Interactive Computer Assisted Instruction (ICAI): A New Approach in the Field of Education

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Guide

Dr. Kamalnayan B. Parmar

Associate Professor,

Shree R. P. Ananda College of

Education, Borsad

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Researcher

Mr. Ketulbhai K. Parmar

Research Scholar

Department of Education,

Sardar Patel University,

V.V. Nagar.

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Abstract

Quick logical and mechanical improvements alongside changes in the structure of the general public impact the educational system as a rule and instructional strategy specifically. Such a pattern realizes new endeavors and needs regarding the showing of learning forms. Among these new endeavors is the utilization of computers in instructional undertakings as they are considered viable correspondence and individual learning apparatuses. The incorporation of innovation in education is a developing marvel. A gigantic measure of time and cash has been given to making innovation available to understudies with the guarantee of expanded understudy accomplishment. Computers are utilized as showing apparatuses and a method for making work items. A more critical take a gander at the association between understudies ' utilization of innovation and the resultant learning is required. The main motivation behind Computer Assisted Instruction is to convey the substance of the course through computer and relative instruction attempts through the assistance of computer applications. In this regard, a few programming programs with various particulars may be utilized to convey the topic. The Interactive Computer Assisted Instruction (ICAI) bundle is utilized in four modes in particular instructional exercise, bore and practice, reproduction, and gaming. It can bargain the issue of value in education all the more viably. Conceivably the best quality of Computer Assisted Instruction is that empowers a high level of student investment to be worked into the instructional procedure. In education giving instruction is an imperative capacity. It very well may be done through such a large number of materials. Our faculty's eyes, ears, tongue; nose, and skin are doors to learning. This methodology is of farthest essential since it's a time in which the student came to class with that data that may not help to the instructor. He uses to chip away at virtual innovation, playing on play station and surfing on the net is

normal. Educators can't upchuck out book content yet something more than that is required. The present education system is reviving and change is of the caterpillar design. Computer innovation is likewise changing, inside the span of three days new development flooded the market and hit the psyche of the general population to stroll with it. Presently, it's an immense duty of the educator to permit the understudy not exclusively to sit in the classroom yet, in addition, to make learning participative intriguing, cheerful and everlasting. This methodology of CAI and computers may get the student for a better tomorrow. The main aim of the paper is to provide a brief outline of Interactive Computer Assisted Instruction (ICAI) Which is being used widely in all sectors of life including the educational sector. The paper also stated how this new technology can be used for instructional purposes in the teaching-learning process. Lastly, the paper also mentioned some limitations of the ICAI.

Keywords: Interactive Computer Assisted Instruction (ICAI), Computer Assisted Instruction (CAI), Programmed logic for Automatic Teaching Operation (PLATO). Time-shared Interactive Computer-Controlled Information Television (TICCIT),

Introduction

" Interactive Computer-assisted instruction" (ICAI) refers to instruction or instruction presented on a computer. Many educational computer programs are available online and from computer stores and textbook companies. They enhance teacher instruction in many ways.

Computer programs are interactive and can explain concepts through engaging animations, sounds, and demonstrations. They allow students to progress at their own pace and work individually or problem-solve in groups. Computers provide immediate feedback, letting students know if their answer is correct. If the answer is not correct, the program shows students how to answer the question correctly. Computers provide a variety of activities and a change of pace from teacher-led or group instruction.

Interactive Computer-assisted instruction improves instruction for students with disabilities because students receive immediate feedback and do not continue to practice incorrect skills. Computers capture the attention of students because the programs are interactive and add a sense of competitiveness to boost students' scores. Also, Interactive computer-assisted instruction moves at the student's pace and usually does not progress until they have mastered the skill. Programs provide differentiated lessons to challenge students who are at-risk, average, or gifted.

History of CAI

In the mid-1950s and early 1960s collaboration between Stanford University educators in California and the International Business Machines Corporation (IBM) introduced CAI to select elementary schools. Initially, CAI programs were linear presentations of information with exercises and practice sessions. These early CAI systems were limited by cost and the difficulty of acquiring, maintaining, and using the computers available at the time. Another early CAI system pioneered at the University of Illinois in higher education was the Programmed

Logic for Automatic Teaching Operations (PLATO) system. It consists of mainframe computers that support up to 1000 terminals for use by individual students. By 1985, more than 100 Plato systems were operating in the United States. From 1978 to 1985 users logged 40 million hours on PLATO systems. Plato also introduced a communication system among students that was the forerunner of modern electronic mail (messages are passed electronically from computer to computer). The Time-Shared Interactive Computer-Controlled Information Television (TICCIT) system was a CAI project developed by Miter Corporation and Brigham Young University in Utah. Based on the personal computer and television technology, TICCIT was used in the early 1970s to teach freshman-level math and English courses. With the advent of cheaper and more powerful personal computers in the 1980s, the use of CAI increased dramatically. In 1980 only 5 percent of elementary schools and 20 percent of secondary schools in the United States had computers to support instruction. Three years later, the number of both had nearly quadrupled, and by the end of the decade nearly all schools in the United States, and most industrialized countries, were equipped to teach computers. A recent development with far-reaching implications for CAI is the vast expansion of the Internet, a network of interconnected computers. By connecting millions of computers worldwide, these networks enable students to access vast stores of information, greatly enhancing their research capabilities. Computers are used in almost all spheres of life i.e. transportation, communication, national defense, scientific research, and education.

Various Modes of ICAI

Computers play a major role in the field of instruction. In this computer-assisted instruction, he interacts directly with the learners while presenting the lesson. Various instructional modes can be facilitated by Interactive Computer Assisted Instruction (ICAI).

1. Tutorial Mode

In a tutorial, information is presented in small units followed by a question. The response of the students is analyzed by computer and appropriate feedback is given. A network of branches or paths can be programmed to teach. Students are allowed to work at their own pace.

2. Drill of Practice

In this mode, the program leads the learner through a series of examples to develop dexterity and fluency using the skill. All correct answers are reinforced.

3. Discovery Mode

Here, an inductive approach is followed. Problems are presented and students solve those problems by trial and error. It is similar to laboratory teaching. It aims at a deeper understanding of the results obtained from the search.

4. Gaming Mode

This mode may or may not be instructional, but it's fun. Sometimes learning is done through games. This mode is especially for small children.

5. Simulation Mode

Here student faces measure approximations of real-life situations. So, actual practice takes place without involving any risk.

6. Problem-Solving Mode

Problem-solving is easily achieved if the typical computational capacity of a computer is available and a typewriter with remote control of two-way communication and a display response device. To solve his problem students, need to know how to interact with computers and law.

7. Inquiry Mode

Inquiry is the third type of CAI application mode. This CAI system answers the student's queries with the stored answers. In this mode, instructional personnel must learn how the system works.

8. Author Mode

ICAI is used to support instruction by generating sets of materials for student use. When generating concept learning material, these may be sentence forms each of which is filled by a word or set of words, i.e. inserted into a blank space by the computer according to a set of instructions.

9. Logo

The logo is a simple programming language that can be taught to children. This program provides instructions that can be used to create pictures on the screen. Children who learn LOGO create their programs to draw flowers or faces or create designs on the screen.

Role of Teacher in ICAI

ICAI interacts with students individually and directly with the teacher. Teachers have a role to play in ICAI. Human teachers cannot be removed from the teaching-learning process. We can highlight the role of the teacher in ICAI as follows.

1. Use of New Tools

ICAI allows the teacher to use new tools. This usage will increase one's satisfaction. Also, it will increase the efficiency of the person. It can create elaborate graphs and drawings.

2. Compatible with line teaching

ICAI is compatible with line teaching. A teacher can devote his time to more creative activities.

Experts Needed in ICAI

Interactive Computer Assisted instructions need the help of the following experts:

1. Computer Engineer: A computer engineer is a technical person who knows about the basic principles and techniques of the program.

2. Lesson Writer: The lesson writer is an expert who is familiar with lesson writing. Lesson writers may be experienced teachers or an experienced teacher may be a lessor writer.

3. System Operator: He knows the system thoroughly and can cope with all commonly occurring failures of software and hardware of the system.

Uses of ICAI

- It is the main source of facts and information for teachers and students.

- Students are provided with drill and practice opportunities.

- It is useful in form of a learning laboratory.

- It is important in solving administrative problems.

- It is helpful in the evaluation process.

- It is useful in formulating a timetable.

Limitations of ICAI

- Computers fail to appreciate students' feelings. The emotional environment created by the teacher in direct classroom interaction with students is absent in ICAI.

- ICAI programs do not address psychological or educational programs by themselves.

- ICAI fails to develop essential features of language competence where the ability to construct or construct meaningful sentences is essential.

- It was shown that some students became more tired than traditional studies or felt like dropping out.

- Peripheral equipment limits how a student can interact with the computer.

Final Thought

Interactive Computer Assisted Instruction (ICAI) has emerged as an effective and efficient medium of instruction in the advanced countries of the world. ICAI is being used in both formal and non-formal education at all levels. In India also, computers have been introduced in most areas such as data processing decision making. It also affects research and development practices in the field of education.

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