

Computer Assisted Instruction (CAI)

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Computer Assisted Instruction (CAI)

- Computer-based education (CBE) and computer-based instruction (CBI) are the broadest terms and can refer to virtually any kind of computer use in educational settings.
- Computer-assisted instruction (CAI)
Computer Aided Instruction (CAI) is a narrower term and most often refers to drill-and-practice, tutorial, or simulation activities.

- Computer-managed instruction (CMI)
Computer-managed instruction is an instructional strategy whereby the computer is used to provide learning objectives, learning resources, record keeping, progress tracking, and assessment of learner performance.
- Computer based tools and applications are used to assist the teacher or school administrator in the management of the learner and instructional process.

Computer Assisted Instruction (CAI)

- A self-learning technique, usually offline/online, involving interaction of the student with programmed instructional materials.
- Computer-assisted instruction (CAI) is an interactive instructional technique whereby a computer is used to present the instructional material and monitor the learning that takes place.
- CAI uses a combination of text, graphics, sound and video in enhancing the learning process.

- The computer has many purposes in the classroom, and it can be utilized to help a student in all areas of the curriculum.
- CAI refers to the use of the computer as a tool to facilitate and improve instruction.
- CAI programs use tutorials, drill and practice, simulation, and problem solving approaches to present topics, and they test the student's understanding.

Typical CAI provides

- 1. text or multimedia content
- 2. multiple-choice questions
- 3. problems
- 4. immediate feedback
- 5. notes on incorrect responses
- 6. summarizes students' performance
- 7. exercises for practice
- 8. Worksheets and tests.

Types of Computer Assisted Instruction

- **1. Drill-and-practice:** Drill and practice provide opportunities for students to repeatedly practice the skills that have previously been presented and that further practice is necessary for mastery.
- **2. Tutorial:** Tutorial activity includes both the presentation of information and its extension into different forms of work, including drill and practice, games and simulation.
- **3. Games:** Game software often creates a contest to achieve the highest score and either beat others or beat the computer.

- **4. Simulation:** Simulation software can provide an approximation of reality that does not require the expense of real life or its risks.
- **5. Discovery:** Discovery approach provides a large database of information specific to a course or content area and challenges the learner to analyze, compare, infer and evaluate based on their explorations of the data.
- **6. Problem Solving:** This approach helps children develop specific problem solving skills and strategies.

Advantages of CAI

- one-to-one interaction
- great motivator
- freedom to experiment with different options
- instantaneous response/immediate feedback to the answers elicited
- Self pacing - allow students to proceed at their own pace

- Helps teacher can devote more time to individual students
- Privacy helps the shy and slow learner to learn
- Individual attention
- learn more and more rapidly
- multimedia helps to understand difficult concepts through multi sensory approach
- self directed learning – students can decide when, where, and what to learn

Limitations of CAI

- may feel overwhelmed by the information and resources available
- over use of multimedia may divert the attention from the content
- learning becomes too mechanical
- non availability of good CAI packages
- lack of infrastructure