

CHAPTER-V

Findings discussion and implications of the study

5.1 Introduction

In the first section 5.2 of the chapter major findings of the study have been discussed. Section 5.3 presents a discussion and interpretation of the results given in chapter IV. Implications of the study have been described in sections 5.4. Section 5.5 presents the limitations for this study and section 5.6 gives suggestions for future studies.

5.2 Findings of the study

The study was conducted to find out the effect of cooperative learning approach and the learning of boys and girls of class VII. The size of the sample was 64. 32 from experimental group and 32 from control group. In both the groups there were 16 boys and 16 girls respectively. The two hypotheses were formulated. These were.

#Cooperative learning approach and traditional teaching methods have the same effect on the learning of students.

#Cooperative learning has the same effect on the learning of boys and girls of class VII.

These hypotheses were tested using t-test and the findings of the study were as follows:

#There was significant difference in the learning of students through cooperative learning approach. The obtained t-value 4.86 in table 4.10 is more than tabulated t-value 2.66 with 62 degrees of freedom is significant at 0.01 level.

#.In the learning of boys and girls of experimental group no significant difference exists while learning through cooperative approach because tabulated value is higher than calculated value.

5.3 DISCUSSION AND INTERPRETATION OF THE RESULTS

Table 4.2 and 4.3 in chapter IV presents pretest scores of boys and girls of experimental group and control group. The performance of the girls in the pretest achievement scores was higher than that of boys. Similarly the performance of girls in the control group was better than boys. In both the groups, experimental and control the performance of girls was better than boys in the pretest achievement scores.

Table 4.4 and 4.5 in chapter IV deal with post-test scores of experimental and control group respectively. In experimental group the performance of girls is better than boys but in control group the boys scored slightly better than girls. There appears to be consistently good performance among the girls of experimental group both in pretest scores and post-test scores, whereas boys of control group better in the post-test scores. However the performance was not significantly higher than the possibility of performance of girls in the control group. Perhaps the boys in the control group paid more attention to the classroom tasks learning than girls resulting in better performance of boys in the post-test achievement scores. Another possibility is that boys got tuition at home which helped them to score better than girls in the post-test.



Tables- 4.6 and 4.7 in chapter IV for pre-test scores describe the mean and standard deviation values for boys and girls of experimental group and control group respectively. In both the groups the mean scores for girls was higher than that of boys in pretest achievement scores.

Table 4.8, which gives mean and standard deviation values for experimental group, suggests that the mean values for experimental girls was very high in the post-test achievement scores compared with experimental boys. The performance of girls, as was the case in pretest achievement scores, remained superior to the performance of boys in the post-test scores also. The mean values in the post-test achievement scores clearly indicate that the performance of girls was very high compared with the performance of boys.

Table 4.9 presents mean and standard values for control group suggests that the mean values for the control group boys was slightly higher than the experimental girls in the post-test achievement scores.

TESTING OF FIRST HYPOTHESIS

Table 4.10 in chapter IV was related to testing of first hypothesis. The hypothesis is related to the effect of cooperative learning. The hypothesis was (H₀) "cooperative learning approach and traditional teaching method have the same effect on the learning of students". This table clearly indicates that the obtained t-value 4.86 is more than table t-value 2.66 with 62 degrees of freedom is significant at .01 level. For testing the hypothesis gain score of all the students of experimental group and control group was found out by subtracting the pre test scores from post test scores. Mean, standard deviation and t-value were computed and presented in the table since the calculated value is greater

than the table value therefore the null hypotheses (H_0) was rejected in favour of alternative hypothesis (H_1) cooperative learning approach and traditional teaching methods have different effect upon the learning of students. In Other words alternative hypothesis (H_1) is accepted.

The result shows that the experimental students performed better than control students. The performance of the Experimental students was better because they were taught using cooperative learning approach. This approach was different from the one generally used by the teachers during classroom practices. This approach was cooperative learning approach. In this approach learning in group takes place. It involves face to face interaction between pupils pupil and pupil- teacher. This approach helps in developing self confidence among the students. While learning through cooperative approach students develop the capacity of taking initiative.

Good, Mason, Slavin and Cramer (1990) conducted a study on small mathematics instruction in elementary schools. This study suggests that the teachers can use small group mathematics instruction on especially small heterogeneous groups to make mathematics more meaningful. Small group can allow students to be more active learner and enable teachers to introduce more thinking and more challenging content into the curriculum. The findings of the study confirm the findings of the current study while learning in groups the students become active. They develop an interest to learn together and improve their performance. □

Duren & Cherrington (1992) conducted a study to examine the relative effects of cooperative versus independent practice following the initial instructional period of introducing mathematical problem solving strategies to junior high school students. The results of the test indicated that the student who worked cooperatively were able to remember and apply the problem solving strategies better than those students for the independent produces. Results also suggest that the students were willing to tackle a problem longer in the cooperative groups, whereas the students in the independent practice class tended to give up quickly if they could not find an immediate solution. This study strongly supports the study of the investigators study, In cooperative learning approach the students can discuss with each other help each other while showing any problem but in independent practice he or she has to do alone.

Another study was of Knupfer (1993). He investigated the effect of students of ability grouping on geometry learning after a semester of instruction. The results showed that geometry post test revealed a significant difference in the effect which was based on ability. The investigator in her study also found that the post-test scores of experimental students were significantly higher when compared with post-test scores.

The study of Weeb & Frover (1994) which investigated promoting help behaviour in cooperative, small group in middle school mathematics, supports the findings of current study which demonstrates that the performances of experimental students using cooperative learning approach was significantly superior to the performance of control students who learned through regular classroom teaching. Weeb and Frover found that Latin and American students gave and received more help and showed higher achievement in the experimental group than in the control group. □

Austin and Darrel (1995) also found that cooperative learning approach was helpful in mathematics achievement and cooperative behaviours of young children in integrated kindergarten class, which again support the findings of this study.

The study of Mears and John (1995) in their study concluded that cooperative learning technique seemed to be more effective when used in class which met for longer period. This study also supports the conclusion of current study is more effective than that of teaching practices currently being used in classrooms. □

The finding of all these research studies supports the conclusion of the current research that cooperative learning approach is significantly superior to the classroom teaching practices that are being used currently.

The second hypothesis cooperative learning approach have the same effect on the learning of boys and girls of class VII was tested using t-test in table 4.11. This hypothesis was not rejected in favour of alternative hypothesis suggesting that there is no significant difference between boys and girls while learning through cooperative approach. This demonstrates that gender differences have no effect on the learning of an individual. It also rejects the stereotype beliefs that the performance of boys in certain areas is always superior to the performance of girls.

Mears and John (1995) in their study concluded that there was no significant difference in the gender. This study supports the findings of the investigator study.

5.4. Implications of the study

#.As found that the achievement of students learning through cooperative approach was significantly higher than the students of control group. So this strategy can be implemented in classroom practices in order to improve the learning of the students.

#.This strategy can be implemented for all subjects at school level.

#.The cooperative learning is effective for all students irrespective of their sex.

#.Pre service and inservice teachers can be trained to implement the cooperative learning strategies in their classrooms.

#.This approach may develop capacity of taking initiative, interest in learning together, sharing of ideas. They will learn to solve problems in education.

#.This approach will also be helpful for the teacher. He or she has not to teach every topic. He or she will encourage the students to work out problems. The teacher will act as a facilitator. He can intervene where it is important.

#.It can be used for large classes.

#.In multigrade situation this approach may be very useful.

5.5.Limitations of the study

Following were the limitations of the studies.

#. The small sample was taken due to limited scope and time of the study.

#.The study was conducted on only one class of one school only in Bhopal city.

#.Random selection was not possible because authorities of school did not permit random selection of the students.

#.Standardized tools were not available for this study so investigator constructed tool.

#.Sophisticated statistical technique for testing the reliability and validity could not be used because of the limited facilities.

#.An extensive statistical analysis could not be used on account of limited facility and scope of the study.



5.6.Suggestions for future research

#.Similar studies may be conducted on large sample covering more topics in mathematics or any other subject for longer duration.

#Studies using cooperative learning may be conducted in the tribal areas.

#Study investigating the effect of cooperative learning in students may be conducted on the students of different classes.

#An extensive research may be used in future reasearch.

#For Standardization, the reliability and validity of the test may be conducted for future studies.