International Multidisciplinary Research Journal

Golden Research

Thoughts

Chief Editor
Dr.Tukaram Narayan Shinde

Publisher
Mrs.Laxmi Ashok Yakkaldevi

Associate Editor
Dr.Rajani Dalvi

Honorary
Mr.Ashok Yakkaldevi

Welcome to GRT

Review Of Releted Literature For CAI

Radhika Inamdar

ABSTRACT

"Computer assisted instruction"(CAI). Any student who wants to enter in the field of Research, the first step which the researcher had to follow is to read thoroughly the different research material related to his topic of research. There are two basic reasons behind it.

Introduction
1.To derive the rationale of present research.
2.To know the current status of the present research.

A good Research Review is a pleasure to produce and a joy to read. It gives you something concrete to do early in the study and build your confidence. The purpose of this review is to obtain detailed information about the methods, research designs, statistical tools used and the conclusions drawn in similar studies. Use of computers in the field of Education, at various levels is not new in this age of information technology but it is mentioned in the fifth survey of education,

"It is interested to note that though Computer Assisted Instruction is a Virgin field, it can lure only three researchers, looking at the trends all over the world it is expected that Indian researchers would go into computer education more enthusiastically"1. (Buch .M. B, 1988-92, P, 426)

For the present research, the researcher has gathered the reports of related researches. Different journals and other periodicals contain reviews and abstract of researches. A considerable amount of time has been spent in gathering related information; sorting out and studying the most relevant information. On the contrary we can observe a different position regarding CAI in the western world. While searching on the Internet the researcher had gone through many, research reports on CAI and she got the following information.

Sources Of Information
The related researches were grouped as primary and secondary sources.
1.Primary Sources :- These sources provide direct description of the study by person who has actually observed the occurrence and carried it out.

Secondary Sources : These sources include publications written by adults, who are not direct observer or particulars in the event described. The common secondary sources include educational encyclopedias, research Reviews, Articles and Reports of Surveys etc.
"Fortunately, a great deal of research has been conducted during the 1970s, 1980s and early 1990s on the effects of computer use on student Achievement, attitudes, and other variables. This research covers a wide range of topics, from computerized learning activities to computer programming, but the main focus of this report is the most commonly used and most frequently researched kind of educational computer use - (CAI) Computer Assisted Instruction" 2. (School Improvement Research series 1991, P, 1 to 17, Kathleen Cotton)

In this report she has mentioned at least 35 Researches on CAI, but in all these 35 researches only two researches were related to social studies and rest all were related to other subjects.

Primary Source
Researches At Ph.d. Level –
1   Prof. Dr. Ponkshe D.B. (1983)
"To enlist and analyze the concept in Geography covering the syllabi for standards VII, VIII and IX of the Secondary Schools in Maharashtra State and Develop the Methodology of teaching concept in Geography effectively.

Objectives :
1. To identify and enlist the concepts in Geography covering the syllabi of Std VII, VIII and IX of the secondary schools in Maharashtra state.
2.To analyze the concept and to compare the concept oriented method of teaching concept in Geography with the traditional method.

Sample :   13 Schools from Dhule District
Tool   :   Questionnaire, Interview.

2 Prof. Dr. Smt. Mundhe Rajashree (2003)
"Developing a Self Study Package in Computer Education for slow learners"

Objectives :
1.To develop self instructional package consisting of Video programmes and printed material in the form of Modules in Marathi.
2.To Test the effectiveness of the developed package by trying out on slow learners.

Sample :   100 Students (Slow Learners) from 4 different schools
Tool   :   't' test, ANOVA
Finding :   Use of self study package developed by the researcher for teaching 6 programmes of computer education to slow learners was found effective.

This research helps the researcher in finalizing the topic i.e. comparison between two different methods of teaching. In his research Dr. Ponkshe has analyzed the different concepts from the VII Std Geography textbook. It has become more easy for the researcher to select the concepts for the preparation of CAI programme.

RESEARCHES AT M.PHIL. LEVEL : -

1 Prof. Dr. Tawade S. P. (1983)
        "An investigation of the age of attainment of conservation concept of Liquid in Children of Pune City. "

2 Prof. Dr. Sohoni Chitra (1985)
        "A comparative study of effects of Reception and selection oriented models of concept attainment, on the achievement of Eighth Class Students of age 12+ of Different Levels of intelligence, with respect to concepts in Mathematics".
        The above mentioned 2 Dissertations submitted to University of Pune for the fulfillment of M. Phil Course are not directly related to the present topic of research but these Dissertations helped the researcher in many ways.

1.For understanding the Piaget's concept about cognitive development of the child Piaget equates intelligence with the development of logical operations and logical structure.
2."All the studies suggest that the age and general mental ability are the two important Variables to be considered in the process of concept attainment. This can be understood in the light of the fact that concept attainment is a cognitive process and largely depends upon the changeover from sensory motor intelligence to reflective intelligence" (Sohani Chitra 1985)
        According to Bloom "Intelligence measures account for 25% of the variance on the achievement (Dr. Bloom,1976, P. 52)
        Taking into account the findings of above studies the researcher had decided to consider the effect of intelligence levels on the understanding of CAI programme.

CONCEPTUAL REFERENCES
Origin of computer Assisted Instruction :
        "Computer assisted instruction (CAI) dates back to the early 1960's. Introduction of micro-computers in 1980's generated a new enthusiasm to use it for instructional purposes. The first major pioneering attempt in CAI was made in the U.S.A. in 1961. The second land mark in CAI was in the year 1966 when computerized tutorials in arithmetic and reading for elementary school children were developed by Patrick Suppes of Stanford University. Tondon used (1966) a computer to teach fifth graders, the elements of binary system, computer vocabulary and the know-how of computer operations. Now the Micro Computers are being used on a regular basis widely at all levels of education from primary to University.
        Computer Assisted Instruction (CAI) has become an Integral part of the learning process in the advanced and developed countries of the world"14 (Agarwal J.C. 1995 P.

361)."Computer Assisted Instruction i.e. (CAI) is a natural outgrowth of the application of programmed instruction. The aim of CAI is to provide individualized instruction to meet special needs of each Learner. It needs some efficient and flexible device that can store a gigantic amount of organized information and use selected portion to meet the needs of individual Learner. A computer is such a device which can cater to the needs of individual learner. Computer can store a vast amount of information suiting to the needs of individual learner"15 (Chauhan S.S. 1978, P. 195)
        In his book "Teaching Technology for College Teachers" Prof. Vedanayagam E.G. says that "The most striking innovation in the field of educational technology is use of computers. The main objective of Computer Assisted Instruction is to provide the needed flexibility for individualizing the educational process. It meets the specific needs of the student in a way in which it is almost impossible to do so in a face to face student teacher relationship"16 (Vedanayagam E.G.,1988,P,102/103).
        "Computer Assisted Instruction is one example where programmed instruction has been combined with powerful media and technology to produce expensive and impressive learning system."17 (Prof. Vedanayagam E.G. 1988 P. 102-103) "New ways of assisting the students to learn are explored continuously. When we apply instructional approach and try out new materials it is generally observed that students react differently to materials which stimulates learning in one student, may be found by another student difficult to understand and the third may find it too simple. Educators have already recognized that wherever practicable there should be individualized Instruction. However a teacher with one or more classrooms of students will find it very difficult to give adequate attention to daily needs and progress of individual student."18(Vedanayagam E.G.,1988,P.102-103)
        "Due to population explosion and increase in school enrolments since independence, the question of how to handle learning activities and problems of students by few teachers is vital. It is quite possible in future "many to one" dilemma will be a major research area."19(Vedanayagam E.G. 1988,P.102-103)
        "There are many educationists and psychologists who have been trying to find out ways in which electronic information processing may help the teacher in individual instruction. One of the important and prominent approaches is to use computer as a teaching machine. This approach is referred to as Computer Assisted Instruction abbreviated as CAI. It is an exciting new area of Behavioral scientists"20 (Mallareddy, S. Ravishankar, 1984, P-223)
        "To Motivate Students and to help them learn and grow, individuals should have freedom in the class-room and the opportunity to select experiences & materials"21 (Rogers, P-124)
        "The use of various features in the computer such as colour, motion and sound also facilitates gaining and holding student attention, an important factor in learning"22 (Gagne, Wagner and Rojas 1981, P-49)
        "Becker reported improved motivation and high levels of students understanding with the help of computer assisted instruction."23(Becker,1986,P.10)
        "In a study to investigate the effect of group size on attitudes towards microcomputers, found that the majority of students enjoyed solving maths problem using the computer for a variety of reasons, including attributes of the computer hardware and software as well as characteristics of the task

itself. Most students preferred working with a partner rather than by themselves"24 (Cosder, Semmel, Gerber 1987 P-31).

"Electronic technologies such as television, radio, audio and video tapes, and computers have the capability to, "revolutionize the quality, Productivity and availability of education. Computer can keep track of student's performance and do other non teaching Chores to free teacher's time"25 (Norris, 1979 P-106)

'When CAI is used as a supplement to, rather than a replacement for traditional teaching, levels of summative criterion achievement are constantly higher than for either instruction method in isolation"26 (Edwards 1975 P-42)
Kuilk Synthesized research findings of CAI evaluations. "He reported that computer based instruction of college age students resulted in the improvement of examination scores by approximately 0.25 standards deviation. Secondary education students using CAI improved by 0.34 standard deviation. The difference according to Kulik (1981, P 85) May be that at lower levels of instruction, learners need the stimulation and guidance provided by a highly reactive instructional medium. Moreover kulik and Cohen (1981, P 85) found that CAI reduced the amount of time needed for instruction."27 (Kuilk 1981 P-85)

"Stowtschek and stowschek in their review of research relating to teacher use of micro computers highlighted the following:

1.50% Savings in time for all students and
2.The teacher had more time for instructional activities."28 Stowtschek and stowschek (1984, P 140)

In an article "Engineering Technologies in Education, it was sated that.

"The world is changing fast due to technological developments. Application of technologies is seen pervasively. The wider change-taking place in the society is providing a context for instructional development. Over years there is a shift from oral to written, formal to non formal, teacher to student centered and rigid to flexible forms of instruction"29(Goel D. R. 2000, P 55)

"The focus is on facilitative teaching. Targeting on facilitative teaching there have been focused efforts to develop educational radio and T.V. in different models – feedback and interactive video and teleconferencing E-mail, Tele-text, radio pager etc., along with development of related skills both intellectual and psychomotor and also attitudinal changes."30(Goel D. R. 2000, P 55)

"The recent developments in technotronics Emerging Technologies in Education by D. R. Goel, R. S. Mani, S. C. Panigrahi. Have opened up new vistas for education e.g. use of computers in teaching – learning and evaluation." In the same article it is stated that "The predictions made over the last two decades by the impact of the new technologies vary from the expected to unforeseen."31 (Goel D. R. 2000, P 55)

CONCLUDING COMMENT –
After reading the opinions of different educators of national and international level , the researcher had became aware about the importance of using the modern sophisticated technique ,CAI programme in the field of education .All the educationists gave stress on using this CAI programme ,because of its flexible nature ,individualized learning system ,and user friendliness .According to them the use of CAI programme will definitely increase the quality of

education ,it will save the time of both the teachers and students . It will motivate the students for further learning. These opinions of the experts instigate the researcher to use the CAI programme for the purpose of research.

REFERENCES
1.Buch M.B., (1988-1992), Fifth Survey of Research in Education, Vol. 1, Trend Reports, N.C.E.R.T., New Delhi.
2.Cotten Kathaleen ,"School Improvement Research Series", Page 1 to 17.
3.Buch M.B., "Fifth Survey of Research in Education", Page No. 1388. Vol. 1, N.C.E.R.T., New Delhi.
4.Ibid, Page No. 1391.
5.Buch M.B., (1978-1983), "Third Survey of Research in Education", Vol. 1, N.C.E.R.T., New Delhi.
6.Kadhiravans, (2003), "Indian Educational Abstracts", Page No. 29.
7.Vasanthi A, Hema S, (2003), "Indian Educational Abstracts", Page No. 31.
8.Joy B.H.H. & Manickam, (2002), "Perspectives in Education", Vol. 18 (4), Page No. 235 to 242.
9.Shailaja H. G., Dr. Lalitha M. S., (2003), "Indian Educational Abstracts", Page No. 30.

Publish Research Article
International Level Multidisciplinary Research Journal
For All Subjects

Dear Sir/Mam,
            We invite unpublished Research Paper,Summary of Research
Project,Theses,Books and Book Review for publication,you will be pleased to
know that our journals are

Associated and Indexed,India

* ✳ International Scientific Journal Consortium
* ✳ OPEN J-GATE

Associated and Indexed,USA

* EBSCO
* Index Copernicus
* Publication Index
* Academic Journal Database
* Contemporary Research Index
* Academic Paper Databse
* Digital Journals Database
* Current Index to Scholarly Journals
* Elite Scientific Journal Archive
* Directory Of Academic Resources
* Scholar Journal Index
* Recent Science Index
* Scientific Resources Database
* Directory Of Research Journal Indexing