CHAPTER VI

STUDY IN RETROSPECT, FINDINGS AND SUGGESTIONS

The study in Retrospect
Findings
Tenability of Hypotheses
Suggestions
CHAPTER VI
STUDY IN RETROSPECT, FINDINGS AND SUGGESTIONS

6.1 THE STUDY IN RETROSPECT

The present study was to determine the effectiveness of advance organizer model in the teaching of mathematics among secondary school pupils at differing levels of intelligence. The study has been designed with the following objectives:

1. To compare Mathematics Achievement of two equated groups of Secondary School pupils taught Mathematics one using Advance Organizer Model (AOM) and the other using Conventional Method (CM), when group is taken as a whole and when groups are taken at differing levels of intelligence, namely,
   a. Low
   b. Average
   c. High, across groups and within groups.

2. To compare Mathematics Achievement with special reference to the Instructional objectives,
   a. Knowledge
   b. Understanding
   c. Application
   d. Analysis
   e. Synthesis
   d. Evaluation
   e. Skill

of two equated groups of Secondary School pupils taught Mathematics one using Advance Organizer Model (AOM) and the other using Conventional Method (CM), when group is taken as a whole and when groups are taken at differing levels of intelligence, namely,
Findings and Suggestions

3. To compare achievement with special reference to Instructional /Nurturant effects
   a. Conceptual Structure
   b. Meaningful Assimilation of Information
   c. Habit of Precise Thinking
   d. Interest in Inquiry

of two equated groups of Secondary School pupils taught Mathematics one using Advance Organizer Model and the other using Conventional Method, when group is taken as a whole and when groups are taken at differing levels of intelligence, namely,
   a. Low.
   b. Average
   c. High across groups and within groups

4. To compare achievement with special reference to
   a. Factor 1
   b. Factor 2
   c. Factor 3
   d. Factor 4
   e. Factor 5

of Instructional and Nurturant effects, of two equated groups of Secondary School pupils taught Mathematics one using Advance Organizer Model (AOM) and the other using Conventional Method (CM), when group is taken as a whole and when groups are taken at differing levels of intelligence, namely,
   a. Low.
   b. Average
   c. High across groups and within groups
5. To compare “Retention Scores” on achievement of two equated groups of Secondary School pupils taught Mathematics one using Advance Organizer Model (AOM) and the other using Conventional Method (CM), when group is taken as a whole and when groups are taken at differing levels of intelligence, namely,
   a. Low.
   b. Average
   c. High across groups and within groups

6. To compare ‘Retention Scores’ on achievement, with special reference to the Instructional objectives,
   a. Knowledge
   b. Understanding
   c. Application
   d. Analysis
   e. Synthesis
   d. Evaluation
   e. Skill

of two equated groups of Secondary School pupils taught Mathematics one using Advance Organizer Model (AOM) and the other using Conventional Method (CM), when group is taken as a whole and when groups are taken at differing levels of intelligence, namely,
   a. Low.
   b. Average
   c. High across groups and within groups

7. To compare Retention Scores of achievement of two equated groups of Secondary School pupils taught Mathematics one using Advance Organizer Model and the other using Conventional Method, with special reference to Instructional /Nurturant effects
Findings and Suggestions

a. Conceptual Structure
b. Meaningful Assimilation of Information
c. Habit of Precise Thinking
d. Interest in Inquiry

when group is taken as a whole and when groups are taken at differing levels of intelligence, namely,
   a. Low.
   b. Average
   c. High across groups and within groups

8. To compare Retention Scores of Instructional and Nurturant effects, with special reference to
   a. Factor 1
   b. Factor 2
   c. Factor 3
   d. Factor 4
   e. Factor 5

of two equated groups of Secondary School pupils taught Mathematics one using Advance Organizer Model (AOM) and the other using Conventional Method (CM) when group is taken as a whole and when groups are taken at differing levels of intelligence, namely,
   a. Low.
   b. Average
   c. High across groups and within groups

The present experimental study was conducted on a sample of students belonging to standard VIII, matched for mean and SD in terms of Intelligence, from Govt. High School Marayoor, Idukki District. Before the conduct of actual experiment, the investigator selected two group of students equated on the basis of relevant related variables – Intelligence, General Mathematics
Findings and Suggestions

proficiency score and Pre-requisites essential for mastering the new topic. For this purpose the tools employed were:


2. Pre-Requisite tests.

The students were divided into three groups namely, Low, Average and High intelligent students based on the scores obtained for the intelligence test.

Selected topics from the six chapters, of Standard VIII were taught using AOM and CM. The groups taught using AOM and CM were treated as the Experimental and Control group. The investigator herself conducted the experiment in both the groups.

Immediately after the experiment, Achievement test and tests to measure Instructional and Nurturant effects were administered to both the groups. In comparing the means of scores obtained for these tests for the whole group as well as for the subsamples, the investigator adopted ‘test of significance of difference between correlated mean’ (Garrett, 1981).

In order to determine the effectiveness of AOM in retaining the new information, the investigator administered the same tests to the same sample, two weeks after the experiment. The investigator arrived at a ‘retention score’ for each student and these score for the whole group as well as for the subsamples were subjected to a test of significance of the difference between correlated means.

6.2 MAJOR FINDINGS

1. Comparison of the performance of pupils in the experimental and control groups on Mathematics Achievement test conducted immediately after experiment, when taken as a whole and with respect to the six chapters concerned, indicates that the difference in the Mean scores of achievement scores is significant at .01 level. Also the Mean scores obtained for the students in the experimental groups is more than that of the control group in each case.
2. Comparison of the performance of Low, Average and High Intelligent Group of pupils in the experimental and control groups on Mathematics Achievement test taken as a whole conducted immediately after experiment indicates that the difference in the Mean Post test scores of Pupils in the Experimental and Control Groups is significant at .01 level at different levels of intelligence. Also, the Mean scores for the students in the experimental groups is more than that of the control group in each case.

3. Comparison of the performance of Low Intelligent Group and Average Intelligent Group of pupils in the experimental/Control group on Mathematics Achievement test taken as a whole conducted immediately after experiment indicates that the difference in the Mean Post test scores of Low Intelligent and Average Intelligent Pupils in the Experimental/Control Group is significant at .01 level. Also, the Mean scores of the average intelligent students in the experimental group is more than that of the low intelligent students.

4. Comparison of the performance of Low Intelligent Group and High Intelligent Group of pupils in the experimental/control group on Mathematics Achievement test taken as a whole conducted immediately after experiment indicates that the difference in the Mean Post test scores of Low Intelligent and High Intelligent Pupils in the Experimental/Control Group is significant at .01 level. Also, the Mean scores of the High intelligent students in the experimental group is more than that of the low intelligent students.

5. Comparison of the performance of Average Intelligent Group and High Intelligent Group of pupils in the experimental/control group on Mathematics Achievement test taken as a whole conducted immediately after experiment indicates that the difference in the Mean Post test scores of Average Intelligent and High Intelligent Pupils in the Experimental/Control Group is not significant at .01 level. Also, the Mean scores of the
average intelligent students do not differ significantly than the High intelligent students in the experimental group.

6. Comparison of the performance of pupils in the experimental and control groups, with special reference to Knowledge, Understanding, Application, Analysis, Synthesis, Evaluation, Skill level of items on Mathematics Achievement test taken as a whole conducted immediately after the experiment indicates that the difference in the Means Scores of Pupils in the Experimental and Control Groups is significant at .01 level. Also, the Mean scores of the Experimental group is more than that of the Control group in each case.

7. Comparison of the performance of Low, Average and High Intelligent Group of pupils in the experimental and control groups on Knowledge, Understanding, Application, Analysis, Synthesis, Evaluation and Skill level of items in the Mathematics Achievement test taken as a whole conducted immediately after experiment indicates that the difference in the Mean Post test scores of Pupils in the Experimental and Control Groups is significant at .01 level. Also, the Mean scores for the students in the experimental groups is more than that of the control group.

8. Comparison of the performance of Low Intelligent Group and Average Intelligent pupils in the experimental/control group on Knowledge, Understanding, Application, Analysis, Synthesis, Evaluation and Skill level of items in the Mathematics Achievement test taken as a whole conducted immediately after experiment indicates that the difference in the Mean Scores of Low Intelligent and Average Intelligent Pupils in the Experimental/Control Group is significant at .01 level. Also, the Mean scores for the students in the Average intelligent group is more than that of the Low intelligent group in each case.

9. Comparison of the performance of Low Intelligent Group and High Intelligent pupils in the experimental/Control group on Knowledge, Understanding, Application, Analysis, Synthesis, Evaluation and Skill level of items in the Mathematics Achievement test taken as a whole
conducted immediately after experiment indicates that the difference in
the Mean Scores of Low Intelligent and High Intelligent Pupils in the
Experimental/Control Group is significant at .01 level. Also, the Mean
scores for the students in the High intelligent group is more than that of
the low intelligent pupils.

10. Comparison of the performance of Average Intelligent Group and High
Intelligent pupils in the experimental/Control group on Knowledge
Understanding, Application, Analysis, Synthesis, Evaluation and Skill level
of items in the Mathematics Achievement test taken as a whole
conducted immediately after experiment indicates that the difference in
the Mean Scores of Low Intelligent and High Intelligent Pupils in the
Experimental/Control Group is significant at .01 level. Also, the Mean
scores for the students in the High intelligent group is more than that of
the Average intelligent group.

11. Comparison of the performance of pupils in the experimental and control
groups on the Scores obtained for Test on Conceptual Structures taken
as a whole and with respect to the six chapters, conducted immediately
after experiment indicates that the difference in the Means of Post test
Scores of Pupil on Conceptual Structures in the Experimental and Control
groups is significant at .01 level. Also, the Mean scores for the students in
the Experimental group is more than that of the Control group.

12. Comparison of the performance of pupils in the experimental and control
groups on the Scores obtained for Test on Meaningful Assimilation of
Information taken as a whole and with respect to the six chapters, conducted immediately after experiment indicates that the difference in
the Means of Post test Scores of Pupil on Meaningful Assimilation of
Information in the Experimental and Control Groups is significant at .01
level. Also, the Mean scores for the students in the Experimental group is
more than that of the Control group.

13. Comparison of the performance of pupils in the experimental and control
groups on the Scores obtained for Test on Habit of Precise Thinking
taken as a whole and with respect to the six chapters, conducted immediately after experiment indicates that the difference in the Means of Post test Scores of Pupil Habit of Precise Thinking in the Experimental and Control Groups is significant at .01 level. Also, the Mean scores for the students in the Experimental group is more than that of the Control group.

14. Comparison of the performance of pupils in the experimental and control groups on the Scores obtained for Interest in Inquiry, taken as a whole conducted immediately after experiment indicates that the difference in the Mean score obtained for the test on Interest in Inquiry in the experimental group and control group is significant at .01 level. Also, the Mean scores for the students in the Experimental group is more than that of the Control group.

15. Comparison of the performance of Low, Average and High Intelligent Group of pupils in the experimental and control groups on the Scores obtained for Conceptual Structures taken as a whole conducted immediately after experiment indicates that the difference of pupils in the experimental and control groups on the Scores obtained for Conceptual Structures taken as a whole conducted immediately after experiment is significant at .01 level. Also, the Mean scores for the students in the Experimental group is more than that of the Control group.

16. Comparison of the performance of Low Intelligent Group and Average Intelligent Group of pupils in the experimental/control group on the Scores obtained for Conceptual Structures taken as a whole conducted immediately after experiment indicates that the difference in the Mean Post Test Scores of Low Intelligent and Average Intelligent Pupil in the Experimental/Control Group on Conceptual Structures taken as a whole conducted immediately after experiment is significant at .01 level. Also, the Mean scores for the students in the Average intelligent group is more than that of the Low intelligent group.
17. Comparison of the performance of Low Intelligent Group and High Intelligent Group of pupils in the experimental/control group on the Scores obtained for Conceptual Structures taken as a whole conducted immediately after experiment indicates that the difference in the Mean Post Test Scores of Low Intelligent and High Intelligent Pupil in the Experimental/Control Group on Conceptual Structures taken as a whole conducted immediately after experiment is significant at .01 level. Also, the Mean scores for the students in the High intelligent group is more than that of the Low intelligent group.

18. Comparison of the performance of Average Intelligent Group and High Intelligent Group of pupils in the experimental/control group on the Scores obtained for Conceptual Structures taken as a whole conducted immediately after experiment indicates that the difference in the Mean Post Test Scores of Average Intelligent and High Intelligent Pupil in the Experimental/Control Group on Conceptual Structures taken as a whole conducted immediately after experiment is not significant at .01 level. Also, the Mean scores for the students in the High intelligent group is more than that of the Average group.

19. Comparison of the performance of Low, Average and High Intelligent Group of pupils in the experimental and control groups on the Scores obtained for Meaningful Assimilation of Information taken as a whole conducted immediately after experiment indicates that the difference in the Mean Post Test Scores of Pupils in the Experimental and Control Group on Meaningful Assimilation of Information taken as a whole conducted immediately after experiment is significant at .01 level. Also, the Mean scores for the students in the Experimental group is more than that of the Control group.

20. Comparison of the performance of Low Intelligent Group and Average Intelligent Group of pupils in the experimental/Control group on the Scores obtained for Meaningful Assimilation of Information taken as a whole conducted immediately after experiment indicates that the
difference in the Mean Post Test Scores of Low Intelligent and Average Intelligent Pupil in the Experimental/Control Group on Meaningful Assimilation of Information taken as a whole conducted immediately after experiment is significant at .01 level. Also, the Mean scores for the students in the Average intelligent group is more than that of the Low intelligent group.

21. Comparison of the performance of Low Intelligent Group and High Intelligent Group of pupils in the experimental/control group on the Scores obtained for Meaningful Assimilation of Information taken as a whole conducted immediately after experiment indicates that the difference in the Mean Post Test Scores of Low Intelligent and High Intelligent Pupil in the Experimental/Control Group on Meaningful Assimilation of Information taken as a whole conducted immediately after experiment is significant at .01 level. Also the Mean scores for the students in the High intelligent group is more than that of the Low intelligent group.

22. Comparison of the performance of Average Intelligent Group and High Intelligent Group of pupils in the experimental/control group on the Scores obtained for Meaningful Assimilation of Information taken as a whole conducted immediately after experiment indicates that the difference in the Mean Post Test Scores of Average Intelligent and High Intelligent Pupil in the Experimental/Control Group on Meaningful Assimilation of Information taken as a whole conducted immediately after experiment is not significant at .01 level. Also the Mean scores for the students in the High intelligent group is more than that of the Average intelligent group.

23. Comparison of the performance of Low, Average and High Intelligent Group of pupils in the experimental and control groups on the Scores obtained for Habit of Precise Thinking taken as a whole conducted immediately after experiment indicates that the difference in the Mean Post Test Scores of Pupils in the Experimental and Control Group on Habit of Precise Thinking taken as a whole conducted immediately after
experiment is significant at .01 level. Also, the Mean scores for the students in the Experimental group is more than the Control group.

24. Comparison of the performance of Low Intelligent Group and Average Intelligent group of pupils in the experimental/control group on the Scores obtained for Habit of Precise Thinking taken as a whole conducted immediately after experiment indicates that the difference in the Mean Post Test Scores of Low Intelligent and Average Intelligent Pupil in the Experimental/Control Group on Habit of Precise Thinking taken as a whole conducted immediately after experiment is significant at .01 level. Also, the Mean scores for the students in the Average Intelligent group is more than the Low Intelligent group.

25. Comparison of the performance of Low Intelligent Group and High Intelligent Group of pupils in the experimental/control group on the Scores obtained for Habit of Precise Thinking taken as a whole conducted immediately after experiment indicates that the difference in the Mean Post Test Scores of Low Intelligent and High Intelligent Pupil in the Experimental Group on Habit of Precise Thinking taken as a whole conducted immediately after Experiment is significant at .01 level. Also, the Mean scores for the students in the High Intelligent group is more than the Low Intelligent group.

26. Comparison of the performance of Average Intelligent Group and High Intelligent Group of pupils in the experimental/Control group on the Scores obtained for Habit of Precise Thinking taken as a whole conducted immediately after experiment indicates that the difference in the Mean Post Test Scores of Low Intelligent and High Intelligent Pupil in the Experimental Group on Habit of Precise Thinking taken as a whole conducted immediately after experiment is not significant at .01 level. Also, the Mean scores for the students in the High Intelligent group is more than the Average Intelligent group.

27. Comparison of the performance of Low, Average and High Intelligent Group of pupils in the experimental and control groups on the Scores
obtained for Interest in Inquiry taken as a whole conducted immediately after experiment indicates that the difference in Mean Post Test Scores Pupils in the Experimental and Control Group on Interest in Inquiry is significant at .01 level. Also the Mean scores for the students in the Experimental group is more than the Control group.

28. Comparison of the performance of Low Intelligent Group and Average Intelligent Group of pupils in the experimental/control group on the Scores obtained for Interest in Inquiry taken as a whole conducted immediately after experiment indicates that the difference in Mean Post Test Scores of Low Intelligent and Average Intelligent Pupil in the Experimental/Control Group on Interest in Inquiry is significant at .01 level. Also, the Mean scores for the students in the Average intelligent group is more than the low Intelligent group.

29. Comparison of the performance of Low Intelligent Group and High Intelligent Group of pupils in the experimental/control group on the Scores obtained for Interest in Inquiry taken as a whole conducted immediately after experiment indicates that the difference in Mean Post Test Scores of Low Intelligent and High Intelligent Pupil in the Experimental/Control Group on Interest in Inquiry is significant at .01 level. Also, the Mean scores for the students in the High intelligent group is more than the low Intelligent group.

30. Comparison of the performance of Average Intelligent Group and High Intelligent Group of pupils in the experimental group on the Scores obtained for Interest in Inquiry taken as a whole conducted immediately after experiment indicates that the difference in Mean Post Test Scores of Average Intelligent and High Intelligent Pupil in the Experimental Group on Interest in Inquiry is not significant at .01 level. Also, the Mean scores for the students in the High intelligent group is more than the Average Intelligent group.

31. Comparison of the performance of Average Intelligent Group and High Intelligent Group of pupils in the control group on the Scores obtained for
Interest in Inquiry taken as a whole conducted immediately after experiment indicates that the difference in Mean Post Test Scores of Average Intelligent and High Intelligent Pupil in the Control Group on Interest in Inquiry is significant at .01 level. Also, the Mean scores for the students in the High intelligent group is more than the Average Intelligent group.

32. Comparison of the performance of pupils in the experimental and control groups, with special reference to items of the five factors of Conceptual Structures taken as a whole conducted immediately after the experiment indicates that the difference in Mean Post Test Scores of Experimental and Control Group Pupil with special reference to these five Factors of Conceptual Structures is significant at .01 level. Also, the Mean scores for the students in the Experimental group is more than the Control group.

33. Comparison of the performance of pupils in the experimental and control groups, with special reference to items of four factors of Meaningful Assimilation of Information taken as a whole conducted immediately after the experiment indicates that the difference in Mean Post Test Scores of Experimental and Control Group Pupil with special reference to items of these four Factors of Meaningful Assimilation of Information is significant at .01 level. Also, the Mean scores for the students in the Experimental group is more than the Control group.

34. Comparison of the performance of pupils in the experimental and control groups, with special reference to items of five factors of Habit of Precise Thinking taken as a whole conducted immediately after the experiment indicates that the difference in Mean Post Test Scores of Experimental and Control Group Pupil with special reference to items of these five Factors of Habit of Precise Thinking is significant at .01 level. Also, the Mean scores for the students in the Experimental group is more than the Control group.

35. Comparison of the performance of Low, Average and High Intelligent Group of pupils in the experimental and control groups on items of Factor
Findings and Suggestions

I, II, III, IV and V in the test of Conceptual Structures taken as a whole conducted immediately after experiment indicates that the difference in Mean Post Test Scores of Low Intelligent Group of pupils in the experimental and control groups on items of Factor I II III IV and V in the test of Conceptual Structures is significant at .01 level. Also, the Mean scores for the students in the Experimental group is more than the Control group.

36. Comparison of the performance of Low Intelligent Group and Average Intelligent Group of pupils in the experimental/Control group on items of Factor I, II, III, IV and V in the test of Conceptual Structures taken as a whole conducted immediately after experiment indicates that the difference in the Mean Post Test Scores of Low Intelligent and Average Intelligent pupils in the experimental/Control Group on items of Factor I, II, III, IV and V in the test of Conceptual Structures is significant at .01 level. Also, the Mean scores for the students in the Average Intelligent group is more than the Low Intelligent group.

37. Comparison of the performance of Low Intelligent Group and High Intelligent Group of pupils in the experimental/control group on items of Factor I, II, III, IV and V in the test of Conceptual Structures taken as a whole conducted immediately after experiment indicates that the difference between the Mean Post Test Scores of Low Intelligent and High Intelligent pupils in the Experimental/Control Group on items of Factor I, II, III, IV and V in the test of Conceptual Structures is significant at .01 level. Also, the Mean scores for the students in the Average Intelligent group is more than the Low Intelligent group.

38. Comparison of the performance of Average Intelligent Group and High Intelligent Group of pupils in the experimental/control group on items of Factor I, II, III, IV and V in the test of Conceptual Structures taken as a whole conducted immediately after experiment indicates that the difference between the Mean Post Test Scores of Average Intelligent and High Intelligent pupils in the Experimental/Control Group on items of
Findings and Suggestions

Factor I, II, III, IV and V in the test of Conceptual Structures is not significant at .01 level. Also, the Mean scores for the students in the High Intelligent group is more than the Average Intelligent group.

39. Comparison of the performance of Low, Average and High Intelligent Group of pupils in the experimental and control groups on items of Factor I, II, III, and IV in the test of Meaningful Assimilation of Information taken as a whole conducted immediately after experiment indicates that the Mean Post Test Scores of Pupils in the Experimental and Control Groups on Items of Factor I, II, III, and IV in the test of Meaningful Assimilation of Information is significant at .01 level. Also the Mean scores for the students in the Experimental group is more than the Control group.

40. Comparison of the performance of Low Intelligent Group and Average Intelligent Group of pupils in the experimental/control group on items of Factor I, II, III, and IV in the test of Meaningful Assimilation of Information taken as a whole conducted immediately after experiment indicates that the Mean Post Test Scores of Low Intelligent and Average Intelligent Pupils in the Experimental/Control Group on Items of Factor I, II, III, and IV in the test of Meaningful Assimilation of Information is significant at .01 level. Also, the Mean scores for the students in the Average Intelligent group is more than the Low Intelligent group.

41. Comparison of the performance of Low Intelligent Group and High Intelligent Group of pupils in the experimental/control group on items of Factor I, II, III, and IV in the test of Meaningful Assimilation of Information taken as a whole conducted immediately after experiment indicates that the Mean Post Test Scores of Low Intelligent and High Intelligent Pupils in the Experimental/Control Group on Items of Factor I, II, III, and IV in the test of Meaningful Assimilation of Information is significant at .01 level. Also, the Mean scores for the students in the High Intelligent group is more than the Low Intelligent group.

42. Comparison of the performance of Average Intelligent Group and High Intelligent Group of pupils in the experimental/control group on items of
Factor I, II, III, and IV in the test of Meaningful Assimilation of Information taken as a whole conducted immediately after experiment indicates that the Mean Post Test Scores of Low Intelligent and High Intelligent Pupils in the Experimental/Control Group on Items of Factor I, II, III, and IV in the test of Meaningful Assimilation of Information is not significant at .01 level. Also the Mean scores for the students in the High Intelligent group is more than the Average Intelligent group.

43. Comparison of the performance of Low, Average and High Intelligent Group of pupils in the experimental and control groups on items of Factor I, II, III, IV and V in the test of Habit of Precise Thinking taken as a whole conducted immediately after experiment indicates that the Mean Post Test Scores of Low Intelligent Pupils in the Experimental and Control Groups on items of Factor I, II, III, IV and V in the test of Habit of Precise Thinking is significant at .01 level. Also, the Mean scores for the students in the Experimental group is more than the Control group.

44. Comparison of the performance of Low Intelligent Group and Average Intelligent Group of pupils in the experimental/control group on items of Factor I, II, III, IV and V in the test of Habit of Precise Thinking taken as a whole conducted immediately after experiment indicates that the Mean Post Test Scores of Low Intelligent and Average Intelligent Pupils in the Experimental/Control Groups on items of Factor I, II, III, IV and V in the test of Habit of Precise Thinking is significant at .01 level. Also, the Mean scores for the students in the Average Intelligent group is more than the Low Intelligent group.

45. Comparison of the performance of Low Intelligent Group and High Intelligent Group of pupils in the experimental/control group on items of Factor I, II, III, IV and V in the test of Habit of Precise Thinking taken as a whole conducted immediately after experiment indicates that the Mean Post Test Scores of Low Intelligent and High Intelligent Pupils in the Experimental/Control Groups on items of Factor I, II, III, IV and V in the test of Habit of Precise Thinking is significant at .01 level. Also, the Mean
scores for the students in the High Intelligent group is more than the Low Intelligent group.

46. Comparison of the performance of Average Intelligent Group and High Intelligent Group of pupils in the experimental/Control group on items of Factor I, II, III, IV and V in the test of Habit of Precise Thinking taken as a whole conducted immediately after experiment indicates that the Mean Post Test Scores of Average Intelligent and High Intelligent Pupils in the Experimental/Control Groups on items of Factor I, II, III, IV and V in the test of Habit of Precise Thinking is not significant at .01 level. Also, the Mean scores for the students in the High Intelligent group is more than the Average Intelligent group.

47. Comparison of the performance of Low, Average and High Intelligent Group of pupils in the Experimental and Control group on items of Factor I, II, III, IV and V in the test of Interest in Inquiry taken as a whole conducted immediately after experiment indicates that the Mean Post Test Scores Low Intelligent Group of pupils in the Experimental and Control group on items of Factor I, II, III, IV and V in the test of Interest in Inquiry is significant at .01 level. Also, the Mean scores for the students in the Experimental group is more than the Control group.

48. Comparison of the performance of Low Intelligent Group and Average Intelligent Group of pupils in the Experimental/Control group on items of Factor I, II, III, IV and V in the test of Interest in Inquiry taken as a whole conducted immediately after experiment indicates that the Mean Post Test Scores Low Intelligent Group and Average Intelligent Group of pupils in the Experimental/Control group on items of Factor I, II, III, IV and V shows that the Mean scores for the students in the Average Intelligent group is more than the Low Intelligent group.

49. Comparison of the performance of Low Intelligent Group and High Intelligent Group of pupils in the Experimental/Control group on items of Factor I, II, III, IV and V in the test of Interest in Inquiry taken as a whole conducted immediately after experiment indicates that the Mean Post
Test Scores Low Intelligent Group and High Intelligent Group of pupils in the Experimental/Control group on items of Factor I, II, III, IV and V in the test of Interest in Inquiry is significant at .01 level. Also, the Mean scores for the students in the High Intelligent group is more than the Low Intelligent group.

50. Comparison of the performance of Average Intelligent Group and High Intelligent Group of pupils in the Experimental group on items of Factor I, II, III, IV and V in the test of Interest in Inquiry taken as a whole conducted immediately after experiment indicates that the Mean Post Test Scores Average Intelligent Group and High Intelligent Group of pupils in the Experimental group on items of Factor I, II, III, IV and V in the test of Interest in Inquiry is not significant at .01 level. Also, the Mean scores for the students in the High Intelligent group is more than the Average Intelligent group.

51. Comparison of the performance of Average Intelligent Group and High Intelligent Group of pupils in the control group on items of Factor I, II, III, IV and V in the test of Interest in Inquiry taken as a whole conducted immediately after experiment indicates that the Mean Post Test Scores Average Intelligent Group and High Intelligent Group of pupils in the control group on items of Factor I, II, III, IV and V in the test of Interest in Inquiry is not significant at .01 level. Also, the Mean scores for the students in the High Intelligent group is more than the Average Intelligent group.

52. Comparison of the performance of Average Intelligent Group and High Intelligent Group of pupils in the control group on items of Factor II in the test of Interest in Inquiry taken as a whole conducted immediately after experiment indicates that the Mean Post Test Scores Average Intelligent Group and High Intelligent Group of pupils in the control group on items of Factor II in the test of Interest in Inquiry is not significant at .01 level. Also, the Mean scores for the students in the High Intelligent group is more than the Average Intelligent group.
53. Comparison of the Retention Score in the experimental and control groups on Mathematics Achievement test taken as a whole as well as with respect to the six chapters indicates that the Mean Retention Scores on Mathematics Achievement Test in the Experimental and Control Group is significant at .01 level. Also, the Mean scores for the students in the Experimental group is more than the Control group.

54. Comparison of the ‘Retention Score’ of Low, Average and High Intelligent Group of pupils in the experimental and control groups on Mathematics Achievement test indicates that the Mean Retention Scores of Low Intelligent Group of Pupils in the Experimental and Control Groups on Mathematics Achievement Test is significant at .01 level. Also, the Mean scores for the students in the Experimental group is more than the Control group.

55. Comparison of the ‘Retention Score’ of Low Intelligent Group and Average Intelligent Group of pupil in the experimental/control group on Mathematics Achievement test indicates that the Mean Retention Scores of Low Intelligent and Average Intelligent Group of Pupils in the Experimental/Control Group on Mathematics Achievement Test is significant at .01 level. Also, the Mean scores for the students in the Average Intelligent group is more than the Low Intelligent group.

56. Comparison of the ‘Retention Score’ of Low Intelligent Group and High Intelligent Group of pupils in the experimental/Control group on Mathematics Achievement test indicates that the Mean Retention Scores of Low Intelligent and High Intelligent Group of Pupils in the Experimental/Control Group on Mathematics Achievement Test is significant at .01 level. Also, the Mean scores for the students in the High Intelligent group is more than the Low Intelligent group.

57. Comparison of the ‘Retention Score’ of Average Intelligent Group and High Intelligent Group of pupils in the experimental/control group on Mathematics Achievement test indicates that the Mean Retention Scores of Average Intelligent and High Intelligent Group of Pupils in the
Experimental/Control Group on Mathematics Achievement Test is significant at .01 level. Also the Mean scores for the students in the High Intelligent group is more than the Average Intelligent group.

58. Comparison of the ‘Retention Score’ in the experimental and control groups, with special reference to Knowledge, Understanding, Application, Analysis, Synthesis, Evaluation and Skill level of items in Mathematics Achievement test indicates that the Mean Retention Scores in the Experimental and Control Groups, with special reference to different level of items in Mathematics Achievement Test is significant at .01 level. Also, the Mean scores for the students in the Experimental group is more than the Control group.

59. Comparison of the ‘Retention Score’ of Low, Average and High Intelligent Group of pupils in the experimental and control groups on Knowledge, Understanding, Application, Analysis, Synthesis, Evaluation and Skill level of items in the Mathematics Achievement test indicates that the Mean Retention Scores of Pupils in the Experimental and Control Groups on different level of items in the Mathematics Achievement test is significant at .01 level, except for low intelligent group of control group. Also, the Mean scores for the students in the Experimental group is more than the Control group in each case.

60. Comparison of the ‘Retention Score’ of Low Intelligent Group and Average Intelligent Group of pupils in the experimental group on Knowledge, Understanding Application, Analysis, Synthesis Evaluation and Skill level of items in the Mathematics Achievement test indicates the Mean Retention Scores of Low Intelligent and Average Intelligent Pupils in the Experimental Group on different level of items in the Mathematics Achievement test is significant at .01 level except for Analysis level of items. But, the Mean scores for the students in the Average Intelligent group is more than the Low Intelligent group in each case.

61. Comparison of the ‘Retention Score’ of Low Intelligent Group and High Intelligent Group of pupils in the experimental group on Knowledge,
Understanding Application, Analysis, Synthesis Evaluation and Skill level of items in the Mathematics Achievement test indicates that the Mean Retention Scores of Low Intelligent and High Intelligent Pupils in the Experimental Group on different level of items in the Mathematics Achievement test is significant at .01 level except for analysis and skill level. But, the Mean scores for the students in the High Intelligent group is more than the Low Intelligent group in each case.

62. Comparison of the ‘Retention Score’ of Average Intelligent Group and High Intelligent Group of pupils in the experimental group on Knowledge, Understanding Application, Analysis, Synthesis Evaluation and Skill level of items in the Mathematics Achievement test indicates that the Mean Retention Scores of Average Intelligent and High Intelligent Pupils in the Experimental Group on different level of items in the Mathematics Achievement test is not significant at .01 level except for Application level. Also, the Mean scores for the students in the High Intelligent group is more than the Average Intelligent group.

63. Comparison of the ‘Retention Score’ of Low Intelligent Group and Average Intelligent Group of pupils in the control group on Knowledge, Understanding Application, Analysis, Synthesis Evaluation and Skill level of items in the Mathematics Achievement test indicates that the Mean Retention Scores of Low Intelligent and Average Intelligent Pupils in the Control Group on different level of items in the Mathematics Achievement test is significant at .01 level except for Application, Analysis, Synthesis and Skill level. But, the Mean scores for the students in the Average Intelligent group is more than the Low Intelligent group in each case.

64. Comparison of the ‘Retention Score’ of Low Intelligent Group and High Intelligent Group of pupils in the control group on Knowledge, Understanding Application, Analysis, Synthesis, Evaluation and Skill level of items in the Mathematics Achievement test indicates that the Mean Retention Scores of Low Intelligent and High Intelligent Pupils in the Control Group on different level of items in the Mathematics Achievement
test is significant at .01 level except for Application level. Also, the Mean scores for the students in the High Intelligent group is more than the Low Intelligent group.

65. Comparison of the ‘Retention Score’ of Average Intelligent Group and High Intelligent Group of pupils in the control group on Knowledge, Understanding Application, Analysis, Synthesis, Evaluation and Skill level of items in the Mathematics Achievement test indicates the Mean Retention Scores of Average Intelligent and High Intelligent Pupils in the Control Group on different level of items in the Mathematics Achievement test is significant at .01 level except for Understanding, Application and Evaluation level. But the Mean scores for the students in the High Intelligent group is more than the Average Intelligent group in each case.

66. Comparison of the ‘Retention Score’ in the experimental and control groups on the Scores obtained for Test on Conceptual Structures taken as a whole and with respect to the six chapters indicates that the Mean Retention Scores in the Experimental and Control groups for Conceptual Structures is significant at .01 level. Also, the Mean scores for the students in the Experimental group is more than the Control group.

67. Comparison of the ‘Retention Score’ in the experimental and control groups on the Scores obtained for Test on Meaningful Assimilation of Information taken as a whole as well as for the six chapters indicates the Mean Retention Scores in the Experimental and Control groups for Meaningful Assimilation of Information is significant at .01 level. Also, the Mean scores for the students in the Experimental group is more than the Control group.

68. Comparison of the ‘Retention Score’ in the experimental and control groups on the Scores obtained for Test on Habit of Precise Thinking taken as a whole as well as for the six chapters indicates that the Mean Retention Scores in the Experimental and Control groups for Habit of Precise Thinking is significant at .01 level. Also, the Mean scores for the students in the Experimental group is more than the Control group.
69. Comparison of the ‘Retention Score’ of Low, Average and High Intelligent Group of pupils in the experimental and control groups for Conceptual Structures taken as a whole indicates that the Mean Retention Scores of Low Intelligent Pupils in the Experimental and Control groups for Conceptual Structures, taken as a whole is significant at .01 level. Also, the Mean scores for the students in the Experimental group is more than the Control group.

70. Comparison of the ‘Retention Score’ of Low Intelligent Group and Average Intelligent Group: Low Intelligent Group and High intelligent Group and Average intelligent Group and High Intelligent Group of pupils in the experimental group on the Scores obtained for Conceptual Structures taken as a whole indicates the Mean Retention Scores of the Pupils in the Experimental Group for Conceptual Structures, taken as a whole is not significant at .01 level. Also, the Mean scores for the students in the Average Intelligent group is more than the Low Intelligent group, High Intelligent group is more than the low intelligent group and High intelligent group is more than Average intelligent group.

71. Comparison of the ‘Retention Score’ of Low Intelligent Group and Average Intelligent Group: Low Intelligent Group and High intelligent Group and Average intelligent Group and High Intelligent Group of pupils in the Control group on the Scores obtained for Conceptual Structures taken as a whole indicates that the Mean Retention Scores of the Pupils in the Control Group for Conceptual Structures, taken as a whole is not significant at .01 level. Also, the Mean scores for the students in the Average Intelligent group is more than the Low Intelligent group, High Intelligent group is more than the low intelligent group and High intelligent group is more than Average intelligent group.

72. Comparison of the ‘Retention Score’ of Low, Average and High Intelligent Group of pupils in the experimental and control groups for Test on Meaningful Assimilation of Information taken as a whole indicates that the Mean Retention Scores of Low Intelligent Pupils in the Experimental and
Control Groups for test on Meaningful Assimilation of Information taken as a whole is significant at .01 level. Also, the Mean scores for the students in the Experimental group is more than the Control group.

73. Comparison of the ‘Retention Score’ of Low Intelligent Group and Average Intelligent Group; Low Intelligent group and High Intelligent Group and Average Intelligent Group and High Intelligent Group of pupils in the experimental group for Meaningful Assimilation of Information taken as a whole indicates that the Mean Retention Scores of Pupils in the Experimental Group for Meaningful Assimilation of Information taken as a whole is significant at .01 level except for Average and High Intelligent Group. Also, the Mean scores for the students in the Average Intelligent group is more than the Low Intelligent group; High Intelligent Group is more than Low intelligent group and High intelligent group is more than Average intelligent group.

74. Comparison of the ‘Retention Score’ of Low Intelligent Group and Average Intelligent Group; Low Intelligent group and High Intelligent Group and Average Intelligent Group and High Intelligent Group of pupils in the Control group for Meaningful Assimilation of Information taken as a whole indicates that the Mean Retention Scores of Pupils in the Control Group for Meaningful Assimilation of Information taken as a whole is significant at .01 level except for Low and Average Intelligent Groups. Also, the Mean scores for the students in the Average Intelligent group is more than the Low Intelligent group; High Intelligent Group is more than Low intelligent group and High intelligent group is more than Average intelligent group.

75. Comparison of the ‘Retention Score’ of Low, Average and High Intelligent Group of pupils in the experimental and control groups for Habit of Precise Thinking taken as a whole indicates that the Mean Retention Scores of Low Intelligent Pupils in the Experimental and Control Group for Habit of Precise Thinking taken as a whole is significant at .01 level. Also,
the Mean scores for the students in the Experimental group is more than the Control group.

76. Comparison of the ‘Retention Score’ of Low Intelligent Group and Average Intelligent Group; Low Intelligent Group and High Intelligent Group and Average Intelligent Group and High Intelligent Group of pupils in the experimental group for Habit of Precise Thinking taken as a whole indicates that the Mean Retention Scores of Pupils in the Experimental Group for Habit of Precise Thinking taken as a whole is not significant at .05 level except for Low Intelligent and High intelligent Group. Also, the Mean scores for the students in the Average Intelligent group is more than the Low Intelligent group; High Intelligent Group is more than Low Intelligent group and High Intelligent Group is more than Average Intelligent group.

77. Comparison of the ‘Retention Score’ of Low Intelligent Group and Average Intelligent Group; Low Intelligent Group and High Intelligent Group and Average Intelligent Group and High Intelligent Group of pupils in the Control group for Habit of Precise Thinking taken as a whole indicates that the Mean Retention Scores of Pupils in the Control Groups for Habit of Precise Thinking taken as a whole is significant at .01 level except for Low Intelligent and Average intelligent Group. Also, the Mean scores for the students in the Average Intelligent group is more than the Low Intelligent group; High Intelligent Group is more than Low Intelligent group and High Intelligent Group is more than Average Intelligent group.

78. Comparison of the ‘Retention Score’ in the experimental and control groups, with special reference to Factor I, II, III, IV and V of items on Conceptual Structures taken as a whole indicates that the Mean Retention Scores in the Experimental and Control Groups with special reference to items of Factor I, II, III, IV and V on Conceptual Structures taken as a whole is significant at .01 level. Also, the Mean scores for the students in the Experimental group is more than the Control group.
79. Comparison of the ‘Retention Score’ in the experimental and control groups, with special reference to Factor I, II, III, and IV of items on Meaningful Assimilation of Information taken as a whole indicates that the Mean Retention Scores in the Experimental and Control Groups with special reference to Factor I, II, III, and IV of items on Meaningful Assimilation of Information taken as a whole is significant at .01 level. Also, the Mean scores for the students in the Experimental group is more than the Control group.

80. Comparison of the ‘Retention Score’ in the experimental and control groups, with special reference to Factor I, II, III, IV and V of items on Habit of Precise Thinking taken as a whole indicates that the Mean Retention Scores in the Experimental and Control Groups with special reference to Factor I II III IV and V of items on Habit of Precise Thinking taken as a whole is significant at .01 level. Also, the Mean scores for the students in the Experimental group is more than the Control group.

81. Comparison of the ‘Retention Score’ of Low, Average and High Intelligent Group of pupils in the experimental and control groups on items of Factor I, II, III, IV and V in the test of Conceptual Structures taken as a whole indicates that the Mean Retention Scores of Low Intelligent Pupils in the Experimental and Control Group with special reference on items of Factor I, II, III, IV and V in the test of Conceptual Structures taken as a whole is significant at .01 level. Also, the Mean scores for the students in the Experimental group is more than the Control group.

82. Comparison of the ‘Retention Score’ of Low Intelligent Group and Average Intelligent Group of pupils in the experimental group on items of Factor I, II, III, IV and V in the test of Conceptual Structures taken as a whole indicates the Mean Retention Scores of Pupils in the Experimental Group with special reference on items of various factors in the test of Conceptual Structures taken as a whole is significant at .01 level except for Factors II and V. But, the Mean scores for the students in the Average Intelligent group is more than the Low Intelligent group.
83. Comparison of the ‘Retention Score’ of Low Intelligent Group and High Intelligent Group of pupils in the experimental group on items of Factor I, II, III, IV and V in the test of Conceptual Structures taken as a whole indicates that the Mean Retention Scores of Low Intelligent and High Intelligent Pupils in the Experimental Group with special reference on items of various in the test of Conceptual Structures taken as a whole is significant at .01 level except for Factors II and V. Also, the Mean scores for the students in the High Intelligent group is more than the Low Intelligent group.

84. Comparison of the ‘Retention Score’ of Average Intelligent Group and High Intelligent Group of pupils in the experimental group on items of Factor I, II, III, IV and V in the test of Conceptual Structures taken as a whole indicates that the Mean Retention Scores of Average Intelligent and High Intelligent Pupils in the Experimental Group with special reference on items of various in the test of Conceptual Structures taken as a whole taken is not significant at .01 level except for Factor IV. Also, the Mean scores for the students in the High Intelligent group is more than the Average Intelligent group.

85. Comparison of the ‘Retention Score’ of Low, average and High Intelligent Group of pupils in the experimental and control groups on items of Factor I, II, III, and IV in the test of Meaningful Assimilation of Information taken as a whole indicates that the Mean Retention Scores of Pupil in the Experimental and Control Group with special reference on items of different factors in the test of Meaningful Assimilation of Information taken as a whole is significant at .01 level. Also, the Mean scores for the students in the Experimental group is more than the Control group.

86. Comparison of the ‘Retention Score’ of Low Intelligent Group and Average Intelligent Group of pupils in the experimental group on items of Factor I, II, III, and IV in the test of Meaningful Assimilation of Information taken as a whole indicates that the Mean Retention Scores of Low Intelligent and Average Intelligent Pupil in the Experimental Group with
special reference on items of different Factors in the test of Meaningful Assimilation of Information taken as a whole is not significant at .01 level except for Factors II and III. Also, the Mean scores for the students in the Average Intelligent group is more than the Low Intelligent group.

87. Comparison of the ‘Retention Score’ of Low Intelligent Group and High Intelligent Group of pupils in the experimental group on items of Factor I, II, III and IV in the test of Meaningful Assimilation of Information taken as a whole indicates that the Mean Retention Scores of Low Intelligent and High Intelligent Pupil in the Experimental Group with special reference on items of different factors in the test of Meaningful Assimilation of Information taken as a whole is significant at .01 level except for factor I. Also, at the Mean scores for the students in the High Intelligent group is more than the Low Intelligent group.

88. Comparison of the ‘Retention Score’ of Average Intelligent Group and High Intelligent Group of pupils in the experimental group on items of Factor I, II, III and IV in the test of Meaningful Assimilation of Information taken as a whole indicates that the Mean Retention Scores of Average Intelligent and High Intelligent Pupil in the Experimental Group with special reference on items of different Factors in the test of Meaningful Assimilation of Information taken as a whole is not significant at .01 level except for Factors III and IV. Also, the Mean scores for the students in the High Intelligent group is more than the Average Intelligent group.

89. Comparison of the ‘Retention Score’ of Low Intelligent Group and Average Intelligent Group of pupils in the control group on items of Factor I, II, III and IV in the test of Meaningful Assimilation of Information taken as a whole indicates the Mean Retention Scores of Low Intelligent and Average Intelligent Pupil in the Control Group with special reference on items of different Factors in the test of Meaningful Assimilation of Information taken as a whole is significant at .01 level except for Factor IV. Also, the Mean scores for the students in the Average Intelligent group is more than the Low Intelligent group.
90. Comparison of the ‘Retention Score’ of Low Intelligent Group and High Intelligent Group of pupils in the control group on items of Factor I, II, III and IV in the test of Meaningful Assimilation of Information taken as a whole indicates that the Mean Retention Scores of Low Intelligent and High Intelligent Pupil in the Control Group with special reference on items of different Factor I in the test of Meaningful Assimilation of Information taken as a whole is significant at .01 level except for factors III and IV. Also, the Mean scores for the students in the High Intelligent group is more than the Low Intelligent group.

91. Comparison of the ‘Retention Score’ of Average Intelligent Group and High Intelligent Group of pupils in the control group on items of Factor I, II, III and IV in the test of Meaningful Assimilation of Information taken as a whole indicates that the Mean Retention Scores of Average Intelligent and High Intelligent Pupil in the Control Group with special reference on items of different factors in the test of Meaningful Assimilation of Information taken as a whole is not significant at .01 level except for factor IV. Also, the Mean scores for the students in the High Intelligent group is more than the Average Intelligent group.

92. Comparison of the ‘Retention Score’ of Low, average and High Intelligent Group of pupils in the experimental and control groups on items of Factor I, II, III, IV and V in the test of Habit of Precise Thinking taken as a whole indicates that the Mean Retention Scores of Low Intelligent Pupil in the Experimental and Control Group with special reference on items of various factors in the test of Habit of Precise Thinking taken as a whole is significant at .01 level except for Factor V. Also, the Mean scores for the students in the Experimental group is more than the Control group.

93. Comparison of the ‘Retention Score’ of Low Intelligent Group and Average Intelligent Group of pupils in the experimental group on items of Factor I, II, III, IV and V in the test of Habit of Precise Thinking taken as a whole indicates that the Mean Retention Scores of Low Intelligent Pupil in the Experimental Group with special reference on items of different
Factors in the test of Habit of Precise Thinking taken as a whole is significant at .01 level except for Factors II, IV and V. Also, the Mean scores for the students in the Experimental group is more than the Control group.

94. Comparison of the ‘Retention Score’ of Low Intelligent Group and High Intelligent Group of pupils in the experimental group on items of Factor I, II, III, IV and V in the test of Habit of Precise Thinking taken as a whole indicates that the Mean Retention Scores of Low Intelligent and High Intelligent Pupil in the Experimental Group with special reference on items of different Factors in the test of Habit of Precise Thinking taken as a whole is significant at .01 level except for Factor I. Also, the Mean scores for the students in the High Intelligent group is more than the Low Intelligent group.

95. Comparison of the ‘Retention Score’ of Average Intelligent Group and High Intelligent Group of pupils in the experimental group on items of Factor I, II, III, IV and V in the test of Habit of Precise Thinking taken as a whole indicates that the Mean Retention Scores of Average Intelligent and High Intelligent Pupil in the Experimental Group with special reference on items of different Factors in the test of Habit of Precise Thinking taken as a whole is not significant at .01 level except for Factor III. Also, the Mean scores for the students in the High Intelligent group is more than the Average Intelligent group.

96. Comparison of the ‘Retention Score’ of Low Intelligent Group and Average Intelligent Group of pupils in the control group on items of Factor I II III IV and V in the test of Habit of Precise Thinking taken as a whole indicates that the Mean Retention Scores of Low Intelligent and Average Intelligent Pupil in the Control Group with special reference on items of different factors in the test of Habit of Precise Thinking taken as a whole is not significant at .01 level except for Factors II and III. Also, the Mean scores for the students in the Average Intelligent group is more than the Low Intelligent group.
97. Comparison of the ‘Retention Score’ of Low Intelligent Group and High Intelligent Group of pupils in the control group on items of Factor I, II, III, IV and V in the test of Habit of Precise Thinking taken as a whole indicates that the Mean Retention Scores of Low Intelligent and High Intelligent Pupil in the Control Group with special reference on items of different Factors in the test of Habit of Precise Thinking taken as a whole is significant at .01 level except for Factors III, IV and V. Also, the Mean scores for the students in the High Intelligent group is more than the Low Intelligent group.

98. Comparison of the ‘Retention Score’ of Average Intelligent Group and High Intelligent Group of pupils in the control group on items of Factor I, II, III, IV and V in the test of Habit of Precise Thinking taken as a whole indicates that the Mean Retention Scores of Average Intelligent and High Intelligent Pupil in the Control Group with special reference on items of different Factors in the test of Habit of Precise Thinking taken as a whole is significant at .01 level except for factors III, IV and V. Also, the Mean scores for the students in the High Intelligent group is more than the Average Intelligent group.

6.3 TENABILITY OF THE HYPOTHESES

1. The null hypothesis, “If two equated groups of Secondary School pupils were taught Mathematics one using Advance Organizer Model (AOM) and the other using Conventional Method (CM), then there will be no significant difference between the Mean scores on achievement when group is taken as a whole and when groups are taken at differing levels of intelligence, namely,
   a. Low.
   b. Average
   c. High across groups and within groups” is rejected.
2. The null hypothesis, “If two equated groups of Secondary School pupils were taught Mathematics one using Advance Organizer Model (AOM) and the other using Conventional Method (CM), then there will be no significant difference between the Mean scores on achievement, with special reference to the Instructional objectives,
   a. Knowledge
   b. Understanding
   c. Application
   d. Analysis
   e. Synthesis
   d. Evaluation
   e. Skill

   when group is taken as a whole and when groups are taken at differing levels of intelligence, namely,
   a. Low.
   b. Average
   c. High across groups and within groups” is rejected except for following cases:
* Low Intelligent and Average Intelligent Control group comparison with respect to Analysis level items
* Average Intelligent and High Intelligent Control group comparison with respect to Knowledge & Evaluation level items
* Average Intelligent and High Intelligent Experimental group comparison with respect to Knowledge, Application and Skill Level items.

3. The null hypothesis, “If two equated groups of Secondary School pupils are taught Mathematics one using Advance Organizer Model and the other using Conventional Method, then there will be no significant difference between the Mean scores of achievement with special reference to Instructional /Nurturant effects
Findings and Suggestions

a. Conceptual Structure
b. Meaningful Assimilation of Information
c. Habit of Precise Thinking
d. Interest in Inquiry

when group is taken as a whole and when groups are taken at differing levels of intelligence, namely,
a. Low.
b. Average
c. High across groups and within groups” is rejected except for.

* Average Intelligent and High Intelligent Experimental group comparison of the four factors Conceptual Structures, Meaningful Assimilation of Information, Habit of Precise Thinking and Interest in Inquiry.

4. The null hypothesis, “If two equated groups of Secondary School pupils were taught Mathematics one using Advance Organizer Model (AOM) and the other using Conventional Method (CM), then there will be no significant difference between the Mean scores on Instructional and Nurturant effects, with special reference to

a. Factor 1
b. Factor 2
c. Factor 3
d. Factor 4
e. Factor 5

when group is taken as a whole and when groups are taken at differing levels of intelligence, namely,
a. Low.
b. Average
c. High, across groups and within groups”, is rejected except for
Findings and Suggestions

* Average Intelligent and High Intelligent Experimental group comparison on test of Conceptual Structures with respect to the factors I, II, III and IV.

* Average Intelligent and High Intelligent Experimental group comparison on test of Meaningful Assimilation of Information with respect to factors I, II and IV.

* Average Intelligent and High intelligent Control group comparison on test of Meaningful Assimilation of Information with respect to factor II.

* Average Intelligent and High Intelligent Experimental group comparison on test of Habit of Precise Thinking with respect to Factors I, II, III, and IV.

* Average Intelligent and High Intelligent Experiment group comparison on test of Interest in Inquiry with respect to the factors I, II, III, IV, and V.

5. The null hypothesis, “If two equated groups of Secondary School pupils were taught Mathematics one using Advance Organizer Model (AOM) and the other using Conventional Method (CM), then there will be no significant difference between the Mean “Retention Scores” on achievement when group is taken as a whole and when groups are taken at differing levels of intelligence, namely,
   a. Low.
   b. Average
   c. High across groups and within groups” is rejected.

6. The null hypothesis, “If two equated groups of Secondary School pupils were taught Mathematics one using Advance Organizer Model (AOM) and the other using Conventional Method (CM), then there will be no significant difference between the Mean Retention Scores on achievement, with special reference to the Instructional objectives,
   a. Knowledge
   b. Understanding
   c. Application
   d. Analysis
e. Synthesis
d. Evaluation
e. Skill

when group is taken as a whole and when groups are taken at differing
tools of intelligence, namely,

a. Low.
b. Average
c. High across groups and within groups” is rejected except for

* Experimental and Control group of Low Intelligent pupils comparison with respect to Skill Level items.

* Low Intelligent and Average Intelligent Experimental group comparison with respect to Analysis Level item.

* Low Intelligent and High Intelligent Experimental group comparison with respect to Analysis, Skill Level item.

* Average Intelligent and High Intelligent Experimental group comparison with respect to Knowledge, Understanding, Application, Analysis, Synthesis, Evaluation, Skill Level item.

* Low Intelligent and Average Intelligent Control group comparison with respect to Application, Analysis, Synthesis, and Skill Level item.

* Low Intelligent and High Intelligent Control group comparison with respect to Application Level item.

* Average Intelligent and High Intelligent Control group comparison with respect to Understanding, Application, and Evaluation Level item.

7. The null hypothesis, “If two equated groups of Secondary School pupils are taught Mathematics one using Advance Organizer Model and the other using Conventional Method, then there will be no significant difference between the Mean Retention Scores of achievement with special reference to Instructional /Nurturant effects

a. Conceptual Structure
Findings and Suggestions

b. Meaningful Assimilation of Information
c. Habit of Precise Thinking
d. Interest in Inquiry

when group is taken as a whole and when groups are taken at differing levels of intelligence, namely,

a. Low.
b. Average
c. High across groups and within groups” is rejected as except for

* Low Intelligent and Average Intelligent Experimental group comparison with respect to Conceptual Structure, Habit of Precise Thinking

* Low Intelligent and High Intelligent Experimental group comparison with respect to Conceptual Structure,

* Average Intelligent and High Intelligent Experimental group comparison with respect to Conceptual Structure, Meaningful Assimilation of Information and Habit of Precise Thinking

8. The null hypothesis, if two equated groups of Secondary School pupils were taught Mathematics one using Advance Organizer Model (AOM) and the other using Conventional Method (CM), then there will be no significant difference between the Mean Retention Scores on Instructional and Nurturant effects, with special reference to

a. Factor 1
b. Factor 2
c. Factor 3
d. Factor 4
e. Factor 5

when group is taken as a whole and when groups are taken at differing levels of intelligence, namely,

a. Low.
b. Average

c. High across groups and within groups is rejected except for

* Low Intelligent and Average Intelligent Experimental group comparison on test of Conceptual Structures with respect to factors 2,5

* Low Intelligent and High Intelligent Experimental group comparison on test of Conceptual Structures with respect to factor 2, 5

* Average Intelligent and High Intelligent Experimental group comparison on test of Conceptual Structures with respect to factors 1,2,3,5

* Low Intelligent and Average Intelligent Control group comparison on test of Conceptual Structures with respect to factor 2

* Average Intelligent and High Intelligent Control group comparison on test of Conceptual Structures with respect to factors 1,2,3,5

* Low Intelligent and Average Intelligent Experimental group comparison on test of Meaningful Assimilation of Information with respect to factors 1,4 and that of Control group comparison with respect to factor 3

* Low Intelligent and High Intelligent Experimental group comparison on test of Meaningful Assimilation of Information with respect to factors 1, 4 and that of Control group comparison with respect to factor 3

* Average Intelligent and High Intelligent Experimental group comparison on test of Meaningful Assimilation of Information with respect to factors 1,4 and that of Control group comparison with respect to factors 1,2,3

* Low Intelligent and Average Intelligent Experimental group comparison on test of Habit of Precise Thinking with respect to factors 1,3 and that for Control group comparison on test of Habit of Precise Thinking with respect to factors 1,2,4,5

* Low Intelligent and High Intelligent Experimental group comparison on test of Habit of Precise Thinking with respect to factor 1 and that for the Control group comparison on test of with respect to factors 3,4,5
* Average Intelligent and High Intelligent Experimental group comparison on test of Habit of Precise Thinking with respect to factors I, II, III, V and that for the Control group comparison on test of Habit of Precise Thinking with respect to factors II, IV, V.

* Experimental and Control group comparison on test of Habit of Precise Thinking with respect to Low, Average and High Intelligent group

6.4 **SUGGESTIONS**

Teachers of Mathematics, educational authorities and planners of education can arrive at a number of facts from the findings and results of testing the hypotheses. This also helps to provide researchers with a number of relevant issues that could be subjected to further investigation. They are summarized below

6.4.1 **Suggestion for Implementation**

1. The study has emphatically shown that the instructional strategy AOM tried out is far superior to CM, in bringing about attainment in mathematics. Hence, teachers should be encouraged to apply these models while teaching the subject.

2. Teachers should be oriented to the theory and practice associated with the model in order to implement the above suggestion. At present, most of the teachers are quite ignorant of models of teaching. Hence, teaching model should be incorporated in the syllabi for teacher training.

3. To familiarize the teachers in the service with models of teaching, in-service training should be urgently organized.

4. Simple books on models of teaching that are more suited for our present setting may be published.

5. Model transcript on selected units may be developed by an expert team and made available to teachers so that teachers may apply a judicious combination of models in the classroom setting.

6. Model test based on instructional and nurturant effects of models based on selected units may be developed by an expert team and made
available to teachers so that teachers may apply it in the classroom setting.

6.4.2 Suggestion for Further Research

1. The encouraging results obtained from the study warrants experimentation of models of teaching in case of all school subjects.

2. Studies determining the effectiveness of different models of teaching in Kerala setting need to be undertaken.

3. Studies may be undertaken to adopt models of teaching to make them more suitable to different categories of students.

4. Studies need to be conducted to develop standardized tools for measuring instructional and nurturant effects of various models of teaching.

5. A survey of teachers’ attitude towards models of teaching and its actual practice and its effects on students can be conducted.

6. Teaching analysis guides and lesson plan formats can be developed and their impact on the achievement on various levels can be studied for which a model of teaching is designed.

7. Studies can be conducted to develop new training strategy which takes into account the training of teachers, training of student teachers and the use of model of teaching in the classroom.

8. To make comparison more meaningful and comprehensive, a variety of tests meant for measuring the specific goals associated with each of the models should be developed, got standardized and used for collecting required data in the experiment.

9. There is a need for concerted efforts to try out models of teaching in various areas and at all levels of schooling.

10. Investigators have to develop scales to measure attitude towards the models of teaching to discover relationship between models of teaching and achievement.