

THE EFFECTS OF COOPERATIVE LEARNING ON STUDENTS' SOCIAL SCIENCE ACHIEVEMENT AND ATTITUDE TOWARDS SOCIAL SCIENCE AT SECONDARY LEVEL

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Abstract

The purpose of this study was to find out the effect of cooperative learning on social science achievement and attitude towards social science at secondary level. This quasi-experimental study was carried out on two form one classes in Coimbatore district. One class (n = 192) was assigned as an experimental group and the other (n = 192) was assigned as a control group. The two groups were pre-tested prior the implementation. At the end of the study, post test was given, while daily quiz was used as a tool for formative testing. Teaching and learning process was carried out for two weeks. Data were analysed using the t-test to conclude performance by comparing the mean of the post test for treatment and control group. The results of this study showed that cooperative learning methods improve students' achievement in social science and attitude towards social science at secondary level. The investigator concluded that cooperative learning is an effective approach, which social science teachers need to integrate in their teaching.

Keywords: Cooperative learning, achievement, attitude.

Introduction

At present social science is widely use in various fields and covering a wide range of activities. However, the decline in social science achievement is of concern. The investigator used the term 'academic achievement' to refer to the academic achievement (scores) of the students in social science. Teaching and learning is a continuous process and it should be modified and up-dated from time to time according to the emerging needs of the teachers and the taught. Both the knowledge explosion and the population explosion require the changes in the existing system of teaching and learning. This naturally demands the experimentation of new strategies in teaching and learning. For a long time, our schools have been practicing teacher-centered methods of teaching. In India, there are crowded classes and the classrooms lack the basic facilities. Such students need a new technique to develop self learning skills. The learner-centered teaching is the only answer. Among the various methods of learner-centered teaching, cooperative learning is being popular among the educationists and the investigators.

Review of Related Literature

Effandi Zakaria et al. (2010) determined the effect of cooperative learning on mathematics achievement and attitude towards mathematics. This quasi-experimental study was carried out on two form one classes in Miri, Sarawak. One class (n = 44) was assigned as an experimental group and the other (n = 38) was assigned as a control group. The two groups were pre-tested prior the implementation. At the end of the study, post test was given, while daily quiz was used as a tool for formative testing. Teaching and learning process was carried out for

two weeks. Data were analyzed using the t-test to determine performance by comparing the mean of the post test for treatment and control group. The results of this study showed that cooperative learning methods improve students' achievement in mathematics and attitude towards mathematics. The researchers concluded that cooperative learning is an effective approach, which mathematics teachers need to incorporate in their teaching.

Najmonnisa et al. (2015) aimed to report the findings of an experimental study to measure the impact of Cooperative Learning (CL) on students' academic achievement (AA). In order to pursue the objectives of study, Pre-test Post-test Control Group design was used. The experimental group was given treatment of CL method whereas no treatment was given to control group. Total 128 Students of grade seven were selected as participants from a public sector school. Treatment was given for 13 weeks. ANOVA test was applied as a statistical technique to examine within group and between group impacts. The findings of the study proved the efficiency of CL in the area of academic achievement as experimental group performed better in post-test than control group. In the light of the findings of the study, recommendations were made for different stakeholders for the improvement of teaching learning practices, particularly in General Science and generally for other subjects. As cooperative learning is cooperation based learning method, this study wished to share the results related to the effectiveness of CL that may be valuable for society especially for teachers' motivation to improve their teaching and learning practices to enhance students' learning. Limitation is related to sample and design. Only female students were taken as

sample and researcher employed quasi experimental design to conduct experiment.

Objectives of the Study

- Whether there are differences in achievement in social science between the control group and the experimental group.
- Whether there are differences in students' attitude towards social science between the control group and the experimental group.

Materials and Methods

Since the classes existed as integral groups, the study used a quasi-experimental non-equivalent control group design. To control for teachers' training and experience as sources of internal invalidity, only teachers of equivalent training and experience were chosen. Convenience sampling technique was used to select the schools that formed the study sample. The participants were 384 Form One students from one of the school in Coimbatore. Of these respondents, 192 were in the experimental class, while 192 others were in the control class. Students in Form One in Tamilnadu secondary schools are of an average of 14 years old. The study was carried out for three weeks. Student Teams- Achievement Divisions developed by 15 juries including 4 subject experts, 5 research experts, 6 experienced teachers of social science was used as the Jigsaw, Group Investigation and Learning together cooperative model.

Instrumentation

Achievement test: In this study, the achievement test was used to measure the students' mastery of the subject of parts. 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. All items used are based on form 1 social science syllabus. Validity is an important feature for an instrument (Wiersma, 2000). An instrument is said to have high validity if the degree of its ability to measure what it should be measured is high. All the items were reviewed by the Head of Department of social studies and expert teachers for validation.

Attitude towards social science: A set of attitude questionnaire items have been adopted and modified by the researchers. The instrument was given to experts in social science education for validation. Since the items were not scored dichotomously, the reliability coefficient of the test was estimated using Cronbach's coefficient alpha (α). The reliability coefficient was found to be 0.79. Attitude

questionnaire contains 30 items. In this questionnaire, all respondents were required to choose the answer that reflects their own views and stance on the statements that are administered in accordance with the Likert scale of four points, Strongly Agree, Agree, Disagree and Strongly Disagree.

Results

Table 1: Pre-test achievement means scores of the control and the experimental group

Variable	N	Mean	S.D	't'	Result
Control Group	192	30.75	4.5	0.457	Not Significant
Experimental Group	192	30.45	4.46		

Table 1 shows the pre-test scores of the control and the experimental group. The results indicate that the mean score for control group was 30.75 with a standard deviation of 4.5 and that of experimental group was 30.45 with a standard deviation of 4.46. The results also indicate that the difference between the achievement mean scores for control and experimental groups $t(384) = 0.457$ is not significant at the alpha level of 0.05. This, therefore, means that the control and experimental groups were at the same level of achievement at the start of the study.

Table 2: Post-test achievement mean scores of the control and the experimental group

Variable	N	Mean	S.D	't'	Result
Control Group	192	32.41	2.40	11.7	Significant
Experimental Group	192	37.93	3.95		

Table 2 shows the post-test achievement mean scores of the control and the experimental group. The results indicate that the mean score for control group was 32.41 and that of experimental group was 37.93. The results also indicate that the difference between the achievement mean scores for control and experimental groups $t(384) = 11.37$ is significant at the alpha level of 0.01.

Table 3: Pre-test attitude mean scores of the control and the experimental group

Groups	N	Mean	S.D.	't'	Result
Control Group	192	56.81	7	0.732	Not Significant
Experimental Group	192	57.31	6.36		

As shown in Table 3, the results indicate that the mean score for control group was 56.81 with a standard deviation of 7 and that of experimental group was 57.31 with a standard deviation of 6.36. The results also indicate that the difference between the attitude mean scores for experimental and control groups $t(384) = 0.732$ is not significant at the alpha level of 0.05. This, therefore, means that the experimental and control groups were at the same level of attitude at the start of the study.

Table 4 Post-test attitude mean scores of the control and the experimental group

Groups	N	Mean	S.D.	't'	Result
Control Group	192	57.44	6.78	71.34	Significant
Experimental Group	192	105.802	6.52		

Table 4 shows the post-test attitude mean scores of the control and the experimental group. The results indicate that the mean score for control group was 57.44 and that of experimental group was 105.802. The results also indicate that the difference between the attitude mean scores for experimental and control groups $t(384) = 71.34$ is significant at the alpha level of 0.01.

Discussion

Social Science achievements: The results of this study show that the cooperative learning approach resulted in higher achievement than the traditional teaching approaches. The reason for the increase in students' achievement could be caused by the students involvement in social studies and receiving social works in which the social values can be easily understood. Cooperative learning gives more space and opportunities for students to talk about, solve social problems, self-esteem, self-confidence and help each other.

Attitude towards social science: The results of this study also show that the cooperative learning approach increase attitude towards social science. This is maybe because when students work in group they feel that they can depend on others for help and therefore increase their confidence in solving social problems. This may indirectly change their attitudes towards social science. Cooperative learning also emphasizes social interaction and relationships among groups of students in particular and among classmates in general. Cooperative learning actively involves students in the learning process.

Conclusions

Student-centered approaches such as the effects of cooperative learning on students' social science achievement and attitude towards social science at secondary level. Therefore, teachers in schools, especially teachers who teach social science need to be aware of the benefits and importance of cooperative learning and thus changing the practice of teacher-centered teaching methods to student-centered teaching methods. There are positive changes taking place when teachers change their teaching methods towards a more student-centered approach. Teachers need to master the social studies content to be delivered and plan how to implement cooperative learning better. Cooperative learning should be employed especially Student Teams- Achievement

Divisions so that students can be help each other in larger groups. Therefore, teachers are encouraged to practice these methods regularly and effectively. The results showed that cooperative learning could have a positive effect on the formation of a more positive attitude towards social science among secondary level students. However, attitude is something very abstract and subjective in detecting changes in the short term. This study only lasted for three weeks. This means that students are exposed to learning in a very short period. Therefore, research should take a longer time span so that the results of this study can be validated. Any educational practice is possible only when there is coordination among the teachers, students and the authorities of educational institutions. A positive attitude towards new methods and techniques is the basic requirement for any of its success. The investigator felt that the present study gives favourable result on cooperative learning in enhancing the academic achievement of the students in learning social science and he welcomes many such researches in future for the benefit of the students and teachers.

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