

EFFECT OF COOPERATIVE LEARNING ON ACADEMIC ACHIEVEMENT OF STUDENTS IN SOCIAL SCIENCE AT SECONDARY LEVEL

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Abstract

The aim of the study was to explore the effects of cooperative learning on Academic Achievement of Students in Social Science at Secondary Level. Based upon previous research literature it was hypothesized that significant difference existed between the mean posttest scores of Social Science academic achievement of experimental group and control group. The pretest posttest control group design was chosen for the experiment. The study sample consisted of 48 students of 9th class who were equally distributed among experimental group and control group, matched on the basis of their annual examination at social science scores. The dependent variable of Social Science academic achievement was measured through self-constructed 11-item (very short answer-5 questions, short answer-4 questions and essay type question-2 questions) achievement test used as a pretest as well as a posttest. The experiment group was taught through cooperative learning while control group was taught through traditional teaching. The data were analyzed through mean, standard deviation and t-test was the selected level of significance. The main result of the study was that cooperative learning method is superior to traditional method in social science achievement of 9th grade students.

Keywords: Cooperative Learning, Academic Achievement, Social Science.

Introduction

Cooperative learning is a teaching in which small teams, each with student of different levels of ability, use a variety of learning activities to improve their understanding of the subject (Balkcom, 1992). Cooperative learning is a classroom strategy in which students work in small groups to improve collaborative skills and help each other to learn academic material (Davidson, 1990). Cooperative learning refers to instructional methods in which students of all levels of performance work together in small groups towards a common goal (Slavin, 1982). "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)." The investigator used the terms method and strategy of teaching interchangeably. As far as this study is concerned, the investigator used the term 'secondary education' to mean the ten years of schooling of the students and the students of standard IXth are selected for the experimentation of the present study.

Review of Related Literature

Parveen (2010) investigated the effect of cooperative learning on academic achievement of 8th grade students in the subject of social studies. The pre test post control

group design was chosen for experiment. The study sample consisted of 35 students who were distributed among experimental group (N=18) and control group (N=17). The result of the study did not confirm research hypothesis. Cooperative learning was not found to be a better instructional strategy than routine method of instruction.

Qaisara Parveen & Sadia Batool (2012) investigated the effects of cooperative learning on General Science achievement among 9th class students. Based upon previous research literature it was hypothesized that significant difference existed between the mean posttest scores of General Science achievement of experimental group and control group. The pretest posttest control group design was chosen for the experiment. The study sample consisted of 36 students of 9th class who were equally distributed among experimental group and control group, matched on the basis of their annual examination at general science scores. The dependent variable of General Science achievement was measured through self-constructed 30-item achievement test used as a pretest as well as a posttest. The experiment group was taught through cooperative learning while control group was taught through traditional teaching. The material was used such as lesson plans, worksheets and quizzes, designed to implement cooperative learning methodology. The data were analyzed through mean, standard deviation and t-test and .05 was the selected level of significance. The main result of the study was that cooperative learning method is superior to traditional method in general science achievement of 9th grade students.

Objectives of the Study

- To investigate the effectiveness of the cooperative learning method in developing positive attitudes of students towards learning social science.
- To study the effect of independent variables such as gender, locality, nature of schools and the method of teaching on dependent variable (academic achievement level of the students).

Hypotheses of the Study

The following null hypotheses were tested in this study:

1. There is no significant difference between mean pretest scores of male and female students of the experimental group in the traditional method of teaching in social science.
2. There is no significant difference between mean pretest scores of male and female students of the control group in the traditional method of teaching in social science.
3. There is no significant difference between the mean achievement scores of male and female students of the control group on posttest in the traditional method of teaching in social science.
4. There is no significant difference between the mean achievement scores of male and female students of the experimental group on posttest in the traditional method of teaching in social science.

Method for the Study

The following method was adopted for experimentation and data collection:

The experimental method adopted for the present investigation was perhaps the classical experimental design, more complex than the one-group experiment but more accurate too. In this, two groups of subjects equivalent in all the significant respects such as age, previous academic achievement and physical condition were selected. The subjects of the study were equated and selected on basis of previous academic record which was found equal. For this purpose, the marks (scores) obtained by the students in their previous examinations were taken into account. One of these parallel groups served as the control group and the other group as the experimental group.

Sample for the Study

Simple Random sampling technique was used to select the sample of the study. Male and Female students of class 9th in types of school. High School at Coimbatore

District in Tamilnadu were taken as sample. Sample size was 48 students.

Tool for the Study

In order to measure the Social Science academic achievement of the sample students before and after the study, an academic achievement test was especially designed. It was consisted of 11 items. Test items included very short answers - 5 questions, short answers - 4 questions and essay question - 2 questions items were related to the content to be taught during the study. The total marks allocated to the test were 50 and time duration was 75 minutes. The test after its construction was shown to the subject specialist for its content validation and expert opinion for its improvement. After the approval with certain modification like change of place of right answer from its earlier position, the instrument was used for dimension function.

Analysis and Discussion

Table 1: Mean and Standard deviation of pretest scores of male and female students of the experimental group in the traditional method of teaching in social science

| Variable | Mean | S.D | 't' Value | Result |
|----------|-------|------|-----------|-------------------------------|
| Male | 29.57 | 4.60 | 0.808 | Not Significant at 0.05 level |
| Female | 30.12 | 4.82 | | |

The table 1 mentioned in references indicates, there is no significant difference between mean pretest scores of male and female students of the experimental group in the traditional method of teaching in social science are 29.57 and 30.12 respectively. The spread of score for the above groups was 4.60 and 4.82. Both the groups were found to be almost equal on their pretest performance with no significant difference t-value (0.80) in terms of mean and spread of scores.

Table 2: Mean and Standard deviation of pretest scores of male and female students of the control group in the traditional method of teaching in social science

| Variable | Mean | S.D | 't' Value | Result |
|----------|-------|------|-----------|-------------------------------|
| Male | 29.81 | 4.67 | 0.951 | Not Significant at 0.05 level |
| Female | 30.45 | 4.76 | | |

The table 2 mentioned in references indicates, there is no significant difference between mean pretest scores of male and female students of the control group in the traditional method of teaching in social science are 29.81 and 30.45 respectively. The spread of score for the above groups was 4.67 and 4.76. Both the groups were found to

be almost equal on their pretest performance with no significant difference t-value (0.951) in terms of mean and spread of scores.

Table 3: Mean and Standard deviation of achievement scores of male and female students of the control group on posttest in the traditional method of teaching in social science

| Variable | Mean | S.D. | 't' Value | Result |
|----------|-------|-------|-----------|---------------------------|
| Male | 32.41 | 2.404 | 3.02 | Significant at 0.05 level |
| Female | 33.44 | 2.32 | | |

The table 3 mentioned in references indicates, there is no significant difference between the mean achievement scores of male and female students of the control group on posttest in the traditional method of teaching in social science are 32.41 and 33.44 respectively. The spread of score for the above groups was 2.40 and 2.32. Both the groups were found to be almost equal on their posttest performance with significant difference t-value (3.02) The value is significance at 0.5 levels. The null hypothesis No.3 is therefore rejected.

Table 4: Mean and Standard deviation of achievement scores of male and female students of the experimental group on posttest in the traditional method of teaching in social science

| Variable | Mean | S.D. | 't' Value | Result |
|----------|-------|------|-----------|---------------------------|
| Male | 37.93 | 3.95 | 2.83 | Significant at 0.05 level |
| Female | 39.30 | 2.61 | | |

The table 4 mentioned in references indicates, there is no significant difference between the mean achievement scores of male and female students of the experimental group on posttest in the traditional method of teaching in social science are 37.93 and 39.30 respectively. The spread of score for the above groups was 3.95 and 2.61. Both the groups were found to be almost equal on their posttest performance with significant difference t-value (2.83). The value is significance at 0.5 levels. The null hypothesis No.4 is therefore rejected.

Conclusions

The null hypothesis No.3 was rejected. It was, therefore concluded that the achievement scores of male and female students of the control group on posttest in the traditional method of teaching in social science.

The null hypothesis No.4 was rejected. It was, therefore concluded that the achievement scores of male and female students of the experimental group on posttest in the traditional method of teaching in social science.

Recommendations

On the basis of above conclusions, the following recommendations are drawn for further research:

Thought it was assumed that the experimental group and control groups were almost equal on all the factors except the independent variable, yet there were visible differences in the teachers, competence, teaching environment and teacher qualification and experience. Though differences could not be perfectly eliminated, yet these could be reduced as far as possible.

In the present study, the investigator made an attempt to study the effectiveness of three models of cooperative learning method of teaching in enhancing the achievement of the students in social science. Many such researches should be made in other subjects too.

There is a need for change in the present system of instruction. Because of the population explosion, the Indian classrooms are overcrowded. The government authorities have difficulties in appointing teachers. The requirement of the teachers increases day by day. The present infrastructure facilities are not sufficient to meet the growing number of children. Unless a new method of teaching and learning comes in vogue, the present condition will continue. The cooperative learning is a panacea for the overcrowding classes in India and Tamilnadu.

In the present study the model of cooperative learning was used on one school subject, namely Social Science. This model may also be tried out on other school subjects at elementary and secondary level and also on different type of students like slow learners and special students.

References

1. Best John. W James V. Kahn (2007). Research in Education. Prentice Hall of India: New Delhi.
2. Bhattacharyya. D.K. (2006). Research Methodology, Second Edition. Prist University, Thanjavur.
3. Crisp R.J. & Turner R.N. (2007). Essential Social Psychology. London: Sage Publications.
4. Gage, N., & Berliner, D. (1992). Educational psychology (5th ed.).
5. Johnson, D.W.et al. (1987). Circles of Learning: Cooperation in the Classroom. Alexandria: Addison-Wesley.
6. Kotheri C.R. (2007). Research Methodology (Methods & Technique). New Age International Publishers: New Delhi.
7. Mangal S.K. (2005). Advanced Educational Psychology. Prentice-Hall of India Pvt, New Delhi.

8. Mangal. S.K. (2013). *Statistics in Psychology and Education*. Second Edition, PHI Learning Private Limited, Delhi.
9. Parveen, S. (2010). Effect of Cooperative Learning on Academic Achievement of 8th Grade Students in the Subject of Social Studies. *International Journal of Academic Research*, 3(1), 950-955.
10. Qaisara Parveen & Sadia Batool. (2012). Effect of Cooperative Learning on Achievement of Students in General Science at Secondary Level. *International Education Studies*, 5(2), 154-158.