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The Effect of Cooperative Learning on Academic Achievement of Low Achievers in English

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Abstract

The study aimed at identifying the effect of cooperative learning on the academic achievement of low achievers in English. One hundred and twenty eight students of Government Comprehensive High School of English subject participated in 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 low achievers.

A pre-test, post-test control group experimental design was used. t- Test was used to know the difference between 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. Academic achievement of control group was also improved but average performance was less than experimental group. The author discussed pedagogical implications of cooperative learning in the light of conclusions.

Keywords: Cooperative Learning, Academic Achievement, Low Achievers, Traditional Learning, Linguistic Skills, Second Language (L2), Student 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 a compulsory component of cooperative learning. 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 others learning.

Cooperative learning may be contrasted with competitive learning in which students work against each other to achieve an academic goal. It may also be contrasted with individualistic learning in which students work on their own 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 hand, in cooperative learning group, members of a cooperative group meet all reasonable expectations, which are given to them. In cooperative learning group, students work together on specific tasks or projects in such a way that all students in the group benefit from the interactive experience. Since learners are different in their intellectual capacity, their motivation and their linguistic skills also differ from individual to individual. Low achievers and slow learners are particularly very difficult to motivate to learn these skills.

There are two types of 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 feed back. On the other hand, competitive and individualistic (traditional learning) methods provide competition among students.

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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 a compulsory subject, valued for its educational significance. Yet, there is more emphasis on teaching English as it is also 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 the National Education Policy (1998-2010, p.27), 40 percent of students fails in annual examination at the elementary level. It is expected that when students leave elementary education stage they should be able to read and write English correctly. But they are not able to do so. Teachers who teach English as a 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.

Focus of This Study

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.

The main objectives of the study were:

1. To investigate the effectiveness of traditional learning method and cooperative learning method on the academic achievement of low achievers in the subject of English.
2. To compare the degree of effectiveness of teaching using cooperative learning method and through traditional learning method on the academic achievement of low achievers.

Hypothesis of the Study

The following hypotheses were tested in this study:

H01: There is no significant difference between the achievement scores of students of the control group exposed to the traditional learning method.

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H02: There is no significant difference between the achievement scores of the students of the experimental group exposed to the cooperative learning method.

H03: There is no significant difference between the achievement scores of the students of the control and experimental groups in terms of mean score gains on post-test.

Literature Review

“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”. (Johnson and Johnson, 1999, p. 5)

In addition, 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).

Many cooperative learning methods are available. Student Teams Achievement Divisions (STAD) is widely used cooperative learning method. In STAD, students are assigned to four-member learning teams that are mixed in performance level, gender, and ethnicity. The teacher presents a lesson, and then students work within their teams and make sure all team members have mastered the lesson. Then all students take individual quizzes on the material, at which they not help one another. Students’ quiz scores are compared to their own past averages, and points are awarded to each team based on the degree to which students meet or exceed their own performances. The main idea behind STAD is to motivate students to encourage and help each other master skills presented by the teacher.

Ghaith and Yaghi (1998) reported that Student Teams Achievement Divisions (**STAD**) method is more effective than individualistic instruction in acquisition of second (L2) rules and mechanics.

Likewise, Sadker and Sadker (1997) have focused on the benefits of cooperative learning. They show that both cognitive and affective growth results from cooperative learning. Firstly, students taught within this structure make higher achievement gains. Secondly, students who participate in cooperative learning have higher levels of self-esteem and greater motivation to learn. A particularly important finding is that there is greater acceptance of students from different racial and ethnic backgrounds when a cooperative learning structure is implemented in the classroom (p. 64).

According to McGroarly, (1993, pp. 19-46), cooperative learning creates natural and interactive contexts in which students have authentic reasons for listening to one another,

asking questions, clarifying issues, and re-stating points of view. Cooperative groups increase opportunities for students to produce and comprehend language and to obtain modeling and feedback from their peers.

Much of the value of cooperative learning lies in the way that teamwork encourages students to engage in such high-level thinking skills and analyzing, explaining, synthesizing, and elaborating. Interactive tasks also naturally stimulate and develop the students' cognitive, linguistic and social abilities. Cooperative activities integrate the acquisition of these skills and create powerful learning opportunities. Such interactive experiences are particularly valuable for students who are learning English as a second language, who face simultaneously the challenges of language acquisition, academic learning and social adaptation.

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.

According to Iqbal (2004) cooperative learning is more effective as a teaching learning technique for mathematics as compared to traditional teaching 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 investigating the effectiveness of the cooperative learning method on the academic achievement of low achievers in English.

Methodology

The purpose of this study was to evaluate the influence of cooperative learning on the self esteem of the students. Following procedure was adopted.

Design of the study

In this study pre-test 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.

Sample

Sample of the study consisted of 128 students of 8th classes of Government Comprehensive High School Rawalpindi. Their ages ranged from 13 to 14 years. The participants were selected from that school which represents the population of typical government schools in Pakistan, i.e., large classes 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. 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 class 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.

Teaching Conditions

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 the students for fifty six days with a daily period of 40 minutes. Experimental group was taught by using cooperative learning method and the control group was taught by using traditional learning method. Training was provided to one teacher who was selected from government comprehensive high school Rawalpindi. He was an elementary school teacher and was provided 10 days training in cooperative learning method, 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 detailed instructions.

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 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 the pre-test and post-test after a thorough review of the techniques of test construction. To make the reading comprehension test, the researcher followed the work of author Farr (1972, pp. 4-9) and, for 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 test (Part I) had the following items.

Reading comprehension test 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 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) had the following items i.e. writing ability test also consisted of 50 items:

- a) 25 items for usage of five parts of speech, i.e., Pronoun, Adverb, Adjective, Proposition, Conjunction.
- b) 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 the experts at the Faculty of Social Sciences, Education Department, International Islamic University Islamabad and Department of English, Allama Iqbal Open University Islamabad (AIU). 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 (class) 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 hypothesis underlying the present study was 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: Analysis of data of pre and post tests of control group

Variable	Paired	M	SD	t-value	
				Calculated value	Table value at 0.5 level
pretest	16	40.44	5.57	16.63	2.13
posttest		50.13	5.65		

The data in Table 1 indicate that calculated value t (16.63) was greater than table value (2.13) at $\alpha=0.05$ level of significance. It means that academic achievement of control group after using traditional learning method was better. Hence, the null hypothesis that there is no significant difference between the achievement scores of students of control group exposed to traditional learning method was rejected.

Table 2: Analysis of data of pre and post tests of experimental group

Variable	Paired	M	SD	t-value	
				Calculated value	Table value at 0.5 level
pretest	16	40.31	5.56	26.30	2.13
posttest		64.19	6.52		

The data in Table 2 indicate that calculated value t (26.30) was greater than table value (2.13) at $\alpha=0.05$ level of significance. It means that academic achievement of experimental group after using cooperative learning method was greater. Hence, the null hypothesis that there is no significant difference between the achievement scores of students of experimental group exposed to cooperative learning method was rejected

Table3: Analysis of data of experimental and control groups

Group	N	M	SD	t-value	
				Calculated value	Table value at 0.5 level
Experimental	16	64.19	6.52	6.51	2.04
Control	16	50.13	5.66		

The data in Table 3 indicate that calculated value t (6.51) was greater than table value (2.04) at $\alpha=0.05$ level of significance. Hence, the null hypothesis that there is no significant difference between the achievement scores of students of control and experimental groups in terms of mean score gains in the post-test was rejected.

Discussions

The present study sought to evaluate the effect of cooperative learning method on the academic achievement of low achievers in the subject of English. It did indicate that cooperative learning is more effective than comparable traditional (whole class) method in academic achievement of sample students of elementary classes.

After applying statistical test (paired t-test) for dependent samples Ho1 and Ho2 were rejected, leading to the conclusion that learning achievement score of control group in post-test by teaching through traditional learning method were improved over the pre-test but average performance was less than that of the experimental group.

The academic achievement score of experimental group in the post-test after using cooperative learning method was improved over the same in the pre-test and the result obtained was better than that of the control group.

These corroborate findings of previous studies regarding the positive effects of cooperative learning in improving academic achievement in English language (Greenwood, Delquadri and Hall, 1989; Stevens, Madden, Slavin, and Famish, 1987).

The theoretical relevance of cooperative learning in enhancing academic achievement is based on the assumption that low achievers in cooperative learning may feel important because they perform roles that are essential to the completion of group task. In addition,

they possess information and resources that are indispensable for their teams. Likewise, interaction among team members may promote their psycho-social 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.

Implications and Conclusions

The findings of this study suggest one aspect of interest. The enhanced achievement of the low achievers effects of cooperative learning in second language is supported by evidence from the 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 low achievers. 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 particularly low achievers. 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 leaning method. Sometimes all the potential "troublemakers," i.e., slow learners, 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 all activities. 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 the elementary level may be acquainted with the results of this study to convince them to use cooperative learning method for the maximum benefit of their students.

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