CHAPTER: II

REVIEW OF RELATED LITERATURE

"Every serious piece of research inculdes a review of relevant research. Researcher begins with ideas and concepts that are related to one another through hypothesis. But where do the original ideas and concepts come from? To some extent, they come out of the researcher's need, but to a large extent, they come from some collection of prior work referred as the LITERATURE"

- B. W. TUCKMAN

2.0.0.0. Introduction

2.1.0.0. Importance of the Review

2.2.0.0. Related Studies

2.3.0.0. Justification of Present Study
    2.3.1.0. Study: helpful to the Students
    2.3.2.0. Study: helpful to the Teachers

2.4.0.0. Conclusion
CHAPTER-1

REVIEW OF RELATED LITERATURE

2.0.0.0. Introduction:

It is necessary for any research worker to study the past work done in the area in which he is prepared to work. Review work of research literature is essential for the researcher to develop an insight into the problem and helps him indirectly to frame out an appropriate design for the problem in hand. Study of related literature implies locating, reading, and evaluating reports of research as well as reports of casual observation and opinions, which ultimately provides insight to the researcher to put his work on a logical foundation. Carter explains the relevant importance of research review.

"The keys to the vast storehouse of published literature may open doors to sources of significant problems and explanatory hypothesis and provide helpful orientation for definition of the problem, background for selection of procedure and comparative data for interpretation of results. In order to be truly creative and original, one must read extensively and critically as a stimulus to thinking."¹

The review of literature is an important part of the scientific approach and is carried out in all areas of scientific research whether in the physical sciences, natural sciences, or social sciences. It helps the research worker develop a thorough understanding and insight into previous
Review of Related Literature

work and the trends that have emerged. The review can also help in reaching a number of important specific goals. Thus the investigator has made a thorough survey of literature related to the effectiveness of computer assisted learning or computer based powerpoint programmes before planning and carrying out the study.

2.1.0.0. Importance of the Review:

Before undertaking any worthwhile study in any branch of knowledge an adequate familiarity with the previous work, which has already been done in the area of his problem is very essential for the investigator. An investigator cannot develop a research project until he knows about what others have done and what remains to be done in the area of his research.

In the words of Sidhu

"For any worthwhile study in any field of knowledge, the research worker needs an adequate familiarity with the work which has already been done in the area of his choice. He needs to acquire up-to-date information about what has been through and done in the particular area. He has to build upon the accumulated and recorded knowledge of the past. He draws maximum benefits from the previous investigations, utilises the previous findings, takes many hints from the design and procedure of the previous researchers, matches his conclusions with the conclusions drawn earlier and tries to add from his side a line or two to the existing store of knowledge."2

A STUDY OF THE EFFECTIVENESS OF COMPUTER BASED POWERPOINT PROGRAMMS
Review of Related Literature

A review of related literature enables the investigator to know the means of getting on to the frontier in the field of his problem. A review of related literature is the mother of all the future research work.

As Walter R. Borg has rightly observed:

"The related literature in any field forms the foundation upon which all the future work will be built."3

J. C. Agrawal4 states the importance of the review of literature as follows:

(1) The review of literature is the basis of most of the research projects in physical sciences, natural sciences, social sciences and humanities.

(2) A review of related literature gives the scholar an understanding of the previous work that has been done.

(3) The results of the review actually provide the data used in research.

(4) It enables the researcher to know the means of getting to the frontier in the field of our problem. Until it is learnt what others have done and what still remains to be done in the area, one cannot develop a research project that will contribute to furthering knowledge in the field.

(5) The importance of the review is quite obvious in delimiting the research, problem and in defining it better.

(6) In the process of reviewing literature the student is alert for
Review of Related Literature

finding out research approaches in his area that have proved to be sterile

(7) A review of literature would develop an insight of the investigator, the information thus, gained will save the researcher much time.

(8) A review of literature can help the research possibilities that have been overlooked.

(9) A careful consideration of the chapter recommendations for further research in various research studies guides the research regarding the suitability of a problem and in assisting him in delimiting his research problem.

(10) The review of literature provides the researcher with an opportunity of gaining insight into the methods, measures, subjects and approaches employed by other research worker. This in turn will lead to significant improvement of the research design.

Keeping in view these points in mind the researcher has made an attempt to review the available literature on the problem.

2.2.0.0. Related Studies:

The researcher has efforted to refer the necessary literature. The researcher has found the related studies from M.B. Buch’s ‘A fifth survey of Research in Education’ (1988-1992) and Indian Educational Abstract NCERT Volume-6, July : 2006.
Review of Related Literature

They are.


Teaching of mathematics: Effectiveness of Computer-Assisted Instruction (CAI) and conventional method of instruction.

Problem: The study centres upon the problem of the effectiveness of computer-assisted instruction and of the conventional method of instruction in teaching mathematics, in terms of achievement in mathematics and direction of change in attitude towards mathematics of male and female students.

Objectives: (i) To study the difference in mathematics achievement which occurs as a result of the difference in instructional strategy among boys and girls separately and as a group, and (ii) to study the direction of change in attitudes of male and female students separately and as a group towards mathematics as a result of two different instructional strategies.

Methodology: The sample of the study consisted of 220 students from four selected higher secondary schools, covering the good, average and poor schools of the Bhilai Street Plant, Bhilai (M.P.).

Major Findings: (1) The students who used the computer scored significantly higher than those taught mathematics through the conventional method. (2) The students who used the computer showed significantly highly favourable attitude towards mathematics than those who did not use the computer. (3) Achievement in mathematics and change in attitude towards mathematics were found to be independent of the sex factor.
Review of Related Literature


Problem: To study the effectiveness of the simulation model in teaching physics to Standard XI students through Computer Assisted Instruction (CAI).

Objectives: (i) To find out the effectiveness of the simulation model of teaching as compared to the traditional method. and (ii) to utilise the growing use of computers in education.

Methodology: The sample for this investigation consisted of students of Standard XI of the two schools selected. The pre-test-post-test method was used. Mean, SD, and ‘t’ test were used to treat the data.

Major Findings: (1) The experimental group obtained a higher mean than the control group. (2) The sex-wise comparison proved to be insignificant. (3) There was no significant difference in learning level between Tamilmedium and English-medium students. (4) On the basis of the research findings. It was concluded that the experimental group performed significantly better than the control group


Problem: The study throws light on the application of Computer Assisted Instruction (CAI) and the Teacher Support System (TSS) for the optimum development of underachievers (UAJ).
Review of Related Literature

**Objectives**: (i) To develop CAI software, (ii) to find out the effectiveness of CAI with TSS and CAI without TSS with reference to the learner variables, viz. sex, locale, IQ and achievement level, and (iii) to find out the interaction of the learner variables and the treatment on the achievement score.

**Methodology**: The randomised block design was followed in the selection of the sample, with IQ as the blocking variable. The sample consisted of three groups of size 32 each composed of students of standard IX selected from three Tamil Nadu State Board Schools covering one rural and two urban. The underachievers in the sample were identified by using the regression analysis. The tools used included CAI software on "the language of sets", Achievement Test, Culture Fair Intelligence Test by Cattell and Cattell. Study Habits Inventory by Patel, and mathematics Study Attitude Scale by Sundarajan. Mean, SD. 't' test. chi-square, one way and two-way ANOVA were used to treat the collected date.

**Major Findings**: (1) Both the CAI strategies were superior to the traditional method of instruction, and CAI with TSS was more effective than CAI without TSS for underachievers (UA), (2) Except achievement level, all the other learner variables combined with the treatment had no interaction effect on the achievement score, (3) There was no relationship between the post-treatment scores and the variables 'sex', 'locale' and 'achievement level' of the experimental group. In the case of the variables IQ. 'study habits' and 'maths study attitude' the positive relationship between those variables and achievement of the pre-treatment level was found to be cancelled at the post-test.
Review of Related Literature


**Objectives:** (1) To find out the influence of computer-based multimedia programme on achievement in maths among high school students; (2) to find out the difference in achievement in maths between high achievers and low achievers from both relative retention of learning in mathematics.

**Method:** Experimental method and quantitative method was adopted for the study. A sample of 62 students studying in Class IX, Madras were selected for the study. The probability sampling method chosen for the study. Attitude Scale used for data collection.

**Findings:** (1) There is no influence of computer-based multimedia programme on the achievement in Mathematics among high school students. (2) There is no significant change in their attitude towards mathematics after learning Trigonometry through computer-based Multimedia and text-based self-study material. (3) There is no significant difference in achievement of mathematics between high achievers and low achievers for both experimental and control groups. (4) There is no significant difference in the retention of learning in mathematics between the experimental group and control group.

(5) Bhuvaneshwari, K. (2004), Effectiveness of the computer Assisted Evaluation Package Deployed in Internet and Intranet as measured by Tamil Nadu Professional Courses Entrance Examination. Ph.D., Educational Technology, Bharathair University, Guide: Dr.D., Educational Technology, Bharathair University, Guide: Dr. N. Balasubranamian.⁹
Review of Related Literature

**Objectives:** (1) To assess the pupil's performance in practice sessions and influence of the different instructional technologies availed on their performance in the TNPCEE; (2) to find out the relative effectiveness among different instructional strategies such as intranet with feedback from the teachers along with long term and short term entrance coaching programme; (3) to find out the pupils' achievement of master learning in different subjects as measured by Tamil Nadu Professional courses Entrance Examination; (4) to evaluate the Computer Assisted Evaluation Package.

**Method:** The study adopted Quasi-experimental design, qualitative and quantitative approaches were adopted for the study. The sample was taken 225 Maths students, 219 Physics students, 219 Chemistry students, 108 Biology students studying in Class XII from Tamil Nadu selected through probability sample technique for the study. The tools were used such as a website with a Computer Assisted Evaluation Package, and Achievement Test. Statistical applications like Analysis of Variance’s test; correlation co-efficient and Regression were used to analysis the data.

**Findings:** (1) It was found that there was significant difference among the different instructional strategies, term and short term in entrance coaching programme. (2) It was found that there was significant difference in the performance of the students under the different instructional strategies in achieving mastery in subjects Mathematics, Physics, Chemistry and Biology.

A STUDY OF THE EFFECTIVENESS OF COMPUTER BASED POWERPOINT PROGRAMMS

32

Objectives: (1) To study relative effectiveness among PBL (Peer-based Learning), ILMMP (Individualised Learning supported by Multimedia Presentation), IILMMP (Interactive Individualised Learning supported by Multi Media Presentation) in terms of development of cognitive skills at different levels of knowledge, understanding and application among the students of class IX as measured by post-test and retention test; (2) to study whether there is any significant difference among the instructional strategies, viz. PBL, ILMMP and IILMMP with regard to computer attitude and scientific attitude.

Method: Quasi-experimental method was adopted for the study. A sample of 108 girl students from Vellalar Matriculation and Higher Secondary School, Erode district in Tamil Nadu was taken, using probability sampling technique for the study. The Tools used for the study were an achievement test (Self-made tool), Criterion Referenced Test. Scientific Attitude Test (Bhaskraraao and Marlow Ediger), and Computer Attitude Scale (Niel Selwyn) used in the study. The ‘t’ test and ANOVA were used for data analysis in the study.

Findings: (1) It is concluded that Interactive Individualising Learning supported by Multi Media Presentation (IILMMP) was found to be the most effective strategy among all the three different instructional strategies, viz. PBL, ILMMP, IILMMP in term of cognitive skills such as...
Review of Related Literature

knowledge understanding and application in realising the instructional objectives in Chemistry at class IX. (2) PBL was found to be coming between IILMP and ILMMP in enhancing the retention of what have already been learnt. (3) It was inferred that irrespective of the difficulty level of the content, IILMMP was to be most effective one while ILMMP was the least effective one. (4) It was found that while the subjects of all the three experimental groups were identical in terms of their scientific attitude, the same was found to be nonidentical in terms of their computer attitude. (5) The results of the study indicated that the enhancement of learning Chemistry was only due to the media effectiveness. Computer Mediated Multi Media Based Instruction can be introduced in education at all level for the successful realisation of instructional objectives.


Objectives: (1) To find out whether there is any significant difference between the Conventional Lecture Method and the Computer Assisted Instruction (CAI) as an individualised Instructional objectives in Biology at Class XI; (2) to find out significant difference among the different modes of Computer-based Instruction viz. Tutorial, Drill & Practice and Simulation in realising the instructional objectiveness in Biology at Class XI; (3) to find out whether there is any significant difference among the different modes of Computer-based Instruction (CBI), viz. Tutorial, Drill and Practice and Simulation in terms of their
Review of Related Literature

effectiveness in enhancing the retention of cognition as revealed by the learners’ performance in the retention test; (4) to develop syllabus based CAI package; (5) to assess the personality of the subjects of the control and experimental groups using Cattell’s 16 P.F Inventory with a view to study whether it has any influence on the media effectiveness in realising the instructional objectives.

Method: Quasi-experimental method as well as qualitative and quantitative approach were adopted for the study. The sample was taken from four groups of each having 35 students selected through probability sampling method. Cluster sampling technique was adopted in the study. The tools were used in the study such as Cattell’s 16 P.F inventory for students. CRT developed by Raymond B and Achievement test.

Findings: (1) Different modes of Computer-based Instruction, viz. Drill, Practice and Simulation were more effective than conventional lecture method in realising the instructional objectives in Biology at Class XI. (2) Effectiveness of the conventional lecture method and the different modes of the Computer-based Instruction, viz. Tutorial, Drill and Practice and Simulation were not influenced by the learner’s personality. (3) There was significant difference among the different modes of CBI (Computer-based Instruction), viz. Tutorial, Drill and Practice and Simulation in terms of their effectiveness in enhancing the retention of cognition as revealed by the learner’s performance in the retention test. There was significant difference among the different modes of Computer-based Instruction in enhancing retention of what have already learnt.
Review of Related Literature

2.3.0.0. Justification of Present Study:

Today teaching-learning process possess necessity to utilize the modern technology in the field of Education. The researcher has desired to conduct an experimental research with a view to imply, the one of the source of modern technology i.e. the computer. The main objective of the research was to test the effective of computer based powerpoint programms for the teaching of English Grammar.

The desirable and purposive features for conducting this research are as follow:

2.3.1.0. Study: helpful to the Students:

The present study would be helpful to the students with respect to the points given below:

• To have concept clarity in English Grammar,
• To arise one's level in learning English Grammar,
• To learn the use of computer to enhance their knowledge,
• To imply the modern technology to widen their windows of knowledge,
• To prepare their own powerpoint programms in different subjects,
• To perform their active and live role in the classroom,
• To have change in routine classroom atmosphere,
• To increase their memory power,
• To improve their level of good performance in their results and
• To memorize the learnt teaching points easily and effectively.
Review of Related Literature

2.3.2.0. Study : helpful to the Teachers :

The present study would be helpful to the teachers with respect to the points given below :-

- To be innovative in teaching of various subjects,
- To make the teaching learning process easy, interesting and fruitful,
- To prepare their own powerpoint programs in their teaching as well as interested subjects,
- To empower their knowledge,
- To bring improvement in the results of the students,
- To acquire active participation of students in the classroom,
- To bring a new change in the routine classroom teaching - learning process,
- To teach the boaring and tough teaching points of English Grammar to the students,
- To motivate their students to use computer as well as modern technology for learning purpose,
- To establish a successful rapport with the students in the classroom and
- To create live interaction between the two pollars of educational process. ( i.e. teacher and students. )

The use of modern technology has become the basic priority in the field of Education. The use of computer brings a lot of advantages in each
Review of Related Literature

and every sphere of our life. It can be said that the computer based powerpoint programmes: the fruitful source of 21st century can change the traditional scenario of classrooms. The present research was taken with respect to the above said advantages.

The research would be also helpful to the human related to the field of Education, the human interested in research and the human eager to bring innovative changes through the use of modern technology.

2.4.0.0. Conclusion:

The review of related literature has helped the researcher by giving an insight into the experimental design to be planned and implemented for the present investigation. It has also helped the investigator in arriving at the decision about the dependent and independent variables to be studied. The details of the methodology followed in carrying out the present investigation are given in the next Chapter.
Review of Related Literature

REFERENCES


Review of Related Literature


•  •  •