Chapter - VI

Summary and Suggestions
6.1 INTRODUCTION

Our country takes a continuous effort to achieve quantitative and qualitative elementary education in order to develop knowledge and skills of the children by discovering their innate talents and for preparing them to face the challenges of life in this (LPG) Liberalisation privatisation and globalisation Era. Qualitative improvement envisages a continuous renewal of the curricular materials to make it relevant to the changing needs and aspiration of the community to which the children belong. Improving the quality of education requires the adoption of innovative instructional procedures and techniques of evaluation, development of appropriate teaching learning processes, experiments and Research. Following the lines of National Policy on Education 1986, programme of Action 1992 and Sharva Shiksha Abhayan 2001-2010, intellectual development and acquisition of knowledge by the students have become primary concerns of pedagogy.

Hence Information processing becomes talk of the eminent educationists in the present day world. The ultimate responsibility of it, has been vested with teachers to set forth the means of maximizing the learner achievement with specific mental processes like thinking, reasoning, concept forming etc., Replacing obsolete methods by effective model of teaching in the classroom and finding their effects on learner achievement are the needs of the hour.

During the last two decades, a number of new methods of teaching and training have been developed, tested, modified and adopted to different kinds of learning situations. Still there is a need to direct efforts towards the transformation
of teaching methods right up to the development to science and technology in order to meet the continuing need of updating methods with technological development. The emphasis on major shift from 'teacher oriented traditional method' to 'learner oriented models of teaching' gains great leap.

In this scenario Prof. Joyce in 1990 has stated, ‘To provide an all round development, we need to design suitable instructional strategy which helps our students grow emotionally, physically, socially and intellectually. There still exists a gap between theoretical knowledge and actual teaching in the classroom of schools. Models of teaching as strategies need to be incorporated in our teaching practice’. Though there are varieties of models available, the researcher has chosen Hilda Taba’s ‘Inductive Thinking Model’ for her research, keeping its instructional and nurturant effects and its relevance to teach physical geography at upper primary level.

Geography has had a very chequered course of development. The evaluation of geographical thought and concept took place during the age of discoveries and explorations. As more and more geographical concepts developed, the geography gradually emerged from a descriptive approach of the classical times to analytical approach of the present times. The geographical discipline is currently overflowing with a number of concepts and there are as many as branches of geography which are as wide as the earth, as large as life itself. In a broad way, it can be said that the subject matter of geography is the earth, not only the rock or the water that encircles it, or the Universe, or the man that inhabits it, or the atmosphere that surrounds it, but it studies one and all. It is because all these have a direct bearing on one another and convey a particular meaning to man, a need was felt to develop the concept of ‘Applied geography’. That is why geography for school purposes studies the Earth as the home of man. In studying it, children gain the ability to ‘think’ critically. The purpose of teaching geography is mainly to inform the learner to learn the distribution pattern of phenomena on the Earth surface and some elementary
‘reasoning’ as to why such variety of distributions occur. Besides some of the core curriculum areas as mentioned in Programme of Action 1992 (POA) of Government of India, such as protection of Environment, inculcating scientific temper, and small family norms have been incorporated into the course content of geography at appropriate places.

The investigator has taken the geography syllabus of standard VII for the present research mainly because: it consists of basic tenets of climatology, which forms an integral part of physical geography. Without the understanding of the concepts of climatology, one cannot get the concepts of structure and modifications of Lithosphere and Hydrosphere. Thus the study of geography entirely based on physical geography, which in turn, makes numerous contributions to a child’s education. As a result, physical geography occupies an important place in the upper primary stage of school curriculum but what children gain from the study of modern functional geography depends largely upon the part of the teacher.

The progress of modern scientific geography in India is very slow before independence and only the post partition period showed a real growth of the subject due to the interest taken by the geographical and non geographical research institutions both in the public and private sectors. But much has yet to be achieved to develop the teaching of geography in schools and it is expected to do that much in future. The study of scope, function and curriculum of geography in the school, needs to be oriented according to the demands of the day. There is thus a strong pleasure for recasting of geography syllabus in Indian schools with a view to ‘developing the concept of applied geography.’ Keeping in view of above aspects of the subject physical geography the researcher tried to investigate the effect and appropriateness of the Inductive Thinking Model to teach physical geography at upper primary level through this present study.
6.2 NEED OF THE STUDY

The goal of education is not just imparting information. It is stimulating to think and providing opportunities to think. A teacher has to remember that their concepts grow gradually out of a variety of perceptual experiences and concrete concepts. The concrete concepts arise first and later do abstract concepts arise. Abstract thinking is not possible without concepts and such concepts contribute to the development of scientific knowledge. The principles of geography are mostly abstract and distributed over the entire upper primary curriculum. The understanding of these concepts at this level would be able to develop the competencies, which would equip the students to participate in the task of social and economical reconstruction. The aim of teaching geography is that it provides mental discipline which comes through the application of scientific attitude in distinguishing facts, interpreting their effects and drawing correct conclusions and influences. Since geography is becoming vast and complex, a need has arisen for specialization. The course in geography for upper primary level deals with the concepts of man and environment and their interdependence. Considering these concepts and the short span of time available for teaching them the investigator felt a need to find suitable teaching strategy. Further, no attempt seems to have been made to apply this Inductive Thinking Model for teaching geography.

There has been a scanty research on Inductive Thinking Model and that has not been conducted with reference to the teaching of geography. Hence the need is felt by the investigator to find out the effects of Inductive Thinking Model on academic achievement concept formation, logical reasoning and styles of thinking through the teaching of physical geography at upper primary level.
6.3 OBJECTIVES OF THE STUDY

The researcher framed the following objectives, in view of the depth and extent of the problem. The study aims to measure the effect of Inductive Thinking Model on academic achievement, concept formation, logical reasoning, styles of thinking, and awareness to nature of knowledge and sensitivity to language through the teaching of physical geography among the students of upper primary classes.

1. To design and develop instructional plans for teaching Physical geography from amongst the prescribed course of study for the students of standard VII based on Inductive Thinking Model.

2. To expose a group of students of standard VII to Inductive Thinking Model of teaching.

3. To find the effect of Inductive Thinking Model among standard VII students on
   - Academic achievement in physical geography
   - Concept formation
   - Logical reasoning
   - Styles of thinking
   - Awareness to nature of Knowledge
   - Sensitivity to language

4. To find the relative effectiveness of Inductive Thinking Model over traditional method of teaching of physical geography among standard VII students on
   - Academic achievement
   - Concept formation
   - Logical reasoning
   - Styles of thinking
   - Awareness to nature of Knowledge
   - Sensitivity to language
5. To find out whether there is any significant correlation between Academic achievement and
   ✷ Concept formation
   ✷ Logical reasoning
   ✷ Styles of thinking
   ✷ Awareness to nature of Knowledge
   ✷ Sensitivity to language

6. To find out whether there is any significant Correlation between Concept formation and
   ✷ Logical reasoning
   ✷ Styles of thinking
   ✷ Awareness to nature of Knowledge

7. To find out whether there is any significant correlation between Logical reasoning and
   ✷ Styles of thinking
   ✷ Sensitivity to language

8. To find out whether there is any significant correlation between Awareness to nature of Knowledge and Sensitivity to language.

9. To find out whether there is any significant difference between boys and girls when taught through Inductive Thinking Model on
   ✷ Academic achievement
   ✷ Concept formation
   ✷ Logical reasoning
   ✷ Styles of thinking
   ✷ Awareness to nature of Knowledge
   ✷ Sensitivity to language
10. To find out whether there is any significant difference between high and low achieving groups of students when taught through Inductive Thinking Model on
   ✦ Academic achievement
   ✦ Concept formation
   ✦ Logical reasoning
   ✦ Awareness to nature of Knowledge

11. To find out whether there is any significant interaction effect of treatment and gender exists on
   ✦ Academic achievement
   ✦ Concept formation
   ✦ Logical reasoning
   ✦ Styles of thinking
   ✦ Awareness to nature of Knowledge
   ✦ Sensitivity to language

6.4 HYPOTHESES OF THE STUDY:

1. Academic Achievement of the students of Standard VII taught through Inductive Thinking Model significantly increases.

2. Concept formation of the students of Standard VII taught through Inductive Thinking Model significantly increases.

3. Logical reasoning of the students of Standard VII taught through Inductive Thinking Model significantly increases.

4. Right dominant style of thinking of the students of Standard VII taught through Inductive Thinking Model significantly increases.

5. Left dominant style of thinking of the students of Standard VII taught through Inductive Thinking Model significantly increases.
6. Whole dominant style of thinking of the students of Standard VII taught thought through Inductive Thinking Model significantly increases.

7. Awareness to nature of knowledge of the students of Standard VII taught through Inductive Thinking Model significantly increases.

8. Sensitivity to language of students of the Standard VII taught through Inductive Thinking Model significantly increases.

9. There is no significant difference between the mean scores of the students taught through Inductive Thinking Model and the mean scores of the students taught through Traditional method in Academic achievement.

10. There is no significant difference between the mean scores of the students taught through Inductive Thinking Model and the mean scores of the students taught through Traditional method in concept formation.

11. There is no significant difference between the mean scores of the students taught through Inductive Thinking Model and the mean scores of the students taught through Traditional method in Logical reasoning.

12. There is no significant difference between the mean scores of the students taught through Inductive Thinking Model and the mean scores of the students taught through Traditional method in Right dominant Style of Thinking.

13. There is no significant difference between the mean scores of the students taught through Inductive Thinking Model and the mean scores of the students taught through Traditional method in Left dominant Style of Thinking.

14. There is no significant difference between the mean scores of the students taught through Inductive Thinking Model and the mean scores of the students taught through Traditional method in Whole dominant Style of Thinking.

15. There is no significant difference between the mean scores of the students taught through Inductive Thinking Model and the mean scores of the students taught through Traditional method in Awareness to nature of knowledge.
16. There is no significant difference between the mean scores of the students taught through Inductive Thinking Model and the mean scores of the students taught through Traditional method in sensitivity to language.

17. There is no significant correlation between the post test mean scores of Academic achievement and Concept formation of the students taught through Inductive Thinking Model.

18. There is no significant correlation between the post test mean scores of Academic achievement and Logical reasoning of the students taught through Inductive Thinking Model.

19. There is no significant correlation between the post test mean scores of Academic achievement and Right dominant style of thinking of the students taught through Inductive Thinking Model.

20. There is no significant correlation between the post test mean scores of Academic achievement and Left dominant style of thinking of the students taught through Inductive Thinking Model.

21. There is no significant correlation between the post test mean scores of Academic achievement and Whole dominant style of thinking of the students taught through Inductive Thinking Model.

22. There is no significant correlation between the post test mean scores of Academic achievement and Awareness to nature of knowledge of the students taught through Inductive Thinking Model.

23. There is no significant correlation between the post test mean scores of Academic achievement and sensitivity to language of the students taught through Inductive Thinking Model.

24. There is no significant correlation between the posttest mean scores of concept formation and Logical reasoning of the students taught through Inductive Thinking Model.
25. There is no significant correlation between the posttest mean scores of concept formation and Whole dominant Style of Thinking of the students taught through Inductive Thinking Model.

26. There is no significant correlation between the posttest mean scores of concept formation and awareness to Nature of knowledge of the students taught through Inductive Thinking Model.

27. There is no significant correlation between the posttest mean scores of Logical reasoning and Whole dominant style of thinking of the students taught through Inductive Thinking Model.

28. There is no significant correlation between the posttest mean scores of logical reasoning and Sensitivity to language of the students taught through Inductive Thinking Model.

29. There is no significant correlation between the posttest mean scores of Awareness to Nature of knowledge and Sensitivity to language of the students taught through Inductive Thinking Model.

30. There is no significant difference between the post test mean scores of boys and girls in Academic achievement when taught through Inductive Thinking Model.

31. There is no significant difference between the post test mean scores of boys and girls in concept formation when taught through Inductive Thinking Model.

32. There is no significant difference between the post test mean scores of boys and girls in logical reasoning when taught through Inductive Thinking Model.

33. There is no significant difference between the post test mean scores of boys and girls in Left dominant style of thinking when taught through Inductive Thinking Model.
34. There is no significant difference between the post test mean scores of boys and girls in Whole dominant style of thinking when taught through Inductive Thinking Model.

35. There is no significant difference between the post test mean scores of boys and girls in Awareness to Nature of knowledge when taught through Inductive Thinking Model.

36. There is no significant difference between the post test mean scores of boys and girls in sensitivity to language when taught through Inductive Thinking Model.

37. There is no significant difference between the post test mean scores of high and low achievers in academic achievement. When taught through Inductive Thinking Model.

38. There is no significant difference between the post test mean scores of high and low achievers in Concept formation when taught through Inductive Thinking Model.

39. There is no significant difference between the post test mean scores of high and low achievers in Logical reasoning when taught through Inductive Thinking Model.

40. There is no significant difference between the post test mean scores of high and low achievers in Awareness to nature of knowledge when taught through Inductive Thinking Model.

41. There is no significant interaction effect of treatment and gender on Academic Achievement.

42. There is no significant interaction effect of treatment and gender on Concept formation.

43. There is no significant Interaction effect of treatment and gender on Logical reasoning.
44. There is no significant Interaction effect of treatment and gender on Left dominant style of thinking.

45. There is no significant Interaction effect of treatment and gender on Right dominant style of thinking.

46. There is no significant Interaction effect of treatment and gender on Whole dominant style of thinking.

47. There is no significant Interaction effect of treatment and gender on Awareness to Nature of knowledge.

48. There is no significant Interaction effect of treatment and gender on Sensitivity to language.

6.5 RESEARCH PROCEDURE

Pre test Post test Experimental design was planned and adopted by following the procedure as given below.

The researcher selected the sample to form two equivalent groups as experimental and control group using the technique of equating groups on the basis of their academic achievement and intelligence.

The researcher selected 25 topics in physical geography suited to the Students of Standard VII. The pre-test were conducted to measure the academic achievement, Concept formation, Logical reasoning, Styles of thinking, Awareness to nature of knowledge and Sensitivity to language to both the control group and experimental group of students. Suitable tools were prepared by the researcher by modifying the standardized tools. They were translated in Tamil and were validated by panel of experts. The reliability was also established through test – retest technique before the administration of the tests.

The researcher prepared lesson plans based on Inductive Thinking Model and the researcher has internalised the model to handle the classes accordingly. While
Traditional method of teaching on the selected topics was taught to control groups, the experimental group was exposed to Inductive Thinking Model of teaching for about 50 periods. The researcher took four months to complete the whole experiment at schools. At the end of the experiment post-tests were conducted to both control and experimental groups in order to determine the effectiveness of traditional method and Inductive Thinking Model with respect to Concept formation, Logical reasoning, Styles of thinking, Awareness to nature of knowledge and sensitivity to language.

The test papers were valued by using the scoring keys provided with each tool. The scores of pre-test and post-test were compared and gain scores were calculated for each student involved in the experiment. The gain scores were tabulated. The mean and standard deviation were computed separately for each group in all the tests. The ‘t’ test, ‘r’ test and ANOVA were found out and results were obtained finally.

6.6 TOOLS USED FOR THE STUDY

The researcher prepared the following tools. The reliability and validity were also established

1. The Academic achievement test, prepared by the researcher for the measurement of academic achievement in physical Geography.

2. Concept formation test— prepared by the researcher, based on the tool of Dr. M. C. Joshi Prof. Department of psychology, University of Jodhpur was used for measuring the concept formation of the students.

3. Logical reasoning test— modified by the researcher based on the Reasoning ability test by Dr. Sadna Bhatnagar (1985), was used for measuring Logical reasoning of the students.

4. Styles of thinking—‘SOLAT’ tool constructed by Dr. D. Venkataraman (1990) was used to measure the styles of thinking of the students.
5. Awareness to Nature of knowledge test, prepared by the researcher, was used to measure the Awareness to nature of knowledge of the students.

6. Sensitivity to language test, devised by the researcher, was used to measure the sensitivity to language of the students.

6.7 FINDINGS OF THE STUDY

The following findings are obtained by the researcher after a careful computation of data:

1. Academic Achievement of the students of Standard VII taught through Inductive Thinking Model significantly increases.

2. Concept formation of the students of Standard VII taught through Inductive Thinking Model significantly increases.

3. Logical reasoning of the students of Standard VII taught through Inductive Thinking Model significantly increases.

4. Right dominant style of thinking of the students of Standard VII taught through Inductive Thinking Model significantly increases.

5. Left dominant style of thinking of the students of Standard VII taught through Inductive Thinking Model does not significantly increase.

6. Whole dominant style of thinking of the students of Standard VII taught through Inductive Thinking Model significantly increases.

7. Awareness to nature of knowledge of the students of Standard VII taught through Inductive Thinking Model significantly increases.

8. Sensitivity to language of students of the Standard VII taught through Inductive Thinking Model significantly increases.

9. There is a significant difference between the mean scores of the students taught through Inductive Thinking Model and the mean scores of the students taught through Traditional method in Academic achievement.
10. There is a significant difference between the mean scores of the students taught through Inductive Thinking Model and the mean scores of the students taught through Traditional method in concept formation.

11. There is a significant difference between the mean scores of the students taught through Inductive Thinking Model and the mean scores of the students taught through Traditional method in Logical reasoning.

12. There is a significant difference between the mean scores of the students taught through Inductive Thinking Model and the mean scores of the students taught through Traditional method in Right dominant Style of Thinking.

13. There is no significant difference between the mean scores of the students taught through Inductive Thinking Model and the mean scores of the students taught through Traditional method in Left dominant Style of Thinking.

14. There is a significant difference between the mean scores of the students taught through Inductive Thinking Model and the mean scores of the students taught through traditional method in Whole dominant Style of Thinking.

15. There is a significant difference between the mean scores of the students taught through Inductive Thinking Model and the mean scores of the students taught through Traditional method in Awareness to Nature of knowledge.

16. There is a significant difference between the mean scores of the students taught through Inductive Thinking Model and the mean scores of the students taught through Traditional method in Sensitivity to language.

17. There is a significant correlation between the post test mean scores of Academic achievement and Concept formation of the students taught through Inductive Thinking Model.

18. There is a significant correlation between the post test mean scores of Academic achievement and Logical reasoning of the students taught through Inductive Thinking Model.
19. There is no significant correlation between the post test mean scores of Academic achievement and Right dominant styles of thinking of the students taught through Inductive Thinking Model.

20. There is no significant correlation between the post test mean scores of Academic achievement and Left dominant style of thinking of the students taught through Inductive Thinking Model.

21. There is no significant correlation between the post test mean scores of Academic achievement and Whole dominant style of thinking of the students taught through Inductive Thinking Model.

22. There is no significant correlation between the post test mean scores of Academic achievement and Awareness to nature of knowledge of the students taught through Inductive Thinking Model.

23. There is no significant correlation between the post test mean scores of Academic achievement and Sensitivity to language of the students taught through Inductive Thinking Model.

24. There is a significant correlation between the posttest mean scores of Concept formation and Logical reasoning of the students taught through Inductive Thinking Model.

25. There is no significant correlation between the posttest mean scores of Concept formation and Whole dominant Style of Thinking of the students taught through Inductive Thinking Model.

26. There is a significant correlation between the posttest mean scores of Concept formation and Awareness to Nature of knowledge of the students taught through Inductive Thinking Model.

27. There is no significant correlation between the posttest mean scores of Logical reasoning and Whole dominant style of thinking of the students taught through Inductive Thinking Model.
28. There is no significant correlation between the posttest mean scores of Logical reasoning and Sensitivity to language of the students taught through Inductive Thinking Model.

29. There is a significant correlation between the posttest mean scores of Awareness to Nature of knowledge and Sensitivity to language of the students taught through Inductive Thinking Model.

30. There is a significant difference between the posttest mean scores of boys and girls in Academic achievement when taught through Inductive Thinking Model.

31. There is no significant difference between the posttest mean scores of boys and girls in Concept formation when taught through Inductive Thinking Model.

32. There is no significant difference between the posttest mean scores of boys and girls in Logical reasoning when taught through Inductive Thinking Model.

33. There is no significant difference between the posttest mean scores of boys and girls in Left dominant style of thinking when taught through Inductive Thinking Model.

34. There is no significant difference between the posttest mean scores of boys and girls in Whole dominant style of thinking when taught through Inductive Thinking Model.

35. There is significant difference between the posttest mean scores of boys and girls in Awareness to Nature of knowledge when taught through Inductive Thinking Model.

36. There is no significant difference between the posttest mean scores of boys and girls in sensitivity to language when taught through Inductive Thinking Model.

37. There is a significant difference between the posttest mean scores of high and low achievers in academic achievement when taught through Inductive Thinking Model.
38. There is a significant difference between the posttest mean scores of high and low achievers in Concept formation when taught through Inductive Thinking Model.

39. There is a significant difference between the posttest mean scores of high and low achievers in Logical reasoning when taught through Inductive Thinking Model.

40. There is no significant difference between the posttest mean scores of high and low achievers in Awareness to nature of knowledge when taught through Inductive Thinking Model.

41. There is no significant interaction effect of treatment and gender on Academic Achievement.

42. There is a significant interaction effect of treatment and gender on Concept formation.

43. There is a significant Interaction effect of treatment and gender on Logical reasoning.

44. There is no significant Interaction effect of treatment and gender on Left dominant style of thinking.

45. There is no significant Interaction effect of treatment and gender on Right dominant style of thinking.

46. There is no significant Interaction effect of treatment and gender on Whole dominant style of thinking.

47. There is a significant Interaction effect of treatment and gender on Awareness to Nature of knowledge.

48. There is no significant Interaction effect of treatment and gender on Sensitivity to language.
6.8 CONCLUSION

The present study aimed at finding the effect of Inductive Thinking Model on Concept formation, Logical reasoning, Styles of thinking through the teaching of physical geography at Upper primary level. The results have been drawn keeping in view the objectives formulated for the study and by the testing of hypotheses framed thereafter the results revealed the following conclusions:

1. The Inductive Thinking Model was found to be very effective in enhancing the academic achievement of the students in the physical geography than the traditional method.

2. Cognitive processes like Concept formation, Logical reasoning, Styles of thinking, Awareness to Nature of knowledge and sensitivity to language increased among the students through the teaching of physical geography by Inductive Thinking Model.

3. Girls performed better than boys and girls did not differ in Concept formation and Logical reasoning Styles of thinking.

4. It is interesting to note that boys have attained more awareness to the Nature of Knowledge and Sensitivity to language than the girls when geography was taught through Inductive Thinking Model.

5. Inductive Thinking Model was found an effective model to increase the right and whole dominant style of thinking than the traditional teaching, whereas it did not develop left dominant style of thinking among the students.

6. This model was an effective one in increasing the scope of ‘process skill development’ by involving the students in making generalizations, explanations and perditions.

Hence it is concluded that Inductive Thinking Model is an effective model for forming concepts, to reason logically and thinking in whole dominant style and it was found to be suitable model for teaching physical geography. Thus the
introduction of this model will definitely shift the classrooms from passive answer absorbing to active answer seeking, from rigid daily programmes to active flexible schedules, from teacher dominated classroom to child oriented and to group activities and from memorizing to problem awareness and problem solving.

6.9 RECOMMENDATIONS OF THE STUDY

Based on the above aspects of the study, the researcher would like to give some useful recommendations to teachers, teacher educators, research workers, curriculum developers and Administrators. They are as follows:

1. Inductive Thinking Model need to be introduced in the classrooms for teaching geography as it has significant effect is bringing desirable development among the students on Academic achievement and on mental processes like concept formation, logical reasoning and styles of thinking.

2. This model may be used by the teachers to develop ‘scientific attitude’ among the students as the nine phases of this model involve scientific method of learning through generalizations, explanations and predictions.

3. The teachers may follow this model in their classroom practice to make the students, a shift from memorising the content to inferring the concepts of various subjects.

4. The teacher may introduce this model to teach all subjects because it paves way for the ‘Learner centered approach’ and ‘Learning by doing’.

5. Though models of teaching are innovative approaches in India, it can be applied in our classrooms, because they are based on no other technology except technology of developing instructional materials.

6. Teacher Educators at DIET and college of Teacher Education should train on Inductive Thinking Model for the teachers at preservice and inservice. So that they are able to develop cognitive tasks in their subjects according to its suitability.
7. The teacher educators may give orientation to preservice and inservice teachers as it aims at interpreting the content and methodology skills in relation to specific instructional objects.

8. The research workers may have taken research studies to find out the efficacy of this model not only to develop cognitive processes but also to develop affective and psychomotor domain processes among students of various grades, and at various subjects.

9. Curriculum developers may include this model while framing curriculum for teacher training students both at elementary and secondary level.

10. Administrators may insist their teachers and teacher educators to follow this model in classroom teaching as it brings an equality of learning opportunity towards their wards, which is a meaningful goal of education in our country.

11. Government Examination system may evaluate the students' performances not only on their academic achievement but also their thinking skills. Since thinking leads to 'discovery' which in turn leads to 'productivity'? This model proved its effectiveness to develop cognitive processes like concept formation, logical reasoning and styles of thinking.

6.10 SUGGESTIONS FOR FURTHER STUDY

In India models of teaching and Geography education with development of mental processes, their integration in classrooms and in the process of teacher training have remained almost unexplored. Only small number of studies have attempted in this direction. Hence a lot of research studies need to be attempted; to solve the problems related to this area. Based on the research experience of the present researcher as well as the process of experimentation, treatment, responses of the subjects, findings of the study the need and environment prevailing in Indian classrooms some of the suggestions for future research in this area of Inductive Thinking Model are submitted below:
1. This study may be replicated to various standards of students and on various subjects to confirm the generalizations of this study.

2. A comparative study of the effect of various methods in teaching physical geography at upper primary level may be undertaken.

3. Researches need to be conducted to study the feasibility of this model at primary level to teach various subjects.

4. Studies on the effect of Inductive Thinking Model on Environmental Education may be studied as Environmental Education has been given more thrust area of study, stressed by National curriculum framework 2005.

5. Training Technology for teachers based on Inductive Thinking Model may be evolved through the studies undertaken to find out the effectiveness of Inductive Thinking Model for various teacher training programme.

6. Studies may be done on the teacher behaviour under Inductive Thinking Model.

7. Researches on instructional and nurturant effect on Inductive Thinking Model can be compared with Concept attainment model and Inquiry training model for wider application in teaching learning process.

8. A study on the problems of implementation of Inductive Thinking Model in classroom teaching may be undertaken.

9. A study on the effect of Inductive Thinking Model on gifted students may be conducted.

10. A study may be undertaken to teach various subjects to disadvantaged groups, handicapped and slow learners through Inductive Thinking Model.

11. A study on creativity of students taught through the Inductive Thinking Model may be undertaken both at elementary and secondary levels.