CHAPTER - VI

SUMMARY CONCLUSIONS AND RECOMMENDATIONS FOR FURTHER STUDY

CHAPTER VI

SUMMARY CONCLUSIONS AND TOPICS FOR FURTHER STUDY

VI.1. INTRODUCTION

VI.2. DISCUSSION OF RESULTS

2.1) The Survey Testing Analysis

2.2) Pre-testing Analysis.

2.3) Post-testing Analysis.

2.4) Pre-over Post Testing Analysis.

2.5) Analysis of Gains.

2.6) Regarding Teacher's effectiveness on performance of the students.

VI.3. CONCLUSIONS

3.1) Regarding the fulfilment of objectives.

3.2) Regarding the Research Hypotheses.

VI.4. SUGGESTIONS FOR FURTHER RESEARCH

VI.2. INTRODUCTION

The purpose of the present study was to develop a teacher-made multimedia instructional package and to see its effectiveness on the performances of the students in Botany for Class IX. The experimental design was used to test effectiveness of instruction given by using Multimedia Instructional Package over Instruction by Traditional Method without using Multimedia Instructional Package.

The experiment was conducted on two groups viz. control and experimental. This chapter is devoted to drawing conclusions and making suggestions based on the data collected. This is done in the following paragraphs.

VI.2. DISCUSSION OF RESULTS

The results obtained through analysis and interpretation of the data are discussed below:

VI.2.1. Results of the Survey Testing Analysis

Survey Test scores were used to test the equivalency of the control and experimental groups.

The difference between the means of the students from control and experimental group in survey test scores was not significant which indicates that the two groups were equivalent

w.r.t. mean performance in Survey Test (Table V3). The difference between the S.D.s of the students from the control and experimental groups in survey test scores was not significant, which indicates that two groups are equivalent w.r.t. S.D.s in Survey Test (Table V.5).

The difference between the means of boys and girls of control as well as experimental group in survey test scores were not significant which indicate that boys and girls do not differ in their performance in the survey test (Table V.4). The difference between the S.D.s of boys and girls from control and experimental groups in survey test scores were not significant which confirmed the equivalency of boys and girls w.r.t. S.D.s in Survey Test.

The above discussions confirmed the equivalency of the two groups and also equivalency of the boys and girls in these groups w.r.t. means and S.D.s in Survey Test Scores.

VI.2.2. Results of the Pre-testing Analysis

(a) The two groups viz. control (A1) and experimental (A2) do not differ significantly in their performances in botany at pre-test.

(b) Boys and girls do not differ significantly, in their performances at pre-test.

(c) Therefore, it can be concluded that the effect of instruction (A1) and (A2) on the performance of the students in botany of class IX is independent of the sexes in pre-testing.

The statistical analysis of the pre-test data with the help of t technique reveals the following results -

Overall differences between the means of control and experimental groups were not significant (Table V.12) hence they were equivalent enough in their performance in the Pre-test. Overall differences between the S.D.s of control and experimental groups were not significant (Table V.14) which means that the two groups were equivalent.

Overall difference between the means of the pre-test scores of Boys and Girls from either control or experimental groups were found to be non-significant (Table V.14 and V.15) which reveals that Boys and Girls from either of the group do not differ significantly from each other w.r.t. the mean performance in Pre-test scores.

Overall differences between the means of the Pre-test scores of Boys from both the groups were not significant (Table V.16), and overall differences between pre-test scores from both the group were not significant (Table V.17).

These two interpretation indicate that boys' subgroup from control group was equivalent with boys' subgroup from experimental group.

When post-test data was further analysed to find out sex effect on the performance in overall, it was found that overall differences between means of boys and girls either from control or experimental group were found to be non-significant (Table V.22 and V.23). This means that Boys and Girls do not differ significantly from each other w.r.t. mean performances in post test scores. This result was identical with that pre-test data (Table V.14 and Table V.15).

When boys from both the groups and girls from both the groups were compared separately, differences between the means of post-test scores were found significant (Table V.33 and V.34). These results were not identical with that of pre-test data (Table 17 & 18). The means of students from experimental group are higher than that of control group. It can, therefore, be concluded that instruction by using Multimedia Instructional Package used in Experimental group favoured both the boys and girls. This confirms the effectiveness of Multimedia Instructional Package developed by the investigator.

Overall differences between S.D.s of post-test scores were found non-significant for boys and girls from either control

or experimental groups (Table V.24).

VI.2.3. Results of the Post-testing Analysis

The experiment was conducted within two months. Same content of Botany of Class IX was instructed on control and experimental group. Control group was instructed by the traditional method without using Multimedia Instructional Package and Experimental group was instructed by using the Multimedia Instructional Package.

Conclusions -

(a) The two groups viz. control (A1) and experimental (A2) differ significantly in their performances in post-test.

(b) Boys and girls do not differ significantly.

The above results of post testing confirmed that -

(a) The instruction by using Multimedia Instructional Package was superior than instruction by Traditional Method.

(b) The mean performances of boys and girls do not differ significantly.

VI.2.4 Results of Pre over Post Testing Analysis

In order to understand how much the two groups improved in overall performance, the pre-test data over post-test were analysed.

It was observed that students from both the groups improved significantly in overall performance (Table 39 and 40). It means both the treatments (Traditional method and by using Multimedia Instructional Method) helped the students in improving their performance.

It was also noted that the overall 't' values of experimental group were higher than that of control group. This indicates the superiority of instruction by Multimedia Instructional Package treatment.

VI.2.5. Analysis of gains

The results obtained through the analyses of pre over post test data indicated that all the students from both the groups gained on post-test but to answer the question which group gained more, the gain in terms of scores were compared.

It is found that the differences between the means of gains of the two groups on overall performances were significant. As the mean gains of experimental group were higher than the

mean gains of the control group which means that, the experimental group was benefitted more than control group.

Overall difference between S.D.s of the pre and post test scores of the students from control group and also from experimental group were significant which means that the treatment they received in their respective groups caused an increase of the variability among them.

Individual comparison of boys as well as of girls of the two groups in pre over post test scores were done to understand how much they had improved during treatment.

Overall differences between the means of pre and post test scores of boys from control and experimental group and also girls from the same two groups were significant which indicates both boys and girls improved their performance due to treatments they received in their respective groups. Again it is notable that 't' values for experimental group were higher than that of control group which indicate superiority of the Multimedia Instructional Package in Botany for class IX.

Overall differences between the S.D.s of pre and post test scores of boys from Control and Experimental Groups respectively were significant (Table V.47 and Table V.48). It means

that treatments experienced by students from both sexes in both the groups increased the variability among them w.r.t. the performance in Botany. Overall differences between the means of gains in the scores of Boys (Table V.57) as well as Girls (Table V.58) in both the control and experimental group were found to be significant and mean gain of the experimental group were higher than those of control group. The above results indicate the superiority of Multimedia Instructional Package over traditional method without using multimedia package.

Overall gains of Boys and Girls were compared. Overall differences between the means of experimental group (Table V60) were found to be non-significant. This means that Boys and Girls do not differ significantly w.r.t. the mean gains in the performances on pre-over post-test scores.

VI.2.6. Regarding Teacher effectiveness on performance of the students.

The difference between the means of the scores obtained by investigator from control and experimental group regarding her teaching effectiveness, on BGTC scale was found non-significant at 0.05 and 0.01 level of significance. It gives the result that teachers effectiveness teaching competency of investigator was equally good or bad.

The performance of the students from the experimental group was because of Multimedia Instructional Package used in their instruction.

VI.3.1. Regarding the fulfilment of the objectives of the study

The study was undertaken with the following objectives:

VI.3.1.1. Principle objectives

To develop Multimedia Instructional Package, it included sub-objectives. They were fulfilled as follows :-

(a) The survey of instructional media and materials in the school was done. The analysis of the present setting was far facilities were available resources, such as artists, photographers were available.

(b) A plan of developing Multimedia Instructional Package was done.

(c) A multimedia instructional package was designed and constructed as per plan.

(d) A multimedia package was constructed which included charts, microscopic slides, slides, flashcards, audio cassettes, assignment book.

(e) The effect of multimedia instructional package on the performance of IX Std. students was observed.

It was found that instruction with the Multimedia Instructional Package proved to be very effective.

(f) The utility and the effectiveness of the Multimedia Instructional Package as a whole was found superior.

VI.3.2. Regarding the Research Hypotheses.

Following research hypotheses were confirmed during the experiment.

(1) A Multimedia Instructional Package on content of botany of class IX can be designed and constructed.

(2) The instruction by traditional method and with using Multimedia Instructional Package differ in their effectiveness in overall performance of the students in Botany for class IX (Main effect).

Instruction with Multimedia Instructional Package was proved to be superior to Traditional Method of Instruction.

Following research hypotheses were rejected during the experiment.

The Boys and Girls perform differently an overall performance in Botany for class IX irrespective of the system used for instruction them (B main effect).

As the above hypothesis was rejected hence it can be concluded that standard IX Boys and Girls performed equally well in Botany.

VI.4. SUGGESTIONS FOR FURTHER RESEARCH

The following topics can be suggested for further research on the basis of the experience and finding of the present study.

(1) Extension of this study i.e. final product revision and dissemination in the field can be done.

(2) Development of Multimedia Instructional Packages on differences units of different subjects can be undertaken.

(3) The Multimedia Instructional Package can be supplemented with different combinations of media, in order to increase its effectiveness.

(4) Multimedia Instructional System can be constructed to develop various skills.

(5) Variety of Multimedia Instructional Packages can be developed by using alternative strategies, methods and materials.

(6) Skillwise and media combinationwise comparison can be made to test the effectiveness of MIS over TIS.

(7) The present study was limited to marathi medium schools only Multimedia Instructional Package can be developed for other medium of instructions.