

COOPERATIVE LEARNING AND ACADEMIC ACHIEVEMENT OF HIGH ACHIEVERS AND LOW ACHIEVERS IN ENGLISH LANGUAGE

By
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Abstract

The purpose of this study was to examine the effect of cooperative learning on academic achievement of high achievers and low achievers in English language. One hundred and twenty eight students of government comprehensive high school of English subject were selected as sample of the study in which 16 students were high achievers, 32 were average and 16 were low achievers. The effect of cooperative learning method was examined only on high achievers and low achievers and performance of average students was ignored. A pre-test, post-test control group experimental design was used. A factorial design (2x2) was used for treatment and t- test was used to know the difference between the means. The results indicated statistically significant difference between the control and experimental groups on the dependent variable of academic achievement. The experimental group performed better. The result of the study indicated that cooperative learning was more effective method for English as compared to the traditional learning method. Furthermore, cooperative learning appeared to be equally favourable for high achievers as well as low achievers. The author discussed pedagogical implications of cooperative learning in the light of conclusions.

Keywords

Cooperative Learning, Academic Achievement, High Achievers, Low Achievers, Traditional Learning, Linguistic Skills, Second Language (L2), Student Team Achievement Division (STAD).

Introduction

Cooperative learning is one of the recommended teaching learning technique in which students achieve learning goals by helping each other in social setting. Cooperation is compulsory component of cooperative learning. Cooperation means working together to accomplish shared goals. Within

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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. To use cooperative learning effectively, teacher must realize that all groups are not cooperative groups. 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 promotes competition at close quarters, on the other side in cooperative learning group; members of a cooperative group 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 learners are different in their intellectual capacity, their motivation and their linguistic skills. Low achievers and slow learners are particularly very difficult to motivate to learn these skills. There are two strong motivations that students have. One is a need for praise or positive feedback. Students want to be praised. However, they need to have self verification and verification from others. Cooperative learning may provide the positive feedback. On the other side, competitive and individualistic (traditional learning) methods provide competition among the students.

English is used as a second language in Pakistan. Numbers of second language acquisition models have been propounded in the last two decades. English is taught as compulsory subject valued for its educational significance. Yet, there is more emphasis on teaching English as perceived to be more important for communication in the domains of science, trade, and technology. However, instruction of English in the context of the present study remains competitive in nature and does not provide opportunities for active learning particularly for low achievers. According to National Education Policy (1998-2010, p.27), 40 percent students fail in annual examination at elementary level. It is expected that students leave elementary education stage and be able to read and write English correctly, but they are not able to do so. Teachers who are teaching English subject to classes 1-8, do not get any special training in this subject. Teaching methods are not appropriate for learning and do not motivate pupils, particularly academically weak students. There is a need to examine cooperative learning as an instructional approach in a traditional school context such as this one based on the assumptions that it would promote active learning. In this article, the researcher will attempt to relate two completely different view points: traditional (whole class) method, and the cooperative learning method to second language teaching and their effect on low achievers.

Cooperative learning encourages active participation in genuine conversation and collaborative problem-solving activities in class climate of personal and academic support. It also empowers learners and provides them with autonomy and control to organize and regulate their own learning (Clifford, 1999).

Slavin (1995) examined ninety nine studies that lasted for four or more weeks and that used a variety of cooperative learning methods. Sixty four (64%) of the ninety nine experimental control comparison favoured cooperative learning. Only five (5%) significantly favoured the control group. Overall, students in cooperative learning groups scored about one fourth of a standard deviation higher on achievement tests than did students taught conventionally.

Similarly, Ghaith and Yaghi (1998) reported that Students Teams Achievement Division (STAD) method is more effective than individualistic instruction in acquisition of second (L2) rules and mechanics. Several studies have focused on the question of which students gain the most from cooperative learning. One particularly important question relates to whether cooperative learning is beneficial to students at all levels of prior achievement. In this respect Allen (1991) concluded that high achievers could be held back by having to explain material to their low achieving group mates.

Stevens and Slavin (1993) found that high, average, and low achievers, all achieved better than controls at similar achievement levels. However, a separate analysis of the very highest achievers, those in the top 10% and top 5% of their classes at pretest, found particularly large positive effects of cooperative learning on these students.

To assess the impact of cooperative learning method on high achievers, Kenneth and young (1999) specifically investigated the effect of cooperative learning groups on academic achievement of high achieving pre-service teachers and noted that cooperative learning did not enhance their academic performance. Similarly Armstrong (1999) conducted a study comparing the performance of homogeneously grouped, gifted students to heterogeneous ability groups that included gifted average and low performing learners. Both groups experienced a comparable increase in achievement after working together, with gifted group performing only slightly higher.

Cooperative learning method is equally better than traditional learning method. According to Iqbal (2004) cooperative learning is more effective as a teaching learning technique for mathematics as compared to traditional learning method. Students in cooperative groups outscored the students working in

traditional learning situation, but in cooperative groups, they have no obvious supremacy over students taught by traditional method in retaining the learnt mathematical material. Low achievers in cooperative groups have significant superiority over high achiever.

The aforementioned studies underscore the value and potential of cooperative learning in the classroom, however there is still a need to investigate the efficacy of various cooperative learning models. Consequently, the present study aimed at to investigate the effectiveness of cooperative learning method on academic achievement of low achievers in English.

The main objectives of the study were:

1. To examine the effects of traditional learning method and cooperative learning method on the academic achievement of high achievers in the subject of English.
2. To examine the effects of traditional learning method and cooperative learning method on the academic achievement of low achievers in the subject of English.

Hypothesis of the study

The following hypotheses were tested in this study:

Ho1: There is no significant difference between mean achievement scores of students taught by cooperative learning method and students taught by traditional learning method.

Ho2: There is no significant difference between the mean scores of high achievers of the experimental and control groups on posttest.

Ho3: There is no significant difference between the mean scores of low achievers of the experimental and control groups on posttest.

Methodology

The purpose of this study was to evaluate the influence of cooperative learning on the academic achievement of high achievers and low achievers in the subject of English. Following procedure was adopted.

Sample

Purposive sampling technique was used to select the sample of the study. Sample of the study consisted of 128 students of 8th classes of Government Comprehensive High School Rawalpindi. The sample was selected from that

school which represents population of typical government schools in Pakistan i.e. large classes and students of different socio-economic status.

Procedure

The experimental group included 64 participants who studied together in sixteen teams of four members each according to the dynamics of cooperative learning. Meanwhile, 64 participants in the control group studied the same material with traditional learning method. All students were randomly selected from all three sections of 8th lass of the school. These students were separated into two groups of experimental and control group on the basis of result of the 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 group. In this group of 64 students, sixteen 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. Immediately after the treatment was over; teacher made post test was administered to both the experimental and control groups.

Equal conditions for both the groups were established. All factors of the time of day and treatment length in time were equated. The same teacher taught students of both groups. Both groups were taught the same material. The study tested 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. 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. Researcher in three areas of class preparation, presentation, group formation and quiz gave detail instructions.

In this study, pre-test and post-test equivalent group design was used (adopted from Watenable, Hare and Lomax, 1984). In this design, pre-test was administered before the application of the experimental and control treatments and post-test 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.

In order to equate the control and experimental groups, a teacher-made pre-test was administered before the allocation of the students to experimental

and control groups. Immediately after the treatment was over, a teacher-made post-test was administered to subjects of both the experimental and the control groups. The purpose of this test was to measure the achievement of the students constituting the sample. The researcher constructed pretest and posttest 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) and to evaluate the writing ability followed the work of author Haq (1983, pp. 47-118).

Class teachers and experts were involved in the construction of tests. Both the pre-test and post-test were same, but their arrangements of items were changed in post-test. Each test had two parts was composed of 100 multiple-choice test items, 50 items of reading comprehension and 50 items of writing ability. Reading comprehension consisted of 50 items i.e. 20 items for literal comprehension of ideas directly stated in the passage, 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 textbook 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. Writing ability test (Part II) also consisted of 50 items in which 25 items for usage of five parts of speech, i.e. Pronoun, Adverb, and Adjective, Proposition, Conjunction and 25 items for tenses i.e. Present Indefinite, Present Continuous, Present Perfect, Present Perfect Continuous, Past Indefinite, Past Continuous, Past Perfect, and Past Perfect Continuous.

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 the 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. The split half method (odd-even) was used to test the reliability of post- test 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. The reliability for whole test was 0.88. the data collected were analyzed. Data that was obtained as scored of both groups on the pre and post achievement were compared and tabulated to find the difference in the performance of two groups t-tests for dependent samples and independent samples were used.

Results

The hypotheses underlying the present study were that cooperative learning method would yield academic achievement more than traditional learning method. Table 1 presents the results of the test. The treatment conditions (experimental versus control) were used as the independent variable and academic achievement was used as dependent variables. The pre-test scores of participants were used in order to control for any potential preexisting differences in the performance of the control and experimental groups. The results of only low achievers were shown in the tables below:

Table – 1
Significance of difference between mean scores of experimental and control groups on posttest

Group	N	M	SD	t-value	
				Calculated value	Table value at 0.5 level
Experimental	63	72.83	9.76	5.37	1.96
Control	61	62.82	10.99		

Table1 indicates that the mean score of experimental group was 72.83 and that of the control group was 62.82 on posttest. The difference between the two means was significant at 0.05 level in favour of experimental group. This significance value indicates that the experimental group showed better performance on posttest than that control group. Hence H1, there is no significance difference between the mean scores of students taught by cooperative learning method and students taught by traditional learning method was rejected.

Table – 2
Significance of difference between scores of high achievers of the experimental and control groups on posttest

Group	N	M	SD	t-value	
				Calculated value	Table value at 0.5 level
High achievers of experimental	16	84.75	5.03	5.20	2.04
High achievers of control	16	75.44	5.10		

The data in Table 2 indicate that calculated value t (5.20) was greater than table value (2.04) at $\alpha=0.05$ level of significance. It means that the academic achievement of high achievers of experimental group after using cooperative learning method was better than higher achievers of control group after using traditional learning method. Hence H_02 , there is no significant difference between the mean scores of high achievers of the experimental and control groups on posttest was rejected.

Table – 3
Significance of difference between scores of low achievers of the experimental and control groups on posttest

Group	N	M	SD	t-value	
				Calculated value	Table value at 0.5 level
Low achievers of experimental	15	62.80	7.49	5.68	2.05
Low achievers of control	14	48.43	6.01		

The data in Table 3 indicate that calculated value t (5.68) was greater than table value (2.05) at $\alpha=0.05$ level of significance. It means that academic achievement of low achievers of experimental group after using cooperative learning method was better than low achievers of control group after using traditional learning method. Hence, H_03 , there is no significant difference between the mean scores of low achievers of the experimental and control groups on posttest was rejected.

Table – 4
ANOVA (2x2) showing difference between treatment effects for high and low achievers of the experimental and control groups on posttest

Source of variation	Degree of freedom	Sum of squares	Mean square variation	F
Treatment	1	1815.91	1815.98	5.24
Achievement level	1	7356.35	7356.35	13.34
Interaction	1	36449.64	36449.64	64.94
Within cell	59	31993.98	561.30	

Table 3 indicates that obtained F- value of both sources of variation (treatment and interaction) was significant at 0.05 levels. Hence both high achievers and low achievers of experimental groups significantly outscored the high and low achievers of the control group.

The present study sought to evaluate the effect of cooperative learning method and traditional learning method on the academic achievement of the students in English. This study also examined the effects of traditional learning method and cooperative learning method on the academic achievement of high achievers and low achievers in the subject of English. The experimental group performed significantly better than control group on post-test. The difference between the post-test mean scores of the two groups was significant at 0.05 level (Table-1). Thus, the null hypothesis that, "there is no significant difference between the academic achievement of the students taught by cooperative learning and the students taught by traditional learning method", was rejected at 0.05 level in favour of experimental group. This supports the results reported by Qin, Johnson and Johnson (1995) in a review of forty six studies, and the result also reflected from the experiment conducted by Whicker, Bol and Nunnery. (1997).

The F-value obtained in case of "treatment" as the source of variation and "achievement level" as source of variation was found to be significant at 0.05 level (table). Thus, the null hypothesis, "there is no significant difference between the mean scores of high achiever and low achievers of the control and experimental groups on post-test", was rejected. Furthermore, the comparison of high achievers of both the experimental and control groups on post-test scores (table-2) depicted that difference between mean scores of both groups was significant at 0.05 level. While comparison of mean scores of low achievers of the experimental and control groups (table-3) significant difference was found. Thus cooperative learning method promises to be more effective for low achievers.

Discussions

Cooperative learning method promises to be more effective for low achievers. This finding is in contrast to the findings by Slavin (1996) and supports the results reported by Kenneth and Young (1999). It did also indicate that cooperative learning method is more effective than traditional learning method on the academic achievement of both high achievers and low achievers than traditional learning method. After applying statically test Ho1 and Ho2 were rejected. The theoretical relevance of cooperative learning in enhancing academic achievement is based on the assumption that the students in cooperative learning may feel important because they perform roles that are

essential to the completion of group task. Furthermore, the students studying in experimental group possess 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. This is especially so given previous research evidence regarding the efficacy of cooperative learning various models in enhancing students' achievement.

The findings of this study suggest one aspect of interest the assumed enhancing achievement of the high achievers and low achievers effects of cooperative learning in second language is supported by evidence from present study. 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. It is equally useful for high achievers and average students and it also useful for overcrowded class. 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 the academic achievements of the students at elementary level. Teachers of English may be encouraged to use cooperative learning in the classrooms. Teachers of English should be provided training in cooperative learning. Training may be provided to use the basic elements of cooperative learning i.e. positive interdependence, equal participation, individual accountability, simultaneous interaction, interpersonal and small group skills and group processing. There are some potential dangers in cooperative learning method. Sometimes all the potential troublemakers gather together in one group. The teacher may use mixed ability groups to avoid this danger. The teacher should ensure equal participation of every group member in activity. If activities are not properly constructed, cooperative learning method can allow some group members do all or most of the work while others remain inactive. The English teachers at elementary level may be disseminated of the results of this study to convince to use cooperative learning method for maximum benefit of their students.

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