CHAPTER 6
CONCLUSIONS, IMPLICATIONS AND SUGGESTIONS

6.1 Conclusions:

Information Processing Models are more effective than the traditional (lecture method) in developing understanding of the facts, concepts and principles related to science. Achievement level of the students increases considerably when taught through Information Processing Models.

Information Processing Models are more effective than the traditional method in developing the reasoning ability (logical thinking) among the students.

Creative abilities of students can be enhanced through effective teaching-learning strategies. Information Processing Models are more effective as compared to the traditional method in developing creativity among the students.

The teaching-learning process contributes to the development of rational outlook. Information Processing Models are more effective than the traditional method of teaching in developing rational outlook among the students.

Teaching-learning strategies do not have much influence on the development of objectivity. Information Processing Models are comparatively more effective than the traditional method in developing objectivity among the students.

Students can be made more inquisitive through effective teaching strategies. Information Processing Models are more effective in developing the spirit of inquiry among the students than the traditional method of teaching.
Suitable teaching strategies can make the students more decisive. Information Processing Models are more effective than the traditional method of teaching in developing the ability of making decisions among the students.

Information Processing Models are more effective in developing the courage to question among the students as compared to the traditional method of teaching.

Information Processing Models are more effective than the traditional method of teaching in developing the ability to draw conclusions among the students.

Information Processing Models are not more effective than the traditional method of teaching in developing the aesthetic sense among the students.

6.2 Implications of the study:

- Science is taught as a compulsory subject up to class X in our schools. The subject has been made compulsory so that all the students develop certain essential skills and values along with the knowledge of basic scientific concepts and principles so that they adjust well in the scientific world of today and tomorrow. Our senior educationists and policy makers have clearly defined certain aims and objectives of science teaching for the secondary level. But are these objectives being achieved in reality? Do we make any special efforts to develop and evaluate all the objectives of science teaching?

- This study is mainly concerned with the achievement of the objectives of science teaching. Therefore, it has far reaching implications on the teaching of science and on all the people concerned with the teaching of science, whether they are curriculum developers, teacher educators, school-administrators, teachers, or students.
Models of teaching adopted in this study for science teaching have been found to be very effective in the achievement of the objectives of science teaching. Curriculum developers can recommend the use of information processing models for teaching science. Since the models are easy to use and do not need any special material or physical support, they should be adopted.

Teachers will find these models to facilitate learning. They will get improved results. The instructions given to the students through these models become more meaningful as they require active involvement of the students and the students learn by doing.

The tools for measuring different objectives of science teaching developed in this study may be useful to the teachers in measuring the degree of achievement or non-achievement of the objectives of teaching science in their class.

School administrators can encourage their teachers to adopt information-processing models of teaching in their classrooms so that science is taught effectively. They can see that the evaluation of science teaching is done on comprehensive basis and proper remedial measures are undertaken in case of non-achievement of any objective.

The study gives an idea to the teacher-educators about the effectiveness of information processing models in teaching and the need to train in-service and pre-service teacher trainees in the use of these models. An intensive training in the use of these models during teaching practice and the inservice seminars will be very useful for the regular classroom teaching.
6.3 **Suggestions:**

There have been very few studies on development of scientific attitude through science teaching. Achievement of all the objectives of science teaching laid down by the National Policy of Education has been taken up for the first time in this study. This study may be replicated for various grades, considering all the objectives or a few selected ones.

Effectiveness of other models of learning on the achievement of the objectives of science teaching may be studied.

A similar study of a longer duration (one or two full sessions) is required to explore the strength of information processing models in the development of scientific temper among the students at different levels.

The present study found that information-processing models (used in this study) have not been more effective than the traditional method of teaching in developing aesthetic sense among the students. An intra-group analysis shows that the experimental group did gain significantly but the critical ratio of the mean gain scores of the two groups was not significant. A similar study of a longer duration can be conducted to get a clear picture of the impact of information processing models on the aesthetic sense of students.

Further studies may be conducted using different teaching strategies and their effect on the development of aesthetic sense among the students.

Models of teaching can be successfully used in the schools on regular basis only when the teachers appreciate their utility and are willing to adopt them. A study may be taken up to assess the feasibility of using information-processing models in terms of teachers’ acceptance.
Effects of various variables like cognitive level of the students, their socio-economic and cultural background, variability of schools, conceptual level, sex etc. on the achievement of the objectives of science teaching may be studied.

Science curriculum of the secondary classes may be reviewed and suggestions for modifications, if required, be made so that it facilitates the achievement of the desired objectives of science teaching.

The tools used in this for measuring the level of attainment of the objectives of science teaching may be improved/modified and tried out at various levels.

A status study on science teaching at various levels and the achievement of the objectives of science teaching may be undertaken.

1. A study may be undertaken to analyze the evaluation techniques/question papers in science subject used by various schools/examining bodies and the areas they cover while evaluating the students' performance in science education.

2. In the present study, it was found that one group had a considerably higher pretest mean score than the other group in rational outlook. It was also found that two different teachers were teaching the two groups. Since the mental abilities and socio-economic status of the two groups was almost equivalent, the difference may be attributed to the effect of the teacher's personality. How much influence does the personality of a teacher have in shaping the outlook/attitudes and other personality components of the students may, therefore, be studied.