CHAPTER - V

SUMMARY AND CONCLUSIONS

5.1 NEED OF THE STUDY

"The most exciting innovation in the educational technology is Computer Assisted Instruction (CAI). Though it is still in the experimental stage, the day is not far off when it will revolutionize the whole process of instruction"¹ (K. Sampath, 1981, P. 307).

It is observed by all teachers that children learn a particular subject only because it is included in the syllabus. At the initial stage they do not have any kind of love and interest in studying a particular subject. If a teacher honestly wants to create a good learning atmosphere in the classroom, he has to use a variety of teaching methods, techniques and different teaching aids.

In this technological era the position of teacher is changing from 'Dispenser of knowledge' to that of an 'Information Manager'. Computer has become keyword of this information technology age. In every walk of life people are using computers to get good results in short time period.

It has become the responsibility of the teacher that he or she also try to use computers in his or her classroom teaching. The use of computer in the field of education has become the necessity of this generation. Students are also eager to learn with the help of Computer. It will be beneficial to both teachers and students to use computer as teaching assistant in the field of education.

Taking into consideration all these points the researcher has decided to do research in the field of methodology and to find out which will be the
best suitable combination of methods for a teacher to make the instructional procedure more and more effective. If we just try to think about the objectives of teaching Geography, we will find that we are not that much successful in achieving the objectives. There are many other reasons for it but the most important reason is the use of traditional methods in an inefficient way. The use of audiovisual aids in the classroom teaching of Geography such as maps, charts, pictures etc. is very much unsatisfactory. We will find that teachers are not that much enthusiastic or aware about the use of different new techniques in the instructional process.

On the contrary the students undergoing the present system of education are more exposed to different new sources of getting knowledge, are very smart enthusiastic and eager to learn the new incoming technology. So now a day it has become the duty of the teacher to use as much of the modern technology as possible in his classroom teaching. This not only makes the teaching effective but also saves the time and energy of the teacher and student both.

As being the incharge of the department of lesson planning in college of education while executing the responsibilities of that department the researcher had an informal talk with the Geography teachers in different schools. This discussion made the researcher aware about the practical difficulties of the teachers. At the same time while observing the lessons of B.Ed. students the researcher found that many times the traditional methods became ineffective for attracting the attention of the students especially the bright and intelligent students in the class.

These practical observations motivated the researcher to do some research work in the field of methodology of teaching Geography. As time passes, according to the needs of the young generation, the teacher must use new techniques in his or her classroom teaching, which can
make the whole instructional process attractive and interesting & in this new age of information technology the new amazing technique is nothing but the computer assisted instruction i.e. CAI.

5.2 STATEMENT OF THE PROBLEM :-

"A study of effectiveness of Computer Assisted Instruction Programme for teaching Geography to Std. VII students from Marathi Medium Secondary Schools in Pune City.

5.3 OPERATIONAL DEFINITION OF THE TERMS USED:

1. Effectiveness: For this research the researcher is going to test the effectiveness of CAI programme on the basis of marks obtained in the post test which is prepared on the units selected for the research and is checked by teacher – educators and the teachers teaching Geography specially to VII Std.

2. Computer Assisted Instruction Programme (CAI) :- The Computer Assisted Instruction Programme will comprise of a "Powerpoint Presentation" that is a slide show on the computer interspersed with interactive sessions. Extra information is provided along with recapitulation questions.

Special Features of the CAI Programme for this Research:

1) The Computer Assisted Instruction Programme includes audio, text, graphics, colour backgrounds and last but not the least Animation. The CAI program provides extra information about content of the selected topic i.e. Brazil and Hydrosphere, by using beautiful pictures from the internet source.
2) Use of different types of maps is the next interesting feature of this programme, which is not possible for a teacher to show various maps during the classroom teaching.

3) Animation which is the most important feature of this programme especially used to show the movements of ocean currents. It gives a clear idea to the students that how formation and movement of ocean current takes place.

4) This programme comprises wonderful pictures and diagrams which the researcher had derived from the Internet and modified it according to the student’s needs.

5) Beautiful background colours were used to avoid the monotony in the lessons and to make it lively and interesting. It was also hoped that students having good visual memory would be able to associate the background colours with different content and thus remember distinct contents on different slides in a better way.

6) Motion pictures were use to grab the student's attention and to make it more lively. Many pictures and diagrams were included which the students can not observe in the textbook.

7) Word Art and different Font Colours were used to enhance visual impact of important words.
8) This CAI programme is developed by the researcher herself (self made programme).

9) This CAI Programme is developed by the researcher herself.

3. **Geography** :- The word Geography means one of the school subjects included in the social studies the syllabus of which is prescribed by Maharashtra State bureau of textbook production and curriculum research.

4. **VII Std. Students** :- In this research VII Std. Students mean 11+ age group boys and girls studying in VII Std.

5.4 **OBJECTIVES OF THE STUDY :-**

1. To find out the limitations of traditional method for teaching Geography.

2. To find out the reasons behind the limitations of traditional method for teaching Geography.

3. To prepare a Computer Assisted Instruction Programme on the selected units from the subject Geography by considering the limitations of traditional teaching method of Geography.

4. To study the effectiveness of Computer Assisted Instruction programme (CAI).
5.5 **HYPOTHESES :**

1. **Research Hypothesis :-** The computer Assisted Instruction Programme (CAI) when used as a method of instruction will be more effective than the traditional method of teaching Geography.

2. **Null Hypothesis :-** There is no significant difference between the mean scores of the students of experimental group and control group at 0.01 level of significance.

5.6 **SCOPE AND LIMITATIONS :-**

**Scope :-**

1. The selection of topics is based on the level of difficulty, abstractness, and based on the opinions of the teachers teaching Geography to Std. VII.

2. Difficult and abstract concepts or topics for which there is ample information available on the 'Internet' are included in the study.

3. The six schools included are of three types namely, only boys, only girls and co-education schools which are private as well as aided & located in Pune Municipal Corporation area.

4. In this research all levels of intelligence are considered.

**Limitation :-**

1. The research is limited to the students of Std. VII from different Marathi Medium Secondary Schools located in Pune City.

2. The researcher has used purposive method of sampling.
3. The schools included in this research are private aided Marathi Medium Secondary Schools having facility of well equipped computer laboratory.

4. The students from only one division of Std. VII of each school are included in the study because of restrictions laid down by the school authorities.

5. The research is limited to the concepts / topics in Geography from the syllabus of Std. VII prescribed by Maharashtra State Government.

6. The results and conclusions are applicable to only such type of schools as covered in the study.

5.7 SIGNIFICANCE OF THE STUDY

The present research is an attempt to explore the usefulness of computer in the teaching of Geography, which can make the teaching and learning more interesting and challenging as well as effective.

Through this research the researcher wants to provide a new and different technique for teaching Geography which can help the teachers to achieve the different aspects of the subjects. Also this study provides the information that how CAI can help the students for self learning. By using this technique the students can learn any subject with their own pace and because of this it will become easy to have a good learning atmosphere in the classroom.

It will help the students to achieve the different objectives of Geography such as international understanding, objectivity, usability etc. and it will relate them to their day to day life situations. It will also help the students to use as many sensory organs as they can.

It is also helpful for teachers for teaching difficult and abstract concepts, where it is not possible to give direct experiences, such as eruption of
volcano, earthquake, folding and faulting etc. With the facility of animation the students can easily take the view of the same.

The research helps the teachers to make the instructional process joyful and entertaining. Teachers can use their imagination and creativity while preparing the CAI programme for their own subject because CAI is not only useful for the teaching of Geography but also useful for subjects like Science, Mathematics, English etc.

5.8 PROCEDURE

The research study was conducted in two parts.

A. - A Survey

The Survey was conducted to obtain the information, (1) To know the limitation of traditional teaching method of Geography and, (2) To know the reasons behind the limitations of traditional teaching method of Geography. To serve this purpose researcher had prepared a questionnaire and it was given to the teachers teaching Geography in the schools selected for the experiment.

B. An Experiment:

An experiment was conducted to find out the effectiveness of the “Computer Assisted Instruction Programme” for teaching Geography against traditional teaching method in the Six Schools selected for experiment. In the beginning of the academic year 2006, the experiment was carried out. For this purpose this school were divided in to two groups, 1) Control Group 2) Experimental Group. The researcher had administered, test of content knowledge & intelligence test to both the groups. After that control group was taught by traditional teaching method of Geography. Experimental Group was exposed o CAI programme. Completion of the teaching programme was followed by administration of “Post Test” to both the groups.
The data was collected and analyzed with the different statistical techniques. The following flow chart depicts the procedure followed in this research study.

**FLOW CHART**

1. Identified & defined the problem
2. Formulated hypotheses & Research Design
3. Action Plan
4. Survey
5. Preparation of the Teaching material on units selected for the experiment and lesson notes (Preparation of PowerPoint)
6. Pilot Study
7. Conduction of actual experiment in schools
8. Collection of data
9. Applied statistical tests
10. Conclusions
11. Writing of Research Report
5.9 **TOOLS OF RESEARCH**

The researcher had made use of the following tools in the research study.

A) **Data collection tools.**

**Questionnaire:** The questionnaire for Geography teachers was prepared by the researcher. It was modified according to the suggestions of the experts. The questionnaire was given to the Geography teachers in the schools selected for the experiment to fulfill the objective i.e. “To find out the limitations of traditional method of teaching Geography”.

**Opinionnaire :-** The researcher had prepared an opinionnaire for Geography teachers to get the opinion about the difficulty level of topics from physical Geography of VII Std textbook. After analyzing the data of opinionnaire, it was observed that, majority teachers gave no. 1 (most difficult) to the topic no. 3 i.e. 72% respondents said that the topic no. 3 i.e. Hydrosphere is difficult to understand for the students, remaining 20% gave no. 2 to the topic 3 and rest 8% gave No. 3 to the topic –3. It helps the researcher in selecting the topics for the research.

**Graphical Representation:** It was used to compare the results of the students of experimental group and control group

B) **Statistical Tools:**

**ANOVA (‘F’ test)** – Analysis of variance is a measure of dispersion obtained by taking the mean of squares deviations of the observed values from their mean in a frequency distribution. In analysis of variance the total sum of squares of the sample may be analyzed into points i.e. into groups of two or more than two. It is a single composite
test that can test simultaneously the whole sample distribution obtained and conclude the nature of sample.

**Percentage:** It was used in the analysis of responses given by the Geography teachers for the questionnaire and opinionnaire

### 5.10 FINDINGS

**A) Findings from the Survey**

After the analysis of questionnaire the researcher had got the information about following points:

1. Majority teachers teaching Geography are not having graduation or post graduation in the subject Geography.
2. Majority teachers use the traditional methods for teaching Geography. The use of Methods such as excursion, project, story telling is very less.
3. Use of teaching aids such as printed maps, globe is more than that of pictures models, T.V.
4. The use of computer in the teaching is negligible but many teachers accept that the use of computers in classroom teaching will be effective.
5. According to many teachers the topic ‘Hydrosphere from the syllabus of Std. VII Geography textbook is very difficult to understand for the students.
B) Findings From the Experiment:

1. From the analysis of data it is observed that the CAI programme is more effective, therefore the research hypothesis is accepted and the null hypothesis is rejected at 0.01 level of significance.

2. It can be observed from table no 32 that for df 1 & 278 the F ratio regarding the CAI programme for students of both the groups is statistically significant at .01 level of significance. Therefore the null hypothesis no $H_1$ is rejected.

3. It can be observed from table no.34 that for df 1 & 142 the f ratio regarding the CAI programme for female students is statistically significant at .01 level of significance therefore the null hypothesis no. $H_2$ is rejected.

4. It can be observed from table No.36 that for df 1 & 134 the F ratio regarding the CAI programme for male students is statistically significant at .01 level of significance, therefore the null hypothesis no. $H_3$ is rejected.

5. Referring to table no.38 it can be seen that for df 5 & 274 the F ratio regarding the levels of intelligence is statistically significant at .01 level of significance therefore the null hypothesis no. $H_4$ is rejected.
5.11 CONCLUSIONS

The following conclusions can be derived from the research study.

Conclusions from the Survey

1. The main problems regarding the teaching of Geography in secondary schools in Pune City are as follows:
   a. Majority teachers do not have the scientific knowledge of Geography and so they found it very difficult to teach the concepts related to physical Geography. Because the concepts in physical Geography are based on physics, chemistry & biology.
   b. Teachers are not ready use different methods of teaching Geography which are student printed such as project excursion, journey.
      According to the teachers the major difficulties behind using new methods or technique are the number of students in the classroom, the available time at disposal, the amount of other work loads besides teaching is more. The approach of teachers & students towards teaching and learning of Geography is quite pacifistic and the reason behind it is the place of Geography in the school curriculum.
   c. Percentage of teacher doing planning for teaching (year plan, unit plan, lesson plan) is very less.
   d. Teachers mainly rely on using teaching aids such as Printed maps & globe. But use of audio visual aids is very less.
   e. Teachers do have a positive attitude towards using computer as a different teaching aid but are not ready to use it in practical situation because of many difficulties.
Conclusions from experiment

1. The CAI programme is effective for teaching of Geography.
2. The CAI programme is effective for teaching Geography for male students as well as female students.
3. The CAI programme is effective for teaching of Geography for students of high level and middle level of intelligence but it is not effective for the students of low level of intelligence.
4. The CAI programme is equally effective for teaching of Geography for female students as well as male students of high & middle of intelligence.
5. The CAI programme is not effective for teaching of Geography for female as well as male students of low level of intelligence.

It can be concluded from the present study that it has become necessary to use computers in the classroom teaching and it requires lot of research. The research in this field will definitely help the teachers to know how to use computers in the Classrooms teaching in an effective and efficient way.
5.12 EDUCATIONAL IMPLICATIONS:

The conclusions of the present study indicate that the CAI programme proved to be effective with the students of different levels of intelligence. It means that CAI programme is fully student oriented. In this process of using CAI for classroom teaching the students are always active learners. They get immediate feedback, which can motivate them for further learning.

They should be provided full freedom in dealing with learning material. Which will facilitate the ability of logical thinking and understanding of abstract concept on the part of the students.

Being the students and teachers of 21st century one should try to use as much as modern techniques in the instructional process which will help both of them in saving the time period required for learning & teaching of concepts in any subject.

The present study also suggests that the use of power point persecution has been included in the B. Ed. Syllabus but it requires lot of efforts & time period to prepare a CAI programme for the students. The syllabus farmers should take into consideration all the aspects of use of CAI programme as a new technique of teaching should try to provide the opportunity to the B. Ed students at the time of their training.

5.13 RECOMMENDATIONS FOR FURTHER STUDY:

To increase the generalizability of the research some in depth studies can be undertaken as given below:

1. The study can be undertaken on a large sample including students in urban areas, rural areas and tribal areas also.

2. It will be worth while to study the effectiveness of CAI by comparing it with other modern techniques of teaching such as models of teaching, programme learning etc.
3. The study of effectiveness of CAI with the aspects such as CAI with teacher’s assistance and without teacher’s assistance can be done.

4. The study of effectiveness of CAI technique for development of self learning concept.

5. The study of effectiveness of CAI can be done for slow learners or underachievers.

6. The study of the effectiveness of the CAI programme considering the topics of other subjects such as science, mathematics & languages and for other standards also.

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REFERENCES