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NAZIR AJMAL MEMORIAL COLLEGE OF EDUCATION, HOJAI
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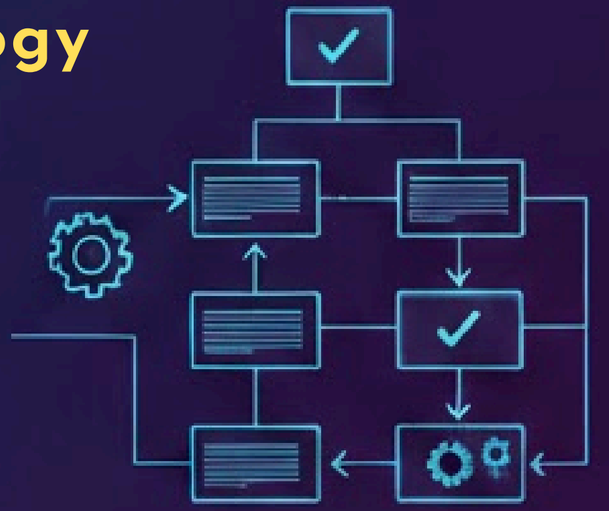
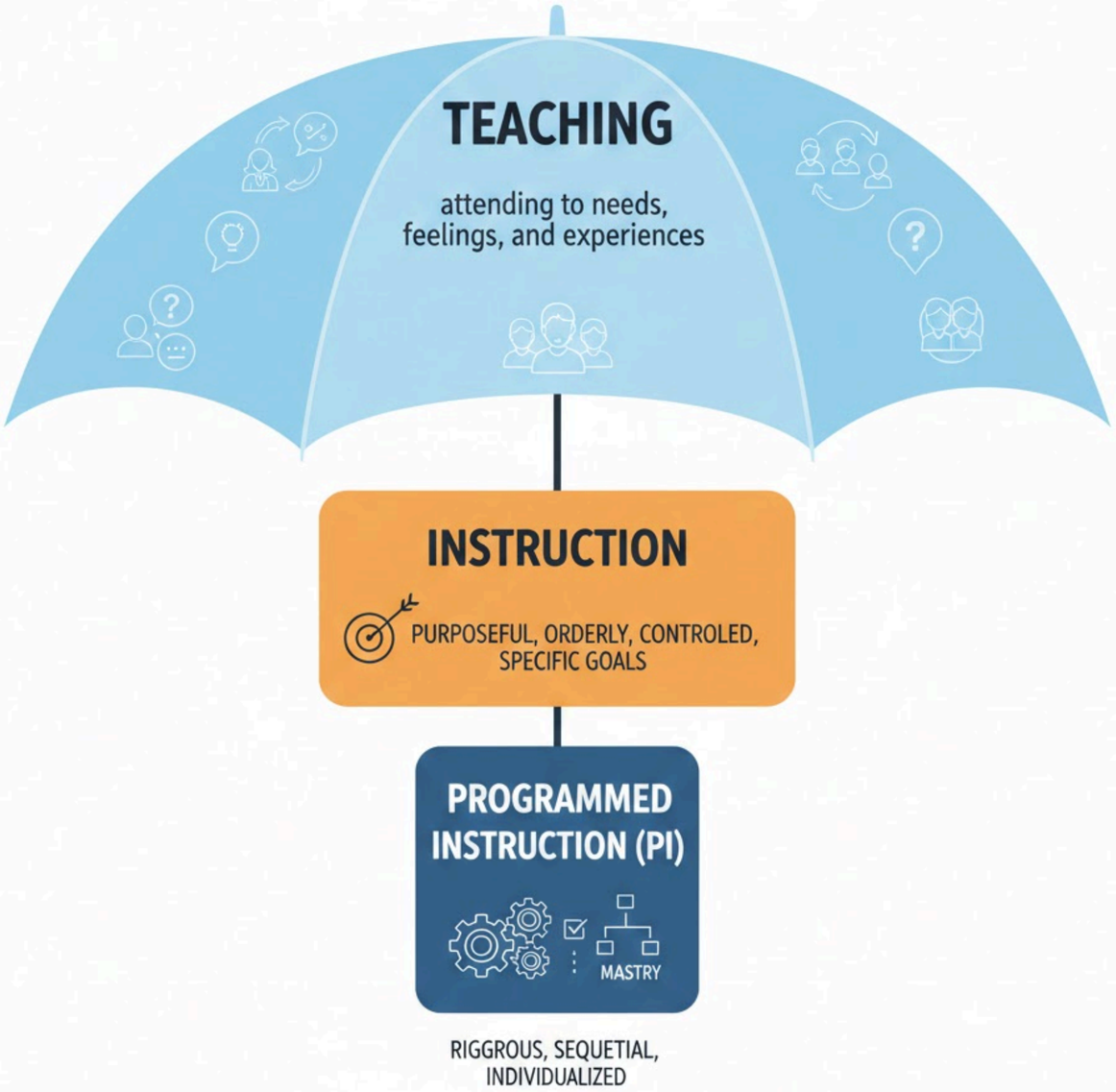
Innovative Trends In Educational Technology

Programmed Instruction



Kaji Minhajul Hoque
Nazir Ajmal Memorial College of Education


TEACHING
attending to needs,
feelings, and experiences
INSTRUCTION
PURPOSEFUL, ORDERLY, CONTROLED,
SPECIFIC GOALS
PROGRAMMED
INSTRUCTION (PI)
MASTRY
RIGGROUS, SEQUETIAL,
INDIVIDUALIZED

Programmed Instruction, also known as Programmed Learning, is a systematic and self-instructional method of teaching based on the principles of operant conditioning and reinforcement. It presents learning material in small, sequential steps called frames, requires active learner responses, and provides immediate feedback to ensure effective and individualized learning. It is designed not to replace teachers but to reduce routine drill, enabling teachers to focus on guidance and higher-level interaction, and it forms the foundation of modern self-paced and digital learning systems.

Definitions

“Programmed Instruction is the process of arranging the material to be learned into a series of sequential steps, usually it moves the students from a familiar background into a complex and new set of concepts, principles and understanding.”

Smith and Moore (1962)

“Programmed Instruction is a method of individualized instruction, where each individual learns by himself at his own rate. Programmed learning consists of elements of new knowledge called steps, which are arranged in a sequence in such a way that a student can easily learn by himself.”

R.C. Das (1993)

“Programmed Instruction / learning is a systematically planned, empirically established and effectively controlled self-instructional technique for providing individualized instruction to the learner through logically sequenced small segments of the subject matter by using the principles of operant conditioning and schedules of reinforcement.”

Characteristics

1. **Individualized Instruction**
2. **Logical Sequencing of Content**
3. **Behavioral Objectives**
4. **Small, Meaningful Steps**
5. **Immediate Feedback (Reinforcement)**
6. **Active Responding**
7. **Self-Pacing**
8. **Measurable and Controllable**
9. **Continuous Evaluation**

- **Individualized Instruction**

  Programmed Instruction is designed to meet the needs of individual learners. Each student learns independently according to their ability and understanding level, rather than following a uniform pace set for the whole class.

- **Logical Sequencing of Content**

  The subject matter is arranged in a clear, logical order. Concepts move from simple to complex, ensuring that learners build new knowledge on previously understood material in a systematic way.

- **Behavioral Objectives**

  PI is based on clearly defined and measurable learning objectives. These objectives specify what the learner should be able to do after completing the instruction, making learning outcomes precise and goal-oriented.

- **Small, Meaningful Steps**

  The content is divided into small units called frames. Each step presents a small piece of information, making it easier for learners to understand and reducing confusion or overload.

- **Immediate Feedback (Reinforcement)**

  Learners receive instant feedback after responding to each frame. Correct responses are reinforced immediately, which strengthens learning and helps correct mistakes at once.

- **Active Responding**

  Students are not passive readers; they must actively respond to questions or tasks in each step. This active participation increases attention, engagement, and retention of knowledge.

- **Self-Pacing**

  Learners progress through the material at their own speed. Faster learners can move ahead quickly, while others can take more time to understand each concept thoroughly.

- **Measurable and Controllable**

  Learning progress can be measured and monitored easily. Because objectives are clear and responses are evaluated continuously, both teachers and learners can track performance effectively.

- **Continuous Evaluation**

  Evaluation is built into the learning process. Each step acts as a mini-test, allowing continuous assessment of understanding and ensuring mastery before moving forward.

Principles of Programmed Instruction

Small Steps

Immediate Feedback

Active Responding

Self-Pacing

Error Control / Student Testing

- **Self-Pacing**

  This principle allows learners to move through the instructional material at their own speed. Students can spend more time on difficult concepts and move quickly through easier ones, ensuring better understanding and reducing learning pressure.

- **Small Steps**

  The learning material is divided into very small and carefully organized units. Each step presents only a small amount of information, making it easier to understand and minimizing errors during learning.

- **Active Responding**

  Learners must actively participate by giving responses at each step. Instead of passively reading or listening, they answer questions or complete tasks, which increases engagement and strengthens learning.

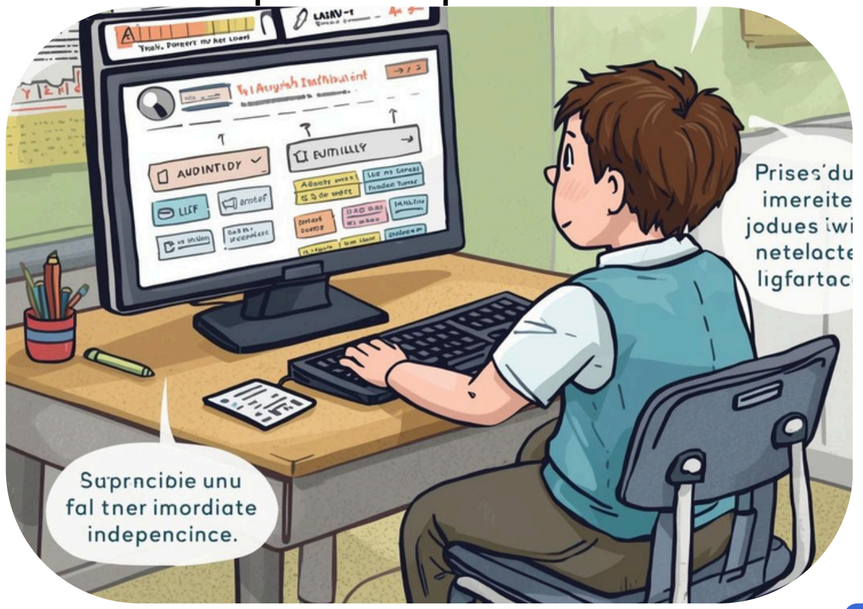
- **Error Control / Student Testing**

  The instruction is designed in a way that reduces the chances of errors. Frequent testing within the program helps identify mistakes immediately, allowing learners to correct them before moving ahead.

- **Immediate Feedback**

  After each response, learners receive instant confirmation whether their answer is correct or not. This immediate reinforcement strengthens correct learning and helps quickly correct misunderstandings.

In conclusion, Programmed Instruction (PI) is a systematic and scientifically designed method of teaching that ensures effective, individualized, and self-paced learning. It organizes content into small, logically sequenced steps with clear behavioral objectives, encouraging active participation and providing immediate feedback for reinforcement. Through continuous evaluation and error control, it promotes mastery learning and better retention of knowledge. Overall, Programmed Instruction not only enhances learner independence but also supports teachers by making the learning process structured, measurable, and goal-oriented.



Thank You

namce.ap.kaji@gmail.com