SUMMARY AND CONCLUSIONS
CHAPTER V

SUMMARY AND CONCLUSIONS

In the preceding chapters, introduction of the problem, development of the tools, method of the study and interpretation of the results, were discussed. The present chapter is a brief summary of the investigation and the conclusions of the study.

5.1 Introduction

Teaching is an activity which is designed and performed for the attainment of some broad goals or a large number of specific objectives, in terms of change in pupil’s cognitive structure and behaviour. To be more effective, the teaching has to suit to different styles of pupil’s learning. As an implication, the teachers have to use such strategies of teaching which can match the objectives of teaching as well as pupil’s learning styles.

Teacher in an experimental situation may use a single model, but in actual practice no teacher sticks to one model. Delimiting one self to one teaching model reduces the teaching competence of teachers. The teacher competence can be developed by imparting training to teacher in the use of various models so that they can select and use them.

Model of teaching suggests that there exists interrelationship between various teaching activities and learning conditions. Generally, these models are prototypes of theories of teaching. Some educationists have developed model of teaching by exploring practical perspectives of such theories, model of teaching concerns a pattern or plan of teaching which can be used to shape a curriculum or course to select instructional materials and to guide the teacher’s
The models of teaching provide guidelines to the teachers in planning and organizing curriculum, pupil teacher interactions, preparation of the outline for guiding students activities, in the development of specific teaching aids. Theories of teaching can also be formulated, developed and evaluated with the help of these models.

Ausbuel (1963) viewed teaching learning and curriculum simultaneously in one gestalt. The main focus of his thinking is on meaningful learning. He believes that the meaningful learning is acquiring new knowledge which is intellectually linked to students' cognitive structure and refers to "person's knowledge of a particular subject at any given time".

Many theorists have explained how learning occurs but do not help us teach and organise a curriculum. The advance organiser model of teaching provides recommendations to teachers for selecting, ordering and presenting new information.

Joyce and Weil have identified the given two types of advance organisers: (i) Expository organiser (ii) Comparative organiser. The former provides a general model of class-relationship as broader rule relate themselves with sub rule from one another before the component are differentiated. The later is used for relatively familiar material and are designed to integrate new concepts with parallel concepts existing in the cognitive structure, on the one hand, and to discriminate between familiar and new concept to prevent confusion caused by similarity, on the other.

The process of learning begins with the birth of the child and continues till his death. As soon as he comes in contact with his environment, he starts
reacting and in the process of interaction of the individual and his environment, the foundation of learning is laid down.

"Learning" refers to the acquisition of knowledge or behaviour; "performance" refers to the actual behaviour that a learner exhibits on a given occasion. A distinction must be made between learning and performance, since people's performance may not always give a direct indication of what they have learned.

Learning has been classified into the eight distinct types (Gagne 1970) such as i) Signal learning, ii) Stimulus Response learning, iii) Chain learning, iv) Verbal learning, v) Discrimination learning, vi) Concept learning, vii) Rule learning, viii) Problem solving learning.

Cognitive style refers to the modes an individual employs in perceiving organising and labeling various dimensions of the environment. Thus, cognitive style appears to reflect consistencies in the manner or form of cognition, as distinct from the content of cognition or the level of cognitive skill displayed. Cognitive styles reflect aspects of personality as well as aspects of cognition. Thus although they function to control and regulate the course of information-processing and are typically measured as response consistencies on cognitive tasks, their operation may be in the service of underlying personality traits for such dynamic themes as anxiety over error, expectancy of success and failure, and vulnerability to distraction which are central to many of the measures utilized in their assessment.

The previous researches in the field of pedagogy of teaching have established beyond doubt that no single method is suitable to teach all subjects, all topics or even a particular topic.
Most of the researches have compared two or three methods of teaching to acquire some objectives considering a particular subject or topic. In some studies, it has been found that achievement is affected by the methods of teaching. In some studies, it has been found that achievement is not affected by the methods of teaching. Very few studies have been conducted in which two or more strategies developed to teach a particular intellectual skill have been compared.

The two points have clearly emerged, one that there was little work in the subject of geography and secondly, there was no agreement on the relationship of cognitive style and performance. Hence, there was a case of studying the performance in geography in relation to cognitive styles.

The empirical evidences exhibit a range of relationships of academic performance and learning types for different stages. It may be observed, one that there was no study to my reference on the subject of geography and secondly, there was no agreement on the relationship of learning types and performance. Hence, there was a need for studying the performance of geography in relation to learning types also.

5.2 Statement of the Problem

"ROLE OF ADVANCE ORGANISER IN LEARNING AND RETENTION WITH RESPECT TO COGNITIVE STYLE AND LEARNING TYPES IN GEOGRAPHY".

5.3 Delimitation of the Problem

The study was delimited with respect to the class, subject, content area, place of study, cognitive styles and learning types as follows:

1. The study was conducted on Xth class Geography students.
2. Students were taken from three high schools of Chandigarh (U.T.).

3. The investigation of teaching was conducted in respect of only two cognitive styles, namely field-dependent and field-independent.

4. Out of the range of Gagne's learning types, only three viz verbal learning, concept learning and rule learning were taken up for investigation.

5.4 Objectives of the Study

The study was designed to attain the following objectives:

1. To compare the performance of groups taught through advance organizer model and conventional method.

2. To study the interaction between model's approach and cognitive styles.

3. To study the interaction between model's approach and learning types.

4. To study the relationship among model's approach, cognitive styles and learning types.

5.5 Hypotheses of the Study

The study was designed to test the following hypotheses in respect of the immediate performance and retention:

Immediate Performance

H$_1^0$ The advance organizer model do not yield performance different from the conventional method of teaching.

H$_2^0$ Performance through advance organizer model does not vary with different cognitive styles.
H$_3$O  Performance through different models of teaching would not be different for different learning types.

H$_4$O  The average performance through different models of teaching do not interact with cognitive styles and learning types.

Retention

H$_1$O  The advance organizer model do not yield performance different from conventional method of teaching when measured after an interval of 15 days.

H$_2$O  Performance through advance organizer model does not vary with different cognitive styles when measured after an interval of 15 days.

H$_3$O  Performance through different models of teaching would not be different for different learning types when measured after an interval of 15 days.

H$_4$O  The average performance through different models of teaching do not interact with cognitive styles and learning types when measured after an interval of 15 days.

5.6 Sample of the Study

The study was conducted on a sample of 240 students of class Xth, both boys and girls, taken from three high schools situated in the urban setting of Chandigarh (UT). This study was proposed to be conducted on two intact groups. One experimental and another conventional group in each school.

5.7 Tools Used

The following tests were used for data collection:
1. The Group Embedded Figure Test (GEFT) 1971 by Philp K. Oltman, Evelyn Raskin, and Herman A. Witkin.


3. An Achievement Test on the segment of Geography.

4. Instructional Material prepared in accordance with the advance organiser model and conventional teaching on the same segment of Geography.

5.8 Design of the Study

For the purpose of the present investigation a pre-test and post-test factorial design was employed. In order to analyze the data a 2x2x3 analysis of variance was used for the three independent variables viz Instructional treatment, cognitive styles and learning types.

The variable of teaching model was studied at two levels, namely advance organiser model and conventional teaching. The variable of cognitive style was studied at two levels, namely field-independent and field-dependent. The variable of learning types was studied at three levels that is for verbal association learning, concept learning and rule learning. The main dependent variable was performance gain which was calculated as the difference in post-test and pre-test scores for each subject.

5.9 Procedure of the Study

After the selection of the sample and allocation of students to the two instructional strategies the experiment was conducted in five phases.

Firstly, Group Embedded Figure Test was administered in each school, in order to identify cognitive styles of the students.
Secondly, a pre-test was administered to the students of both the treatment and control groups. The answer-sheets were scored to obtain information regarding the previous knowledge of the students, for verbal association, concept and rule learning.

Thirdly, one group was taught through advance organizer and the second group was taught through conventional method, by the investigator himself.

Fourthly, after the completion of the course, the post-test was administered to the students of both the groups. The answer-sheets were scored with the help of scoring key. Time limit for the test was one hour.

Fifthly, after 15 days, again the same criterion test was administered to the students of both the treatment groups to get a measure of their retention. The answer-sheets were scored with the help of the scoring key.

5.10 Statistical Techniques Used

The obtained data were presented through the graphs such as frequency polygon, ogive and bar-diagrams. The means and standard deviations were calculated for the data.

The data were also analysed with the help of (i) a 3-way analysis of variance (ANOVA) used to test the hypotheses related to strategy of teaching, cognitive styles and learning types for immediate test scores and the retention test scores, (ii) The t-test was also employed to find out the significance of difference between means related to different groups and different variables.
5.11 Findings of the Study

Immediate Performance

- Advance organiser model was found as effective as the traditional method teaching. No difference in gain mean of overall scores was observed.

- No difference in the gain mean scores yielded by the subjects having field-dependent cognitive styles and the field-independent cognitive styles was found.

- It was found that the gain mean with Advance organise model was more for field-independent subjects than for field-dependent subjects. This difference was not found in respect of the two cognitive style groups taught through conventional method.

- In respect of the learning types the gain mean at verbal learning was found to be different from concept learning as well as rule learning. No difference was found significant in the latter two. The performance on verbal learning was lower than the performance of concept and rule learning.

- The treatments were not found interacting with different learning types in respect of the gains score. Performance to different model of teaching was not different for different learning types.

- The subjects with different cognitive styles did not yield different results for verbal learning, concept learning and rule learning.

- The average gain through different model of teaching did neither found interacting with cognitive styles nor with learning types.
Retention

The attainment data obtained after an interval of 15-20 days revealed the following findings.

- In respect of retention scores the advance, organiser model was found as effective as the conventional method teaching.

- The different cognitive styles of teaching yielded comparable gain in retention scores.

- The retention gain scores in respect of different learning types, namely verbal learning, concept learning and rule learning were found different such that the performance on verbal learning and rule learning was more than the concept learning.

- In respect of retention, scores were not found interacting with cognitive styles.

- The different models yielded comparable gain scores for verbal learning when tested after an interval of 15 to 20 days.

- The average gain in retention scores through different models of teaching did neither interact with cognitive styles nor learning types.

5.12 Education Implications of the Findings

The finding of the present study have some important implications for improving the quality of teaching in the subject of geography. It was found that the advance organiser model was not superior to the conventional method of teaching.

Advance organiser model was found more for the development of concept and rule learning among students.
Advance organiser model can be applied in the classroom teaching for higher learning types. It can also be extrapolated that with more difficult content in Geography the advance organiser model would yield higher gain-scores. The study provides an evidence to the conclusion that the inclusion of data on student cognitive styles, namely field-independent and field-dependent in the placement of decision may result in more effective use of different teaching models and this increases the likelihood that each child will be exposed to teaching models which will be most conducive to learning and retention.

5.13 Suggestions for further study

1. The study may be conducted by involving more organismic and environmental variables.

2. The study may be replicated in other subject at high school or senior secondary school level.

3. The study can be conducted for different models of teaching.

4. Advance organiser model should be developed for other disciplines, like language, natural science, different subjects of social studies, etc. and the effect of different instructional material on different types of learning should be studied.

5. Effect of other variables like, age, sex, personality type, may be studied on the advance organiser model.