



EFFECTIVENESS OF COOPERATIVE LEARNING IN TEACHING SCIENCE IN STANDARD VIII

Bhumika Mangrola

Adhyapak Sahayak, Waymade College of Education, Anand.

Voice of Research

Vol. 2, Issue 4,

March 2014

ISSN 2277-7733

Abstract

Due to the increasing diverse nature of the education system, it is important to use innovative learning strategies to bring quality in education. For the retention and comprehension of the subject matter taught in the classrooms, teachers must engage students and provide them with the proper social skills needed to succeed beyond the classroom environment. Cooperative learning is one of the innovative strategy which focuses on to provide quality education. Cooperative learning is an instructional strategy which allows learners to work together in small groups with individuals of various talents, abilities and background to accomplish a common goal. Cooperative learning is deeply rooted in society. It is a fundamental aspect of our everyday lives. If we view learning situation as a part of wider social context in which we live, then it is not difficult to relate to this.

Keywords: Innovative Learning Strategies, Cooperative Learning

In the ideal classroom all the three learning patterns i.e. Competitive, Individualistic and Cooperative learning should be appropriately used. All students should learn how to work cooperatively with others, compete for fun and enjoyment and work on their own. No aspect of teaching is more important than the appropriate use of different learning patterns. But, unfortunately, most students perceive school as a predominantly competitive enterprise as for the past half a century, competitive and individualistic learning patterns have dominated our education system. Competitive and individualistic learning situations instill in learners such value systems which form a part of the hidden curriculum beneath the surface of school life i.e. when students are exposed to such learning, they unknowingly, indirectly, involuntarily acquire such values which are not a part of real school curriculum to be followed for the all round development of the students. Whenever students are engaged in competitive efforts, they learn the value of commitment to getting more than others. In such type of learning, success depends on beating, defeating and getting more than other people. What is important is winning, not mastery or excellence. Students think that others are a threat to one's success. The values which students inherently learn when they are exposed to individualistic experiences are commitment to one's own self interest. For such type of students success depends on one's own efforts. The pleasure of succeeding is personal and relevant to only oneself. In contrast to these, the values inherently taught by cooperative efforts are commitment to own and other's success and well being as well as to the common good. Success depends on joint efforts to achieve mutual goals. Facilitating, promoting and encouraging the success of others is a natural way of life. They think of the potential of others as a contributor to one's success. Cooperative learning has all the essential ingredients that can bring about a qualitative change in education because it is based on the new paradigm of teaching which considers that knowledge is constructed, discovered, transformed and extended by students. So in the present study, the researcher has tried to prepare and implement cooperative learning to make the teaching learning process more effective and tried to check the effectiveness of the cooperative learning in Science teaching at grade VIII.

Objectives of the Study

To study the Science textbook of standard VIII

To prepare lesson plan based on cooperative learning for teaching Science at standard VIII.

To implement the cooperative learning based lesson plan

for teaching Science in standard VIII.

To evaluate the effectiveness of cooperative learning based lesson plan in terms of the academic achievement of students.

To study the feedback of students towards cooperative learning

Hypotheses

There will be no significant difference between the mean achievement scores in the post test of the experimental group and the control group.

There will be no significant difference between the mean achievement scores in the delayed post test of the experimental group and the control group.

There will be no significant difference between the mean achievement scores in the post test and delayed post test of the experimental group.

There will be no significant difference between the mean achievement scores in the post test and delayed post test of the control group

Research Design

The population of the present study comprised of all the students studying in standard VIII in CBSE schools of Anand District. The sample of the present study comprised of 30 students in control group and 30 students in experimental group of standard VIII of The H.M.Patel English Medium School affiliated to CBSE. In control group as well as in experimental group 13 were girls and 17 were boys. To select the representative sample for the present study, convenient sampling method was used. Self constructed tools namely Achievement Test and Feedback Form were used as tools in the present study for the purpose of data collection. A module was prepared for the intervention programme which comprised of lesson plans based on cooperative learning. The research is Experimental in nature. The present experimental study has been conducted utilizing two group post test, delayed post test design.

Data Analysis and Interpretation

Data collected through experiment were analyzed by using t- Test. For Feedback Analysis Percentage (%) Scores were calculated. The analysis of the data has been presented in tabular form as under

Table 1 - Significance of difference between Post test scores of Experimental group and Control group

Group	n	Mean	S.D	df	t
Experimental Group	30	41.23	6.36	58	2.39*
Control Group	30	37.4	7.21		



***Significant at 0.05 level**

From table no. 1 it can be observed that the mean of the scores of experimental group is 41.23 whereas the mean of the scores of the control group is 37.4 the calculated t-value was found to be 2.39 which is significant at 0.05 level of significance. This implies that the difference in the level of achievement of experimental group and control group is significant. In the light of this, the null hypothesis no.1 that “there will be no significant difference between the mean achievement scores in the post test of the experimental group and the control group” is rejected.

Table 2 - Significance of difference between Delayed post test scores of Experimental group and Control group

Group	n	Mean	S.D	df	T
Experimental Group	30	40.23	4.15	58	2.53*
Control Group	30	35.4	9.77		

***Significant at 0.05 level of significance**

From table no. 2 it can be observed that the mean of the scores of experimental group in the delayed post test is 40.23 whereas the mean of the scores of the control group in the delayed post test is 35.4. The t-value of 2.53 obtained for the delayed post test scores of the experimental group and control group was found to be significant at 0.05 level of significance with df 58. This implies that the difference in the level of achievement of experimental group and control group is significant. In the light of this, the null hypothesis no. 2 that “there will be no significant difference between the mean achievement scores in the delayed post test of the experimental group and the control group” is rejected.

Table 3 - Significance of difference between post test and Delayed post test scores of Experimental group

Experimental Group	n	Mean	S.D	df	t
Post Test	30	41.23	6.36	29	1.52*
Delayed Post Test	30	40.23	4.15		

***Not Significant**

From table no. 3 it can be observed that the mean of the post test scores of experimental group is 41.23 whereas the mean of the delayed post test scores is 40.23. The t value of 1.52 obtained was found to be not significant at 0.05 level of significance with df 29. This implies that the difference in the level of achievement of students on post test and delayed post test of the experimental group is not significant. In the light of this, the null hypothesis no. 3 that “there will be no significant difference between the mean achievement scores in the post test and delayed post test of the experimental group is accepted.

Table 4 - Significance of difference between post test and Delayed post test scores of Control group

Control Group	n	Mean	S.D	df	t
Post Test	30	37.4	7.21	29	1.86*
Delayed Post Test	30	35.4	9.77		

***Not Significant**

As seen from table no.4 the mean of the post test scores of control group was found to be 37.4 whereas the mean of the delayed post test scores was found to be 35.4. The t value of 1.86 obtained for the post test scores and delayed post test scores of the Control group was found to be not

significant at 0.05 level of significance with df 29. This implies that the difference in the level of achievement of control group is not significant. In the light of this, the null hypothesis no. 4 that “there will be no significant difference between the mean achievement scores in the post test and delayed post test of the control group” is accepted.

Findings and Conclusion

The data analysis revealed that the students experience with regard to cooperative learning was mainly positive. The data from this research confirmed a significant increase in academic achievement in comparison to the students who were taught by the traditional method. Results of the study also show that there was more retention of the content in the students taught through cooperative learning in comparison to those taught by traditional method. The learning was more permanent in cooperative learning group. The results of this study strongly suggest that cooperative learning had positive impact on learners as it developed interest among learners. Through the observation of the learners it was found that they became more interested, more confident, more interactive and more participatory and they seemed to take more responsibility for their own learning. It was observed that as the performance of the students increased, their confidence level increased as well as their self esteem improved. Result shows that it was enjoyable learning for learners. Cooperative Learning helped in sharing doubts of learners without any hesitation with their friends and helped in clarifying their concept. Interaction between students increased. Even though this study was limited in duration and scope, the results clearly support earlier research on cooperative learning. The academic achievement of the students learning cooperatively was found to be significantly more than the students learning through the traditional chalk and talk method. The researcher also found that learners were more responsive; more interested in learning and became more active participants in the class. Overall there was a positive impact of cooperative learning on the students. It was observed that they benefited academically, socially as well as psychologically.

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