteen students were high achievers, sixteen were low achievers, and thirty-two students were average. Same criteria of selection of students were adopted to form control group. Thus two equivalent groups were formed in such a way that average score and average age of the students of two groups were almost equal. Equal conditions for both the groups were established. All factors of the time of day and treatment length in time were equated. Subject of both groups was taught by the same teacher. Both groups were taught the same material. The study lasted for fifty six days with daily period of 40 minutes. Experimental group was taught by using cooperative learning and control group was taught by using traditional learning.

One teacher who agreed to teach experimental and control groups, was trained by researcher and experts of English subject. This teacher was trained to use cooperative learning method. This teacher was teaching class with traditional method. Same teacher was selected to teach both the groups to avoid the potential factor.

### **Instrument**

In order to equate the control and experimental groups, a teacher made pre-test was administered before the allocation of students to experimental and control groups. Immediately after the treatment was over, a teacher-made posttest was administered to subjects of both the experimental and the control groups. Pretest and posttest were constructed by the researcher after a thorough review of the techniques of test construction. To make reading comprehension test, researcher followed the work of

author Farr (1972, pp. 4-9).

The numbers of items included in each test were double the number to be included in the final form of tests. These tests were first judged by experts of Faculty of Social Sciences, Education Department, International Islamic University Islamabad and Department of English, AIOU, Islamabad. About 23% items were dropped as a result of judgmental validity of experts. Then each test was administered to ten students of same level for which it was going to be used. At this stage 27% items were rejected. Thus the final form of the test was prepared. Both the pretest and posttest were same but their arrangements of items were changed in post test. Each test was composed of 50 items of reading comprehension. Reading comprehension test had the following items.

Reading comprehension consisted of 50 items i.e.

- a) 20 items for literal comprehension of ideas directly stated in the passage.
- b) 30 items for evaluative comprehension that required inference, competencies of context clues and skimming and scanning.

These 50 items were developed from five lessons of the text book for class VIII. Out of these five lessons, three lessons (lesson No. 14, 17, 18) had been taken from the content studied by the students in the classroom whereas; two lessons (i.e. lesson No. 19, 21) had been selected from the content not studied by the students in the classroom.

The split half method (odd-even) was used to test the reliability of posttest scores obtained by 30 students who did not form the sample of the study. Spearman – Brown prophecy formula was used to estimate the reliability for the whole test from the obtained correlation between the two half tests. Pre-test and post-test were same but arrangements of

items were different. Cooperative learning method (STAD) was used. Training was provided to one teacher who was selected from Government Comprehensive High School Rawalpindi. He was elementary school teacher and was provided 10 days training in cooperative learning i.e. five days for theory and five days for practical teaching. Detailed instructions were given by researcher in three areas of class preparation, presentation, group formation and quiz.

Traditional learning focused on the same lessons and material according to the instructional procedures (activities) suggested on the textbook. These procedures were organized into three stages: opening instruction, participation, and closure. These stages provided opportunities for working on various objectives in reading skill, using a wide variety of instructional techniques such as whole class, discussion, lecture, question and answer, traditional groups.

During the experiment two different treatment patterns were applied. Lesson plans of both the groups addressed the same instructional objectives based on the same reading passages and exercises. However, the experimental plans provided opportunities for small-group interaction and sharing resources among team members. Conversely, students in control group worked individually and shared their answers with the class. Worksheets were provided to both the groups except for the control group which was provided with traditional routine situation in the classroom while experimental group was provided with cooperative learning method (STAD) as treatment. The experiment continued for 56 days. Soon after the treatment was over, posttest was administered to measure the achievement of the sample subjects. Three students of the control group and one student of experimental group were the mortality cases and were excluded from the data of the study. Finally, there were 61 students in the

control group and 63 students in the experimental group. Pretest scores of the sample served as data to equate the control and experimental groups, while posttest scores served as data to measure achievement of the students as a result of treatment.

In order to test the hypothesis, the relevant data was analyzed. Mean, Standard deviation and difference of means were computed for each group. t-test was applied to measure the significance of the difference between the mean of the two groups. Significance of difference between the means scores of both the experimental and control groups on the variable of pretest and posttest scores was tested at 0.05 level by applying t-test. To calculate the coefficient of correlation between the odd and even items of post test scores of the participants in the experiment was used. Raw scores obtained from pretest and posttests were presented in tabulator form for the purpose of interpretation.

The data were analyzed by using following statistical procedures. Best for Kahn, 1986, P221) i.e. mean, standard deviation, and significance of the difference between means i.e. t-test.

**Results**

Results of post test and the data have been presented in following tables.

Table 2 indicates that the mean score of experimental group was 37.83 and that of the control group was 32.70 on posttest. The difference between the two means was significant at 0.05 level and it is in favor of experimental group. The significance value indicates that the experimental group showed better performance in reading comprehension on posttest than that of control group. Hence, Ho1, There is no significant difference between the mean scores of students in reading comprehension taught by cooperative learning method and students taught by traditional learning method was rejected.

**Table 2: Significance of difference between mean scores of experimental group and control group with regard to reading comprehension on posttest**

Group	N	M	SD	t-value	
				Calculated value	Table value at .05
Experimental	63	37.83	5.24	5.43	
Control	61	32.70	5.26		1.96

**Table 3: Significance of difference between mean scores of experimental group and control group with regard to literal level of comprehension on posttest**

Group	N	M	SD	t-value	
				Calculated value	Table value at .05
Experimental	63	17.38	1.75	3.52	
Control	61	16.21	1.94		1.96

**Table 4: Significance of difference between mean scores of experimental group and control group with regard to evaluative level of comprehension on posttest**

Group	N	M	SD	t-value	
				Calculated value	Table value .05
Experimental	63	19.94	3.69	5.43	
Control	61	16.36	3.64		1.96

Table 3 shows that mean score of experimental group was 17.38 and that of the control group was 16.21 on posttest. The difference between the two means was not significant at 0.05 level and it is in favour of experimental group. Hence, Ho2, There is no significant difference between the mean scores of students in literal reading comprehension taught by cooperative learning method and students taught by traditional learning method was rejected.

Table 4 indicates that mean score of experimental group was 19.94 and that of the control group was 16.36 on posttest. The difference between the two means was significant at 0.05 level and it was in favour of experimental group. The significance value indicates that the experimental group showed better performance in evaluative level of comprehension on posttest than that of the control group. Hence, Ho3, There is no significant difference between the mean scores of students in evaluative reading comprehension taught by cooperative learning method and students taught by traditional learning method was rejected.

Above results indicate that students of experimental group who are taught by cooperative learning method show comparatively better results than that of students of control group who are taught with traditional method. So achievement level in reading comprehension of students of experimental group is better than that of students of control group in the subject of English.

**Conclusions**

In the light of statistical analysis and the findings of the study, the following conclusions were drawn:

- i. On the whole, cooperative learning is more effective as a teaching method for reading comprehension for overcrowded class of English at elementary level.
- ii. Students in the cooperative groups showed better performance in literal level of reading comprehension and also showed better performance in evaluative level of reading comprehension than that of students in traditional learning situation.

**Discussions**

The following findings emerged as a result of the analysis of data. Comparison of pretest scores of both the experimental and control groups by applying statistical analysis reflected that there existed no significant differences between two groups and both the groups were almost equal with respect to reading comprehension. Moreover, the comparison between mean pretest scores on literal reading comprehension, evaluative reading comprehension of the experimental and control groups showed that difference between means pretest scores of students of the experimental and control groups was insignificant at 0.05 level.

Ho: 1 Table 2 showed that the difference of means was significant at 0.05 level. Thus the null hypothesis, “there is no significant effect of

cooperative learning on reading comprehension of the sample students” was rejected. Cooperative learning method promises to be more effective in for students. The result of the study is supported by the findings of the studies conducted by Gaith (2003) and Slavin (1991).It did also indicate that cooperative learning method is more effective than traditional learning method on reading comprehension of the students.

H<sub>0</sub>: 2 Table 3 showed that the difference of means was significant at 0.05 level. Thus the null hypothesis, “there is no significant effect of cooperative learning on reading literal comprehension of the sample students”, was rejected. In respect of literal comprehension, experimental showed better performance. The result of the study is supported by the finding of the study conducted by Bibi (2002).

H<sub>0</sub>: 3 Table 4 showed that the difference of means was significant at 0.05 level. Thus the null hypothesis, “there is no significant effect of cooperative learning on the evaluative level of reading comprehension of the sample students”, was rejected. Ghaith (2003) reported a statistically significant difference in favor of the experimental group on the variable of evaluative level of reading comprehension.

After applying statistically test Ho1, Ho2 and Ho3 were rejected. The theoretical relevance of cooperative learning in enhancing academic achievement is based on the assumption that the students in the cooperative learning may feel important because they perform roles that are essential to the completion of group work. Furthermore, the students studying in experimental group gain information and resources that are indispensable for their teams. Likewise, interaction among team members may promote their psychosocial adjustment as the individual efforts of every student are encouraged and supported in order to achieve group success. The findings of this study suggested one aspect of interest the assumed enhancing reading comprehension of the students. So the finding calls for using the dynamics of (STAD) a technique of cooperative learning method in the classroom because it engages learners in meaningful interactions in a supportive classroom

environment that is conducive to enhance achievement of all the students. This study proves that cooperative learning method is better for English subject than traditional learning method. Therefore, teachers of English subject should use cooperative learning to improve reading comprehension of the students at elementary level. Teachers of English should be provided training in cooperative learning. Many studies conducted on cooperative learning in different cultures by different researchers as well as this study prove cooperative learning as more effective for large class as compared to traditional method of teaching. In Pakistan, mostly classrooms are overcrowded so it is very effective. English is used as a second language in Pakistan. This study examined only the reading comprehension of students in English. Further studies can be conducted to investigate the effectiveness of cooperative learning for other variables such as attitude towards subjects, self-esteem, peer relation, social skills and academic motivation for different subjects. Studies on cooperative learning provide a field of research if we examine the relative effectiveness of different cooperative learning methods.

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