

EFFECTIVENESS OF COOPERATIVE LEARNING STRATEGY ON THE ACHIEVEMENT OF VARIOUS CATEGORIES OF STUDENTS IN ENGLISH AT THE HIGHER SECONDARY LEVEL

Research
Paper

ABSTRACT

The present experimental study was undertaken with two objectives in view: (i) to apply cooperative learning strategy in teaching and learning of English at the higher secondary level and (ii) to measure the effectiveness of cooperative learning strategy with special reference to various categories of students. Two matched groups of students were constituted for the purpose of this experiment. Each group consisted of ten above average students, ten average students and ten below average students. The control group was taught through the traditional lecture method while the experimental group learnt through the cooperative learning strategy. The obtained results show that the cooperative learning strategy was more effective than the traditional lecture method in teaching and learning English at the higher secondary level and it enabled the below average students to cope with the average students and the above average students to a considerable extent.

INTRODUCTION

English began as an obscure tongue, spoken in a remote and unimportant corner of the world. Today it is the most important of all living languages. Partly because of the commercial advantages, partly because of conquest followed by industrial development, partly because of emigration and colonisation, and partly, again, because it opens up one of the world's greatest literatures, it is not only the native speech of large communities scattered over various parts of the earth's surface, but it is a second language to a number of people in many different lands. It is studied in most universities throughout the five continents.

The problem that every educator invariably encounters in teaching every subject, at every grade level of our educational system is how to teach a lesson to a class that consists of students with different skills, learning rates and learning styles. Accommodating instruction to student differences is one of the most fundamental problems and the foremost task of any teacher. The problem of accommodating instruction to individual differences is so important that many educators have subtly suggested that instruction be completely individualised so that every student can work independently at his or her own rate. Moreover, an

instructional strategy or a learning strategy can be said to be very effective only when it caters to the student differences in the classroom. Further, a strategy can be successful only when it ensures active participation of the students in the teaching learning process. Cooperative learning strategy is such a strategy.

NEED FOR THE STUDY

Cooperative learning (CL) is an instructional paradigm in which teams of students work on structured tasks (e.g., homework assignments, laboratory experiments, or design projects) under conditions that meet five criteria: positive interdependence, individual accountability, face-to-face interaction, appropriate use of collaborative skills, and regular self-assessment of team functioning. Many studies have shown that when correctly implemented, cooperative learning improves information acquisition and retention, higher-level thinking skills, interpersonal and communication skills, and self-confidence (Johnson, Johnson, and Smith, 1998).

R.T. Sivaram

*Post Graduate Teacher, PACM Hr.Sec. School,
Rajapalayam,*

Dr. R. Ramar

Headmaster, S.S.H.N.Hr.Sec. School, Muhavur .

Cooperative learning is a successful teaching strategy in which small teams, each with students of different levels of ability, use a variety of learning activities to improve their understanding of a subject. Each member of a team is responsible not only for learning what is taught but also for helping teammates learn, thus creating an atmosphere of achievement. Students work through the assignment until all group members successfully understand and complete it.

Research has shown that cooperative learning strategy promotes student learning and academic achievement. It increases student retention as there is active participation on the part of the students. It makes learning pleasant and enhances student satisfaction with their learning experience. It helps students develop skills in oral communication which is very essential for learning any subject. Further, the cooperative learning techniques develop adequate social skills in students which will find an expression in the adult life of the students. It promotes student self-esteem imbuing in him / her a sense of self-confidence. Above all, this learning technique helps to promote positive race relations.

OBJECTIVES

The main objective of the study was to apply the cooperative learning strategy to teach English to the students at plus one level. Keeping the above objective in mind, the following specific objectives were framed.

- i) To find out whether there is any significant difference between the pre-test and the post-test mean scores of the control group students in terms of various categories of students and the group as a whole.
- ii) To assess whether there exists any significant difference between the pre-test and post-test mean scores of the experimental group students in terms of various categories of students and the group as a whole.
- iii) To find out whether there is any significant difference between the post-test mean scores of the experimental group and the control group in terms of various categories of students and the group as a whole.

iv) To assess whether there exists any significant difference in the post-test performance among the various categories of students in the control group.

- v) To assess whether there exists any significant difference in the post-test performance among the various categories of students in the experimental group.

HYPOTHESES OF THE STUDY

- i) There is no significant difference between the pre test and the post-test mean scores of the control group students in terms of various categories of students and the group as a whole.
- ii) There exists significant difference between the pre-test and post-test mean scores of the experimental group students in terms of various categories of students and the group as a whole.
- iii) There is significant difference between the post test mean scores of the experimental group and the control group in terms of various categories of students and the group as a whole.
- iv) There exists significant difference in the post-test performance among the various categories of students in the control group.
- v) There exists significant difference in the post-test performance among the various categories of students in the experimental group.

METHODOLOGY

The various steps followed in the methodology of this study are construction of research tools, identifying various categories of students, sampling, design of the study, applying cooperative learning strategy in teaching and learning of English, administration of the tools for pre-test and post-test and employing appropriate statistical techniques for arriving at scientific conclusions.

Identifying Various Categories of Students

For the purpose of this investigation various categories of students were identified on the basis of curriculum based assessment. The identified students were

classified as above average students, average students and below average students on the basis of their scholastic achievement in the school examinations.

Construction of Research Tool

To measure the performance of the students before and after the experiment, an achievement test was constructed by the investigator on the basis of item analysis. The content validity of the tool by expert opinion, item validity by item analysis and the reliability of the tool by split half method were established.

Sample Design

For the purpose of the investigation sixty students of XI standard from S. S. H. N. Higher Secondary School, Muhavur were selected. The various categories of students were identified on the basis of normal probability curve made on the basis of their scores in the quarterly examination. They were divided into two halves to constitute the experimental group and the control group. The groups were formed in such a way that there were 10 above average students, 10 average students and 10 below average students in each group. To see whether both the groups were matched or not, mean and standard deviation were calculated for their quarterly examination scores. Then t-test was applied. The obtained t-value (0.62) revealed that both the groups were matched ones before the experiment. The control group was taught through the traditional lecture method and the experimental group learned through the cooperative learning strategy.

Applying Cooperative Learning Strategy

The experimental group learnt through the cooperative learning strategy for a period of thirty working days at the rate of 1½ hours per day. The students learnt by means of small group activities. Three units were covered in plus one English during the period of investigation.

The control group students were taught through the traditional lecture method by the regular teachers in the normal classes. The experimental group students were encouraged to make group study with the help of the group mates. The experimental group students were advised to learn in a cooperative manner by sitting and sharing together. Teacher support system was provided.

DATA COLLECTION

The experiment was conducted for a period of thirty working days. At the end of the experimental period, a post-test was conducted for the students of the experimental group and the control group. The responses given by the various categories of students in both the control group and the experiment group in the pre-test and the post-test formed the vital data required for the analysis.

SCORING PROCEDURE

The achievement test consisted of 100 objective type questions. These test items were selected on the basis of item analysis. The total score of the test was 100. For each correct answer, the score was one and for each wrong answer, the score was zero.

STATISTICAL TECHNIQUES USED IN THE STUDY

The data thus obtained were then analyzed by using appropriate statistical techniques such as mean, standard deviation and t-test.

Findings

There is no significant difference in the performance of the control group students between the pre-test and the post-test in terms of various categories of students and in terms of the group as a whole. Though the performance is better in the post test, they could not make any significant difference. (Ref. Table 1)

Table 1

ANALYSIS OF THE PRE - TEST AND POST - TEST SCORES OF THE CONTROL GROUP

Category	Pre-test			Post-test			Calculated t-values
	N	Mean	S.D	N	Mean	S.D	
Above Average Students	10	80.15	3.76	10	82.21	3.54	1.26 @
Average Students	10	46.5	2.24	10	48.5	3.09	1.66 @
Below Average Students	10	27.5	2.62	10	28.5	1.74	1.00 @
Group as a whole	30	51.33	21.9	30	53.66	16.1	0.14 @

Note: @ not significant at 0.01 level

There exists significant difference in the performance of the experimental group students between the pre-test and the post-test in terms of various categories of students and in terms of the group as a whole. The achievement of various categories of students is higher in the post-test than in the pre-test. Moreover, the performance of all the categories of students in the experimental group is better than the performance of their counterparts in the control group in the post test. (Ref. Table 2)

Table 2
ANALYSIS OF THE PRE - TEST AND POST - TEST SCORES OF THE EXPERIMENTAL GROUP

Category	Pre-test			Post-test			Calculated t-value
	N	Mean	S.D	N	Mean	S.D	
Above Average Students	10	80.25	3.52	10	86.15	2.45	4.35 **
Average Students	10	48.1	3.49	10	57.65	2.48	7.05 **
Below Average Students	10	27.4	2.56	10	47.15	2.49	12.70 **
Group as a whole	30	51.66	22.04	30	61.33	18.8	5.97 **

Note: ** Significant at 0.01 level

From the mean values obtained by the students in both the tests, it is clear that all the categories of students in the experimental group have made significant mean gain in the post - test. The above average students have made a mean gain of 5.90 and the students of other two categories have made mean gains of 9.55 and 19.75 respectively. In terms of rate of progress, the below average students stand first with 70.2% of rate of progress followed by the average students and above average students with 20% and 7.4% of rate of progress respectively. The mean gain made and the rate of progress attained by each category of students establish the effectiveness of the applied strategy i.e. the cooperative learning strategy in teaching and learning English at plus one level.

There is significant difference in the post - test performance between the control group students and the experimental group students in terms of various categories of students and in terms of the group as a whole. The achievement of the experimental group students is higher than that of the control group students in the post test. (Ref. Table 3)

Research Paper

Table 3
ANALYSIS OF THE POST - TEST SCORES OF THE CONTROL GROUP AND THE EXPERIMENTAL GROUP

Test	Control Group			Experimental Group			Calculated t-value
	N	Mean	S.D	N	Mean	S.D	
Above Average Students	10	82.21	3.54	10	86.15	2.45	2.89
Average Students	10	48.5	3.09	10	57.65	2.48	7.3
Below Average Students	10	28.5	1.74	10	47.15	2.49	19.41
Group as a whole	30	53.66	16.06	30	61.33	18.8	1.7

Note : significant at 0.01 level

From the mean values obtained by the students in both the groups, it can be seen that the experimental group students have made an impressive mean gain. The performance of each category of students in the experimental group is better than the performance of their counterparts in the control group. While the mean gain made by the control group is 2.33, the mean gain made by the experimental group is 9.67. The rate of progress shown by the control group is 4%. On the other hand, the experimental group students have made a vertical rate of progress amounting to 18.9%. This table substantiates the advantage of the cooperative learning strategy over the traditional lecture method in teaching and learning of English at plus one level.

There exists significant difference in the post-test performance among the various categories of students in the control group. The performance of the above average students is higher than the performance of the students of

the other two categories. The gulf of difference that existed at the time of pre - test was found at the end of the post - test also. It reveals that the traditional lecture method as an instructional strategy, could not enable the average students and the below average students to cope with the above average students. (Ref. Table 4)

Note : ** significant at 0.01 level.

A close scan of the mean values brings to light many interesting revelations. Though there is significant difference between any two categories, the gulf of difference that was found at the time of the pre - test has been reduced to a considerable extent in the post - test. The gulf of difference between the above average students and the average students was 32.15 in the pre - test. On the other hand, the difference between them in the post - test was 28.50. Similarly, the mean difference between the above average students and the below average students in the pre - test was 52.85 whereas in the post - test it was 39.0.

Table 4

ANALYSIS OF THE POST - TEST SCORES OF VARIOUS CATEGORIES OF STUDENTS IN THE CONTROL GROUP

Name of the Group	N	Mean	S.D	Calculated t-values	
Above Average Students	10	82.21	3.54	Above Average Vs Average	22.69 **
Average Students	10	48.5	3.09	Above Average Vs Below Average	43.06 **
Below Average Students	10	28.5	1.74	Average Vs Below Average	17.83 **

Note : ** significant at 0.01 level

There exists significant difference in the post-test performance among the various categories of students in the experimental group. The performance of the above average students is better than the performance of the students of the other two categories. (Ref. Table 5)

Table 5

ANALYSIS OF THE POST - TEST SCORES ANALYSIS OF VARIOUS CATEGORIES OF STUDENTS IN THE EXPERIMENTAL GROUP

Name of the Group	N	Mean	S.D	Calculated t-value	
Above Average Students	10	86.15	2.45	Above Average Vs Average	25.85 **
Average Students	10	57.65	2.48	Above Average Vs Below Average	40.19 **
Below Average Students	10	41.75	2.49	Average Vs Below Average	14.30 **

IMPLICATIONS

- 1) The results of the study have established that the cooperative learning strategy is more effective than the traditional lecture method in teaching and learning English language standard XI. When it is very effective to the below average students, it has to be equally effective, if not more effective, to the normal students also.
- 2) Teachers of Middle Schools and High Schools can be given orientation as to how to apply the cooperative learning strategy, especially group activities for the benefit of various categories of students.
- 3) Keeping the result of the study in mind, the NCERT and SCERT can conduct orientation programmes for the in - service teachers for creating awareness among them about the effectiveness of the cooperative learning strategy which will find an expression in their classroom practices.
- 4) Since the use of the cooperative learning strategy enhances the achievement of below average students, it will diminish wastage and stagnation in our schools. So, a necessary orientation can be given at DIET level also so that awareness can be developed among primary school teachers also.

REFERENCE

1. Gillies, Robyn M. (2007) *Cooperative Learning: Integrating Theory and Practice* SAGE Publications (CA).
2. Gillies, Robyn M. (2008) *The Effects of Cooperative Learning on Junior High School Students' Behaviours, Discourse and Learning during a Science-Based Learning Activity*. *School Psychology International*, v29 n3 pp328-347.
3. Gooran, Deena; Braude, Stan (2007) *Social & Cooperative Learning in the Solving of Case Histories*. *American Biology Teacher*, v69 n2 pp80-84.
4. Kelly, Rhys; Fetherston, Betts (2008) *Productive Contradictions: Dissonance, Resistance and Change in an Experiment with Cooperative Learning* *Journal of Peace Education*, v5 n1 pp97-111.
5. Oortwijn, Michiel Bastiaan; Boekaerts, Monique; Vedder, Paul (2008) *The Effect of Stimulating Immigrant and National Pupils' Helping Behaviour during Cooperative Learning in Classrooms on Their Maths-Related Task*. *Educational Studies*, v34 n4 pp333-342.
6. Ospina, Sonia; El Hadidy, Waad; Hofmann-Pinilla, Amparo (2008) *Cooperative Inquiry for Learning and Connectedness Action Learning: Research and Practice*, v5 n2 pp131-147.

★ ★ ★

Continuation of page 5

VALUE PATTERNS OF STUDENTS OF THE FISHING...

6. Fishing community students who have higher social value do better in English, Tamil, Maths and Social science.

RECOMMENDATIONS

In order to increase the economic value, social value and the academic achievement of the students of the fishing community, the following recommendations may be considered.

- i. All students should be encouraged to join and perform in the clubs and movements.
- ii. Students should be permitted to move freely among themselves with self control and restriction.
- iii. Small saving scheme for school students may be started in coastal area schools. Female students may be encouraged to join the scheme.

- iv. Basic principles of economics should be incorporated in the curriculum meant for school students.
- v. Female students should be informed on the significance of economical way of spending the money earned with the sweat of the brow.
- vi. Fishing community male students should be made more sociable and they should mingle with fellow students and society. School administration should conduct society centered programmes in the nearby village and permit the students to move freely with the public and learn more about their livelihood and enable them to realize that they are part and parcel of the society and they can play an important role in improving the welfare of their fellow beings.

Research
Paper

REFERENCE

1. Humphrey Sherry Hale (1990), *A comparison of the value orientation of male and female college students majoring in business and human services*
2. Gaustafson John P. (1991) *Relationship of values to academic achievement for low SES students: A Research Integration Synthesis*.
3. Sarab, S.N. (1992) *Value orientation of Education*, *University News*, Monday March 2, 1992
4. Kabur, J.N. (1992) *Transmission of values through Higher Education System* *University News* Monday, February 24, 1992.
5. Chinara, B.S. (1992) *A Research Approach via Value Manifestation*. *University News*, Monday, April 20, 1992.
6. Aggarwal, J.C. (1993) *Land mark in the History of Modern Indian Education* *Vikas Publishing House Pvt. Ltd.*
7. Joseph, K.S. (1996) *Value loaded curriculum need of the hour*. *New Frontiers in Education* Vol.XXVI No.3 July, September, 1996.
8. Rajput, J.S. (1996) *Implementation Strategies for Education in Human values – University News* Monday, February 1996.
9. Goyal, B.R (2000) *Values and Education in the Emerging Indian Society*.