SUMMARY AND MAJOR FINDINGS

CHAPTER - V

5.1 INTRODUCTION:

This chapter presents a brief summary and finding of the study. This is followed by the educational implication based on the findings of the study, suggestion for further research on related topic have also been outlined.

The present study deals with the impact of laboratory approach on achievement and process skills in science among ix standard students.

5.2 OBJECTIVES OF THE STUDY:

For the purpose of direction to the study the present researcher has formulated following objectives :

1. To study the effect of laboratory approach on developing process skills among IX std. students.
2. To study the effect of laboratory approach on the achievement of IX std. students.
3. To study the effect of traditional approach on developing process skills among IX std. students.
4. To study the effect of traditional approach on the achievement of IX std. students.
5. To know the differences in process skills achieved through traditional and laboratory approach.

5.3 HYPOTHESIS OF THE STUDY:

1. There will be variation in process skills among IX std. students studied through laboratory and traditional approach.
2. The development of process skills through laboratory approach will be better than the development of process skills through traditional approach.
3. There will be variations in achievement between IX std. students studied through laboratory and traditional approach.
4. The achievement of IX std. students studied through laboratory approach will be better than the achievement of students studied through traditional approach.

5.4 VARIABLES OF THE STUDY:

Independent Variable	:	Laboratory approach Traditional approach
Dependent Variable	:	Process skills Achievement

The researcher used two group post test design to find out the impact of laboratory on achievement and process skills among IX std. biology students.

Sample was drawn from a public school. The researcher has taken a section of IX class and section had a strength of 40 students. The respondents were divided into two equal group on the basis of their previous achievement marks. The simple random sampling was applied. The sample consisted of 40 students, 20 for experiment and 20 for control group. One of the group namely

experimental group was exposed to laboratory approach and controlled group was taught through traditional approach.

5.5 TOOLS USED WERE.

- Achievement test.
- Practical test.
- Observation schedule to access the process skills.

The data was tabulated and analyzed by the quantitative statistics.

5.6 MAJOR FINDINGS OF THE STUDY:

The focus of the study was to see the impact of laboratory approach on achievement and process skills. Following are the major findings :

1. Achievement test mean value of the experimental group is 20.05and control group is 13.75 and t -values is 4.59, so there is a significant difference between the achievement of control group and experimental group.
2. Practical test mean value of the experimental group is 20.65 and control group is 13.6 and t-value is 6.23, so there is a significant difference in development of process skills between experimental and control group.
3. Observed process skill mean value of experimental group is 39.65 and control group is 30.08 and t-value is 4.92. It shows there is a significant difference in development of process skill between experimental and control group.

5.7 CONCLUSIONS:

The researcher in the present study come to the conclusion that :

- The achievement of student studied through laboratory approach was significantly higher than traditional approach.
- The development of process skill were higher in the student who were taught by laboratory approach. Therefore the laboratory approach should be used in teaching and learning in Biological sciences. The students studied through laboratory approach were better in process skills, achievement and in practical test also. So laboratory approach is beneficial for the students.

5.8 EDUCATIONAL IMPLICATIONS:

The nature of science include development of active inquiry, critical thinking, independent work, understanding the world of science. Knowledge can be categorized based on distinct kinds of concepts and meaning involved and process of validation and justification. The knowledge of a learner about biology is based on observation and experiences, which he acquires in daily life.

Educational implications of the study on the basis of the finding are :-

1. Laboratory approach is a natural process of exploration. The learner, in order to acquire knowledge, performs the practical with great joy and enthusiam. This method helps in increasing

the self confidence of learner and they find themselves more capable and competent .

2. In teaching learning process of biology the activities and new approaches motivate the students to learn better, hence leading them towards greater achievement and in development of process skills.
3. In laboratory approach students get a framing of scientific methods while working in laboratory and they fully understand the principles and concepts of Biology and develop the power of observation, reasoning and thought.
4. By Laboratory approach individual attention can be given to the learners and their weakness can be identified and proper help can be given.
5. As we have found that the achievement of the students learning through laboratory approach was significantly higher. It should be made obligatory to follow strategies in classroom practices in order to improve the comprehension of students in Biology.

5.9 SUGGESTIONS FOR FURTHER RESEARCH STUDIES:

The present study being exploratory in nature bring in to limelight several issues. In which further research can be undertaken. Following are the few suggestions for further research :

1. In the present study the researcher had taken only four process skill that are classifying, observing, hypothesising and inferring.

Beside this, other process skills are also there which can be studied further.

2. The process skills evaluation procedure which was applied by the research based on observation schedule and practical test. This evaluation can be done by some other ways.
3. In this present study only biological science content was taken to study the development of process skills but there are other branches of science like physical science and chemical science. So a comparative study can be done in these three branches of Science.
4. The development of process skills according to the mental age and class level can be studied and compared.