CHAPTER 5
SUMMARY, CONCLUSION AND RECOMMENDATIONS

SUMMARY

The purpose of the present study was to find out the effect of direct and indirect methods of teaching physical education activities to high school boys on their development of cognitive, psycho-motor and affective domains.

To achieve the purpose of the study three schools namely St. Joseph's Central School, Demonstration School and Manasagangothri High School, which had different environmental conditions were selected. A.A.P.H.E.R Physical Fitness Test consisting a battery of seven test items namely Pull-ups, Sit-ups, Shuttle Run, Standing Broad Jump, 50 Yards Dash, Softball Throw, and 600 Yard Run-Walk was administered to students studying in VIII and IX classes of the age group between thirteen and fourteen years in all the three schools and 105 students from each school were selected randomly. The raw scores of these tests was converted into T-scores as per the norms given and based upon the total T-scores obtained by each student they were ranked and equally divided into three groups (thirty five in each) by equating their T-scores means.

The three groups, numbering thirty five in each, belonging to St. Joseph's Central School were named as Group I-A, I-B and I-C. Three groups belonging to Demonstration School were named as Group II-A, II-B and II-C, and the
remaining three groups belonging to Manasagangothri High School were named as group III-A, III-B and III-C.

'Command Method' under direct method of teaching and 'Guided Discovery' and 'Problem Solving' methods under indirect method of teaching were selected to teach the students. Groups I-A, II-A, and III-A were given instruction through 'Command Method', the groups I-B, II-B and III-B were given instruction through 'Guided Discovery' method and for groups I-C, II-C and III-C the instructions were given through 'Problem Solving' method.

The classes were conducted in their respective schools, for daily one hour and two days in a week as per the schedule planned. Activities for teaching were selected on the basis of the popularity and interest showned by the students and the physical education teachers of the selected schools to sustain the interest of students to participate in the programme voluntarily and wholeheartedly.

Selected basic skills in 100 meters Sprint, Shotput under individual athletic events and under group games basketball and football were taught to students of all the groups in respective methods of teaching selected for each group. The teaching programme was completed in twenty four weeks, utilising four weeks each for 100 meters Sprint and shot-put events and eight weeks each for teaching skills in basketball and football games.
To study the effect of direct and indirect methods of teaching in developing the cognitive skills of the subjects the teacher-made Knowledge Tests in 100 meters Sprint, Shot-put, Basketball and Football were conducted before and after the completion of teaching programme in each event. The tests were constructed in such a way that it give scope to students to use all the required cognitive skills namely knowledge, comprehension, application and analysis to answer the questions.

To study the effect of the direct and indirect methods of teaching in improving the motor skills of the subjects under psycho-motor domain (a) 100 Mtrs. Speed Run Test (2) Putting the Shot for Distance Test (3) Johnson Basketball Test consisting a battery of three tests namely (i) Throwing for Accuracy (ii) Field Goal Speed Test (iii) Dribble Test and (4) Warner's Soccer Skill Test which also consist a battery of three tests namely (i) kicking for Distance with Right Foot, (ii) Kicking For Distance with Left Foot and (iii) Dribbling for time were conducted before the start and after the completion of teaching the skills in each event.

To study the effect of the teaching methods used in developing the body-image, movement-image and self-concept of the subjects under affective domain the following self-assessment personality tests were conducted before the start of the teaching programme and after the completion of
the teaching programme in all the events. The names of the tests used were (1) Doudlah's Body-Image Statements Test (2) Doudlah's Movement-Concept Statement Test and (3) Nelson's Self-Concept Statements Test. All the three tests were Q-sort statement tests each containing seventy five statements.

The tests were administered on all the subjects under identical conditions observing all the safety precautions and administrative principles in conducting the test for getting reliable data.

The following three hypotheses formed were tested by analysing the data obtained:

1. Guided Discovery and Problem Solving methods help more to develop the cognitive skills of students than Command Method of teaching.

2. Learning Physical education activities through Guided Discovery and Problem Solving methods of teaching helps more to improve motor performances than learning through Command method.

3. Learning physical education activities through Guided Discovery and Problem Solving methods develop better affective qualities in students than those who have undergone teaching programme through Command method.

Mean, Standard Deviation and t-ratio was computed to find out the effect of all the three methods of teaching on
the development of cognitive, psychomotor skills of the subjects within the groups. Wherever the results showed significant improvement within the groups, using One Way ANOVA test F-ratio was calculated to find out the overall significance between the groups. Further, where the significant differences were found between the groups when the obtained F-ratio value was compared with the table F-ratio value, the Scheffe's test which is considered as one of the strongest tests among the Post-Hoc's tests, was used to calculate the confidence interval (CI) value and compared with the means difference of the groups to find out the significant difference between them and to decide the order in which the groups showned development in cognitive and psychomotor skills. The significant differences were tested at both 0.05 and 0.01 level of confidence.

To assess the improvement in the personality attributes namely body-image, movement-image and self-concept of the subjects under affective domain, the sum of D² values obtained by each student were used to find out the difference of correlation coefficient 'r' value between the pre-test and post test of each group. Further adding them, a bar diagram was drawn to show the range of improvement in these personality attributes among all the three groups of all the three schools viz., (i) I-A, I-B, I-C (ii) II-A, II-B, II-C and (iii) III-A, III-B and III-C.
CONCLUSIONS

Within the limitations of the study and from the results obtained through statistical analysis of the data, the following conclusions were drawn.

1. All the methods of teaching used in the study helped the boys to improve in all the three domains of learning namely cognitive, psychomotor and affective. But those students who were exposed to Problem Solving method showed the greatest improvement.

2. Among the other two groups where students were exposed to Command method and Guided Discovery method, the level of improvement was better in the latter method i.e. Guided Discovery method.

3. Problem Solving method was found to be a superior method to both the other two methods, particularly with regard to improving the affective domain attributes of personality factors viz., body-image, movement-image and self-concept.

RECOMMENDATIONS

1. As the investigator felt the crunch of time he recommends for a longitudinal study over three or four years on similar lines thereby the impact of affective domain may be assessed better.

2. It is recommended to take up a study for a duration of three to four years involving risk-taking
behaviour alongwith Problem Solving method of teaching for the entire package of activities viz., Individual and Dual team games, Track and Field Events, Rhythmics, Educational Gymnastics, Trekking and Camping.

3. A study with co-educational set up (involving both boys and girls) may be conducted on similar line which could throw more light on attributes of personality such as self-esteem, self-confidence and the self-actualization process through a physical education programme.

4. A study may be conducted picking out superior and average performers with an adequate sample increasing the input (practice) all through Problem Solving methods for VIII, IX and X students and following up them even in XI and XII standard doubling the input (intensity).