CHAPTER V

SUMMARY AND DISCUSSION

5.0 SUMMARY

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5.0 SUMMARY

The science of geography is changing rapidly. Social and technical progress depends more and more on up-to-date geography in an increasing range of professions. This is because geography is becoming a more flexible tool than it ever was in many fields of life and culture, old and new alike.

The purpose of this study, therefore, is to examine the empirical support validating the effectiveness of the different methods of cooperative learning. In order to do so, it is first helpful to discuss why cooperative learning is so widely used.

The investigator for the present study uses one of the Cooperative Learning model that is Students Team Achievement Divisions (STAD).

Students Team Achievement Divisions (STAD) is one of the popular method cooperative learning, which was developed by Slavin (1978). In four-member heterogeneous learning teams, mixed by performance level, gender, and ethnicity, students work together to make sure that each team member has learned a lesson presented by the teacher. The lesson concludes with quizzes on the material covered by that lesson. Students take the quizzes individually, without helping one another. Quizzes are scored, and each student is awarded points based on having met or exceeded his or her previous score. Team scores represent the sum of the members’ points. Teams earn certificates or other awards by meeting pre-established criteria. STAD, a cycle of activities that takes three to five class periods, has been used in second grade
through college classrooms, and in a wide range of subjects, including social studies. It is best suited to teaching well-defined objectives, and material for which there will be a single right answer. In the social studies, it could be used as a strategy to teach map skills, geography, events in history, or economic and government principles. In contract to some methods of CL like Group investigation for example, which is purely student-centered, STAD pays more attention to the present and the role of the teacher. Therefore, it is likely to attract those teachers who do not like to consider students contribution to making important curriculum-related decisions such as goals setting, group formation and role assignment. This method includes five major phases:

1. Teacher Presentation
2. Team Study
3. Individual Quizzes
4. Determining improvement points and
5. Team recognition

Hence the study entitled as “EFFECT OF CO-OPERATIVE LEARNING MODEL ON THE IX STANDARD STUDENTS ACHIEVEMENT AND THEIR ATTITUDE TOWARDS GEOGRAPHY”
OBJECTIVES OF THE STUDY

The objectives of the study are as follows:

1. To study the significant difference between experimental and control groups with respect to pre test, post test and gain of pre and post test achievement in Geography of IX standard students.

2. To study the significant difference between boys and girls of IX standard with respect to pre test, post test and gain of pre and post test achievement in Geography in experimental group.

3. To study the significant difference between boys and girls of IX standard with respect to pre test, post test and gain of pre and post test achievement in Geography in control group.

4. To study the significant difference between levels of ability (Below average, average and above average) with respect to pre test, post test and their gain of achievement in Geography scores of IX standard students in experimental group.

5. To study the significant difference between levels of ability (Below average, average and above average) with respect to pre test, post test and their gain of achievement in Geography scores of IX standard students in control group.

6. To study the significant difference between experimental and control groups with respect to attitude scores towards Geography of IX standard students.
7. To study the significant difference between experimental and control groups with respect to attitude scores towards Geography of IX standard boys
8. To study the significant difference between experimental and control groups with respect to attitude scores towards Geography of IX standard girls
9. To study the significant difference between boys and girls of IX standard with respect to their attitude scores towards Geography as a whole
10. To study the significant difference between boys and girls of IX standard with respect to their attitude scores towards Geography in experimental group
11. To study the significant difference between boys and girls of IX standard with respect to their attitude scores towards Geography in control group
12. To study the significant difference between levels of ability (Below average, average and above average) with respect to attitude scores towards Geography of IX standard students in experimental group
13. To study the significant difference between levels of ability (Below average, average and above average) with respect to attitude scores towards Geography of IX standard students in control group
14. To study the significant difference between levels of ability (Below average, average and above average) with respect to attitude scores towards Geography of IX standard girls in experimental group
15. To study the significant difference between levels of ability (Below average, average and above average) with respect to attitude scores towards Geography of IX standard boys in experimental group

16. To study the significant difference between levels of ability (Below average, average and above average) with respect to attitude scores towards Geography of IX standard girls in control group.

17. To study the significant difference between levels of ability (Below average, average and above average) with respect to attitude scores towards Geography of IX standard boys in control group.

18. To study the significant difference between pre and post test scores of achievement in Geography of IX standard students in experimental and control groups

19. To study the significant difference between pre and post test scores of achievement in Geography of IX standard boys and girls as a whole

20. To study the significant difference between pre and post test scores of achievement in Geography of IX standard boys and girls in experimental group.

21. To study the significant difference between pre and post test scores of achievement in Geography of IX standard boys and girls in control group.

22. To study the significant difference between pre and post test scores of achievement in Geography scores of IX standard students in three levels of ability as a whole.
23. To study the significant difference between pre and post test of achievement in Geography scores of IX standard students in three levels of ability in experimental group.

24. To study the significant difference between pre and post test of achievement in Geography scores of IX standard students in three levels of ability in control group.

25. To study the significant interaction effect of methods of teaching (cooperative learning and conventional) and levels of ability (below average, average and above average) on achievement in Geography of IX standard students.

26. To study the significant interaction effect of methods of teaching (cooperative learning and conventional) and levels of ability (below average, average and above average) on attitude towards Geography of IX standard students.

27. To study the significant interaction effect of gender (boys, girls), methods of teaching (cooperative learning and conventional) and levels of ability (below average, average and above average) on achievement in Geography of IX standard students.

28. To study the significant interaction effect of gender (boys, girls), methods of teaching (cooperative learning and conventional) and levels of ability (below average, average and above average) on attitude towards Geography of IX standard students.
Details of the Variables

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Dependent Variable</th>
<th>Control Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Teaching Methods –</td>
<td>Students’ achievement in Geography</td>
<td>Intelligence</td>
</tr>
<tr>
<td>Two levels</td>
<td>Students’ attitude towards Geography</td>
<td>SES</td>
</tr>
<tr>
<td>a. Cooperative Learning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Conventional teaching method</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Ability of the students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Gender</td>
<td></td>
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</tbody>
</table>

Design of the Study

The study had pre-test, post-test, quasi-experimental study. The major independent variables of the comparative study that is Cooperative Learning and Conventional Method of Teaching along with Ability groups (low, average and high) and Gender (boys, girls); the dependent variables of the study were achievement, attitude towards Geography; control variables were intelligence and SES.

Details of the Sample

<table>
<thead>
<tr>
<th>Sample Characteristics</th>
<th>Experimental Group IX B</th>
<th>Control Group IX C</th>
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<tbody>
<tr>
<td>Number of students</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Medium of instruction</td>
<td>Kannada</td>
<td>Kannada</td>
</tr>
<tr>
<td>Number of boys</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Number of girls</td>
<td>25</td>
<td>25</td>
</tr>
</tbody>
</table>
Tools Used for the Study

The following tools were used for collection of data:

1. Achievement Test - Investigator has constructed questionnaire consisting of 60 multiple choice questions pertaining to Geography (Topic: World Natural Regions).
2. Socioeconomic Status Scale of Upadhyay and Saxena (2008)

Statistical Techniques

In order to test the hypothesis stated in this study the following statistical techniques were employed.

1. Differential or inferential statistics
2. Co-relational analysis

5.1 FINDINGS OF THE STUDY

5.1.1 DESCRIPTIVE STATISTICS:

The investigator has performed the descriptive statistics i.e. mean and standard deviations of pre test, post test achievement in Geography in two methods of teaching, gender wise, and ability levels wise. The findings are as under:

1. The post test achievement of students in Geography is higher in experimental group as compared to control group. Similarly, the gain of pre and post test achievement of students in Geography is higher in experimental group as compared to control group.
2. The boys have higher post test achievement in Geography as compared to girls is in experimental group. Similarly, the gain of pre and post test achievement in Geography is higher among boys as compared to girls in experimental group.

3. The boys have higher post test achievement in Geography as compared to girls is in control group. Similarly, the gain of pre and post test achievement in Geography is higher among boys as compared to girls in control group.

4. Total mean pre test achievement of students in Geography showed that the higher ability students have higher pre test achievement in Geography followed by below average ability students and average ability students in experimental group.

5. Total mean post test achievement of students in Geography showed that the higher ability students have higher post test achievement in Geography followed by below average ability students and average ability students in experimental group.

6. Total mean gain of pre and post test achievement of students in Geography showed that the higher ability students have gain of pre and post test achievement in Geography followed by average ability students and below average ability students in experimental group.

7. Total mean pre test achievement of students in Geography of the above average ability students have higher pre test achievement in Geography followed by average ability students and below average ability students in control group.

8. Total mean post test achievement of students in Geography of the above average ability students have higher post test
achievement in Geography followed by average ability students and below average ability students in control group.

9. Total mean gain of pre and post test achievement of students in Geography of above average ability students have higher gain of pre and post test achievement in Geography followed by average ability students and below average ability students in control group.

**Unadjusted means and SD scores of gain in Achievement, Intelligence and SES in two groups**

10. The mean gain in achievement of students in Geography in experimental group is higher when compared to control group. Further, out of a total mean gain in achievement of students in Geography in experimental group of the students with higher ability have higher gain in achievement in Geography as compared to students with average ability and below average ability. Similarly, out of a total mean gain in achievement of students in Geography in control group of students with above average ability have higher gain in achievement in Geography as compared to students with average ability and below average ability.

11. The mean intelligence in experimental group is slightly smaller as compared to control group. Further, out of a total mean intelligence in experimental group of the students with above average ability have higher intelligence as compared to students with average ability and below average ability. Similarly, out of a total mean intelligence in control group the students with above
average ability have higher intelligence as compared to students with average ability and below average ability.

12. The mean SES in experimental group is smaller as compared to control group. Further, out of a total mean SES in experimental group the students with average ability have higher SES as compared to students with below average ability and above average ability. Similarly, out of a total mean SES in control group the students with below average, average and above ability have similar SES scores.

**Unadjusted means and SD scores of attitude towards Geography in two groups**

13. The mean attitude towards Geography in experimental group is higher when compared to control group. Further, out of a total mean attitude towards Geography in experimental group the students with above average ability have higher attitude towards Geography as compared to students with average ability and below average ability. But of a total mean attitude towards Geography in control group the students with average ability have higher attitude towards Geography as compared to students with average ability and below average ability.

**Gender wise means and SD of gain in Achievement, Intelligence and SES scores in two groups**

14. The mean gain in achievement of students in Geography in experimental group which is higher when compared to control group. However, out of a total mean gain in achievement of students in Geography in experimental group in which the boys have higher gain in achievement in Geography as compared to
girls. Similarly, out of a total mean gain in achievement of students in Geography in control group, in which the boys have higher gain in achievement in Geography as compared to girls.

15. The mean intelligence scores of students in experimental group which is higher when compared to control group. On the other hand, out of total mean intelligence scores of students in experimental group is 34.94±8.43, in which the girls have higher intelligence scores as compared to boys. Similarly, out of a total mean intelligence score of students in control group, in which the girls have, higher intelligence scores as compared to boys.

16. The mean SES scores of students in experimental group which is higher when compared to control group. On the other hand, out of total mean SES scores of students in experimental group in which the boys have higher SES scores as compared to girls. Similarly, out of a total mean SES score of students in control group in which the boys have higher SES scores as compared to girls.

Gender wise means and SD attitude towards Geography scores in two groups

17. It can be observed that, the mean attitude towards Geography in experimental group which is higher when compared to control group. Further, out of a total mean attitude towards Geography in experimental group in which the boys have higher attitude towards Geography as compared to girls. But out of a total mean attitude towards Geography in control group, in which the girls have higher attitude towards Geography as compared to boys.
5.1.2 DIFFERENTIAL OR INFERENTIAL STATISTICS

Phase –I (a), Comparison of experimental and control groups, boys and girls, three levels of ability with respect to pre test and post test scores of achievement of students.

18. The mean score of post test achievement in Geography students is higher in experimental as compared to control group.

19. The mean score of gain of pre and post test achievement in Geography students is higher in experimental as compared to control group.

20. The students belonging to average ability levels have higher pre test scores of achievement in Geography as compared to students with below average ability level.

21. The students belonging to above average ability levels have higher pre test scores of achievement in Geography as compared to students with below average ability level.

22. The students belonging to average ability levels have higher post test scores of achievement in Geography as compared to students with below average ability level.

23. The students belonging to above average ability levels have higher post test scores of achievement in Geography as compared to students with below average ability level.

24. The students belonging to average ability levels have higher pre test scores of achievement in Geography as compared to students with below average ability level.
25. The students belonging to above average ability levels have higher pre test scores of achievement in Geography as compared to students with below average ability level.

26. The students belonging to above average ability levels have higher pre test scores of achievement in Geography as compared to students with average ability level.

27. The students belonging to average ability levels have higher post test scores of achievement in Geography as compared to students with below average ability level.

28. The students belonging to above average ability levels have higher post test scores of achievement in Geography as compared to students with below average ability level.

29. The students belonging to above average ability levels have higher post test scores of achievement in Geography as compared to students with average ability level.

Phase –I (b): Comparison of experimental and control groups, boys and girls, three levels of ability with respect to attitude scores towards Geography of IX standard students.

30. The students of IX standard belonging to average ability levels have higher attitude scores towards Geography as compared to students with below average ability level.

31. The students of IX standard belonging to above average ability levels have higher attitude scores towards Geography as compared to students with below average ability level.

32. The students of IX standard belonging to average ability levels have higher with respect to attitude scores towards Geography as compared to students with below average ability level.
33. The students of IX standard belonging to average ability levels have higher attitude scores towards Geography as compared to students with below average ability level.

34. The students of IX standard belonging to above average ability levels have higher attitude scores towards Geography as compared to students with below average ability level.

35. The students of IX standard belonging to average ability levels have higher with respect to attitude scores towards Geography as compared to students with below average ability level.

36. The girls of IX standard belonging to average ability levels have higher attitude scores towards Geography as compared to girls with below average ability level.

37. The girls of IX standard belonging to above average ability levels have higher attitude scores towards Geography as compared to girls with below average ability level.

38. The girls of IX standard belonging to average ability levels have higher with respect to attitude scores towards Geography as compared to girls with below average ability level.

39. The boys of IX standard belonging to average ability levels have higher attitude scores towards Geography as compared to girls with below average ability level.

40. The boys of IX standard belonging to above average ability levels have higher attitude scores towards Geography as compared to girls with below average ability level.

41. The boys of IX standard belonging to average ability levels have higher with respect to attitude scores towards Geography as compared to boys with below average ability level.
42. The girls of IX standard belonging to average ability levels have higher attitude scores towards Geography as compared to girls with below average ability level.

43. The girls of IX standard belonging to above average ability levels have higher attitude scores towards Geography as compared to girls with below average ability level.

44. The girls of IX standard belonging to average ability levels have higher with respect to attitude scores towards Geography as compared to girls with below average ability level.

45. The girls of IX standard belonging to average ability levels have higher attitude scores towards Geography as compared to boys with below average ability level.

46. The boys of IX standard belonging to above average ability levels have higher attitude scores towards Geography as compared to girls with below average ability level.

47. The boys of IX standard belonging to below and average ability levels have similar with respect to attitude scores towards Geography.

**Phase –I (C): Comparison of pretest, posttest and gain of scores of achievement in Geography of IX standard boys and girls, with three levels of ability in experimental and control groups.**

48. The post test scores students are higher when compared to pre test scores. It means that, the cooperative learning method of teaching is effective achievement of student in Geography.

49. The post test scores boys are higher when compared to pre test scores as a whole.
50. The post test scores girls are higher when compared to pre test scores as a whole.
51. The post test scores boys are higher when compared to pre test scores in experimental group.
52. The post test scores girls are higher when compared to pre test scores in experimental group.
53. The pre and post test scores boys are similar in control group.
54. The pre and post test scores girls are similar in control group.
55. The post test scores students with below average level of ability are higher when compared to pre test scores as a whole.
56. The post test scores students with average level of ability are higher when compared to pre test scores as a whole.
57. The post test scores students with above average level of ability are higher when compared to pre test scores as a whole.
58. The post test scores students with below average level of ability are higher when compared to pre test scores in experimental group.
59. Post test scores students with average level of ability are higher when compared to pre test scores in experimental group.
60. Post test scores students with above average level of ability are higher when compared to pre test scores in experimental group.
Analysis of two dependent variables i.e. gain in achievement and attitude towards Geography were analyzed by applying the 3 x 2 ANCOVA i.e. ability with three levels and teaching methods with two levels by intelligence and SES are taken as controlled variables.

Tukeys multiple post hoc procedures clearly showed that, out of 15 pair wise comparisons, 9 pairs of comparisons of means were found to significant with respect to gain in achievement Geography at 5% level of significance and given below:

61. Below average ability students of experimental group and below average ability students of experimental group
62. Below average ability students of experimental group and average ability students of experimental group
63. Below average ability students of experimental group and above average ability students of experimental group
64. Average ability students of experimental group and below average ability students of experimental group
65. Average ability students of experimental group and average ability students of experimental group
66. Average ability students of experimental group and above average ability students of experimental group
67. Above average ability students of experimental group and below average ability students of experimental group
68. Above average students of experimental group and average ability students of experimental group
69. Above average students of experimental group and above average ability students of experimental group
Adjustment of means:

70. The adjusted mean of gain score of achievement in Geography is higher in below ability level (10.73) as compared to average level of ability (12.61) and above average level of ability (13.24) in experimental groups (i.e. cooperative learning method). However, adjusted mean of gain score of achievement in Geography is higher in above average ability level (0.97) as compared to average level of ability (0.34) and below average level of ability (-0.43) in control group (i.e. conventional method).

Tukeys multiple post hoc procedures clearly showed that, out of 15 pair wise comparisons, 11 pairs of comparisons of means were found to significant with respect to attitude towards Geography at 5% level of significance and given below:

71. Below average ability students of experimental group and average ability students of experimental group

72. Below average ability students of experimental group and above average ability students of experimental group

73. Below average ability students of experimental group and average ability students of control group

74. Below average ability students of experimental group and above average ability students of control group

75. Average ability students of experimental group and above average ability students of experimental group

76. Average ability students of experimental group and below average ability students of control group
77. Average ability students of experimental group and above average ability students of control group
78. Above average ability students of experimental group and below average ability students of control group
79. Above average ability students of experimental group and average ability students of control group
80. Below average ability students of control group and average ability students of control group
81. Below average ability students of control group and above average ability students of control group
82. Average ability students of control group and above average ability students of control group

Adjusted means of gain in attitude towards under teaching methods and ability against intelligence and SES of two groups

83. The adjusted means attitude towards Geography is higher in above ability level as compared to average level of ability and below average level of ability in experimental groups (i.e. cooperative learning method). However, adjusted means attitude towards Geography is higher in average ability level as compared to above average level of ability and average level of ability in control group (i.e. conventional method).
84. The boys and girls have similar achievement in Geography.
85. The achievement in Geography students is different in cooperative learning and conventional method of teaching.
86. The IX standard students belonging to different levels of ability have similar achievement in Geography.
87. The boys and girls in cooperative learning method and conventional method of teaching have similar achievement in Geography.

88. The students belonging to different levels of ability in cooperative learning method and conventional method of teaching have similar achievement in Geography.

89. The boys and girls belonging to different levels of ability have different achievement in Geography.

90. The boys and girls with different levels of ability in cooperative learning method and conventional method of teaching have similar achievement in Geography.

Tukeys multiple post hoc procedures clearly showed that, out of 15 pair wise comparisons, 9 pairs of comparisons of means were found to be significant with respect to gain in achievement in Geography at 5% level of significance and given below:.

91. Below average ability boys and below average ability girls
92. Below average ability boys and average ability girls
93. Below average ability boys and above average ability girls
94. Average ability boys and below average ability girls
95. Average ability boys and average ability girls
96. Average ability boys and above average ability girls
97. Above average ability boys and below average ability girls
98. Above average ability boys and average ability girls
99. Above average ability boys and above average ability girls
Adjustment of means of two levels gender and two levels of teaching methods

100. The adjusted means of achievement in Geography is higher in boys of experimental group (12.46) as compared to girls of same group (12.21). Similarly, the adjusted means achievement in Geography is smaller in girls of control group (0.15) as compared to boys of same group (0.44). But the adjusted means of achievement in Geography is higher in experimental group as compared to control group.

Adjustment of means of three levels of ability and two levels of teaching methods

101. The adjusted means achievement in Geography is higher in below ability level (13.75) as compared to average level of ability (12.61) and above average level of ability (10.65) in experimental groups (i.e. cooperative learning method). However, the adjusted means achievement in Geography is higher in above average ability level (0.90) as compared to average level of ability (0.33) and below average level of ability (-0.35) in control group (i.e. conventional method).

Adjustment of means of two levels of gender, three levels of ability and two levels of teaching methods

102. The boys and girls belonging to below average ability level have higher achievement in Geography as compared to average and above average ability level in experimental group. Similarly, the boys and girls belonging to above average ability level have
higher achievement in Geography as compared to below average and average ability level in control group.

Analysis of covariance of dependent variable attitude towards Geography of boys and girls by independent variables teaching methods (experimental and control) and ability (below average, average and above average)

103. The boys and girls IX standard have different attitude towards Geography.
104. The attitude towards Geography students is different in cooperative learning and conventional method of teaching.
105. The IX standard students belonging to different levels of ability have similar attitude towards Geography.
106. The boys and girls in cooperative learning method and conventional method of teaching have different attitude towards Geography.
107. The students belonging to different levels of ability in cooperative learning method and conventional method of teaching have different attitude towards Geography.
108. The boys and girls belonging to different levels of ability have similar attitude towards Geography.
109. The boys and girls with different levels of ability in cooperative learning method and conventional method of teaching have different attitude towards Geography.
The Tukeys multiple post hoc procedures resulted as follows:

110. The boys of experimental group have higher attitude towards Geography as compared to boys of control group.
111. The boys of experimental group have higher attitude towards Geography as compared to girls of experimental group.
112. The boys of experimental group and girls of control group have similar attitude towards Geography.
113. The boys of control group and girls of experimental group have similar attitude towards Geography.
114. The boys control group and girls of control group have similar attitude towards Geography.
115. The control experimental and girls of control group have similar attitude towards Geography.

Tukeys multiple post hoc procedures clearly showed that, out of 15 pair wise comparisons, 12 pairs of comparisons of means were found to significant with respect to attitude towards Geography at 5% level of significance and given below:

116. Below average ability boys and average ability boys
117. Below average ability boys and above average ability boys
118. Below average ability boys and average ability girls
119. Below average ability boys and above average ability girls
120. Average ability boys and above average ability boys
121. Average ability boys and below average ability girls
122. Average ability boys and above average ability girls
123. Above average ability boys and below average ability girls
124. Above average ability boys and average ability girls
125. Below average ability girls and average ability girls
126. Below average ability girls and above average ability girls
127. Average ability girls and above average ability girls

**Adjustment of means of two levels gender and two levels of teaching methods**

110. The adjusted means of attitude towards Geography is higher in boys of experimental group (75.89) as compared to girls of same group (67.50). Similarly, the adjusted means attitude towards Geography is higher in girls of control group (67.83) as compared to boys of same group (67.42).

**Adjustment of means of three levels of ability and two levels of teaching methods**

111. The adjusted means attitude towards Geography is higher in ability level (76.48) as compared to above average level of ability (70.57) and below average level of ability (68.03) in experimental groups (i.e. cooperative learning method). However, the adjusted means attitude towards Geography is higher in average ability level (70.31) as compared to above average level of ability (70.42) and below average level of ability (62.14) in control group (i.e. conventional method).

**Adjustment of means of two levels of gender, three levels of ability and two levels of teaching methods**

112. The boys and girls belonging to above average ability level have higher attitude towards Geography as compared to average and below average ability level in experimental group. Similarly, the boys and girls belonging to average and above average ability level have higher attitude towards
Geography as compared to below average ability level in control group.

5.2 DISCUSSION AND CONCLUSION

With reference to the above findings, the students with high level ability in the experimental group have higher gain in achievement when compared to control group. These findings are in line with Asher Cashdan; P. D. Pumfrey; E. A. Lunzer (1971), Barry A. Fields (1991), Din-yan Yip (1998), C.P. Smit, M. Oosterhout and P.F.J. Wolff (1999), Jacob (2002).

Co-operative learning offered a rare opportunity for Geography learners to communicate with each other on an intellectual level in non-threatening environment. While performing mapwork activities, Geography learners were able to experience trust building as they established closer relationships with their peer. Co-operative learning in mapwork improves learning quality and increases educational standards. This is because low achievers in this study improved their scores significantly when compared to their peers taught by ordinary traditional method (lecture). The average quality of the work produced by co-operative learning effort is usually higher than the average work of individuals.

Cooperative learning, when used in a thoughtful and informed way, can fill a social studies classroom with students who are debating, exploring, questioning, teaching, assessing, and experiencing knowledge who are actively engaged learners. A
classroom like this embodies the *social* and the *studies* that are part of a comprehensive social studies curriculum.

The geography teacher should get used to the technological opportunities of the age and should provide teaching the issue with the best and the most appropriate way by their own personal efforts and by choosing the most suitable method. One of the problems faced in Turkey in geography education, without doubt, is continue the use of teacher-centered method, technique and strategy. The master’s and doctoral-level researches have shown that using student-centered technique in geography lessons have positive effects on the attitudes and success of the students.

Geography teachers’ attitudes towards geography should be researched and hence their attitudes should be compared to the students’ attitudes. Moreover studying other field teachers’ attitudes towards geography may be useful in terms of geography education. Establishing geography research rooms, organizing excursions to suitable places may be useful in developing interest and attitude towards geography.

### 5.3 EDUCATIONAL IMPLICATIONS

Geography lesson teachers have idea about the motive levels of the students to raise the motivations of the students towards geography lesson. The aim, importance and the importance of geography in daily lives should be taught to the students with low motivation level. Using the strategies to motive the students in geography curriculum, it should be useful for teachers to apply the motive strategies in lesson. Co-operative learning can be used to
teach map work in Geography education. If principles of co-operative learning are properly used, learners should retain a better knowledge of map work in Geography. Well designed map work activities with clearly formulated learning outcomes based on co-operative learning principles require more time on the part of the educator than more traditional format, but the pay-off in terms of increased satisfaction and high achievement is a powerful motivator. When using co-operative activities in map work, learners should assume specific roles in their teams, such as recorder, reporter, facilitator, encourager and time-keeper. Teaching map work using teamwork encourages both educators and learners to take non-traditional roles in the learning process. Educators should become facilitators of learning rather than instructors, while learners become active rather than passive participants and more responsible for their own learning. When forming co-operative teams, the educator should consider previous geographical performance of learners. This is because certain aspects of map work need geographical knowledge and searching skills.

Despite all these positive aspects, the success of this learning model will depend on the degree of planning and structuring of the educational process, in order to avoid becoming a frustrating and negative when not properly addressed some of its drawbacks. Indeed, the biggest drawback for this model comes from the teachers, because to achieve the same good teacher must possess a number of previous features Lopez (2005) synthesized in a way with words, intuition to capture the group's status, ability to
organization and synthesis, nerve to confront conflict and some doses of humor. And it is essential that the teacher train the students in terms of basic skills for interaction and cooperative work. Either way, the teacher must believe in the possibilities offered by this method in the learning process of students (about the organization, socialization, integration, etc.)

5.4 SUGGESTIONS FOR THE FURTHER RESEARCH

The result of the present study suggests the need for further research, some of which are listed below:

(i) The cooperative learning used in this study may be studied on a wider range of content areas and age groups.

(ii) The performance of students taught through cooperative learning strategy and conventional teaching can be compared using standardized achievement test or public examination in addition to experimenter developed summative achievement test.

(iii) A similar study with a true experimental design may be conducted. Effectiveness of direct instruction vis-à-vis conventional method of teaching strategies in terms of student’s attitude towards direct instruction may be studied.

Further research is recommended to verify the findings of the current study in order to strengthen this contribution towards the development of a sound research data, based on cooperative learning strategy in geography.