PROGRAMMED LEARNING

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INTRODUCTION

- Programmed learning is a method of instruction that breaks down complex learning tasks into small, incremental steps. Each step is presented to the learner, and the learner is then asked to respond to a question or exercise. If the learner's response is correct, they are immediately given feedback. If the learner's response is incorrect, they are given the correct answer and then asked to repeat the step.
- Programmed learning is based on the principles of behaviorism, which holds that learning is a process of conditioning. In programmed learning, the learner is conditioned to respond correctly to a series of stimuli. The immediate feedback that the learner receives after each response helps to strengthen the correct response and to extinguish the incorrect response.

ORIGIN

- The origins of programmed learning can be traced back to the early 20th century, when psychologists began to study the principles of learning. One of the most influential figures in the development of programmed learning was B.F. Skinner. Skinner was a behaviorist, and he believed that learning is a process of conditioning. In his book, ***The Science of Learning and the Art of Teaching,*** Skinner outlined the principles of programmed learning.
- Skinner's work on programmed learning was influenced by his earlier work on operant conditioning. Operant conditioning is a type of learning in which an organism learns to associate a particular behavior with a particular consequence. In programmed learning, the consequence is immediate feedback.

DEVELOPMENT OF PROGRAMMED LEARNING

- Programmed learning is a method of instruction that was developed in the 1950s by B.F. Skinner, a psychologist who is known for his work on operant conditioning. Skinner believed that learning could be improved by breaking down the material into small steps, providing immediate feedback, and allowing learners to progress at their own pace.
- **The first programmed learning** materials were developed in the form of teaching machines, which were devices that presented the material in a step-by-step fashion and gave immediate feedback to the learner. Teaching machines were popular in the 1960s, but they fell out of favor in the 1970s as computers became more affordable and accessible.
- **Today,** programmed learning is still used in a variety of forms, including textbooks, computer-based training, and online courses. It is also used in some educational settings, such as special education classrooms.

KEY FIGURES

- Here are some of the key figures in the development of programmed learning:

- **B.F. Skinner** (1904-1990) - Skinner was an American psychologist who is best known for his work on operant conditioning. He developed the principles of programmed learning and he published the book *The Science of Learning and the Art of Teaching* in 1954.

- **Sidney L. Pressey** (1898-1969) - Pressey was an American psychologist who developed the first teaching machine in 1926. His teaching machine was a device that presented the learner with a question and then allowed the learner to type in their answer.

- **Norman Crowder** (1915-2007) - Crowder was an American psychologist who developed a type of programmed learning called branching programming. In branching programming, the learner is given different paths to follow depending on their answers to the questions.

PRINCIPLES OF PROGRAMMED LEARNING

- Here are the basic principles of programmed learning, in pointers form:
- **Small steps:** The material is broken down into small, easy-to-understand steps.
- **Active responding:** Learners are required to respond to the material in some way, such as by answering a question or completing an exercise.
- **Immediate feedback:** Learners receive immediate feedback on their responses.
- **Self-pacing:** Learners can progress at their own pace.
- **Error control:** Learners are given opportunities to correct their mistakes.

TYPES OF PROGRAMMED LEARNING

- There are two main types of programmed learning: linear and branching.

- **Linear programmed learning** is the simplest type of programmed learning. The learner progresses through the material in a linear fashion, one step at a time. If the learner answers a question correctly, they move on to the next step. If the learner answers a question incorrectly, they are given feedback and they are asked to repeat the step.

- **Branching programmed learning** is more complex than linear programmed learning. The learner is given different paths to follow depending on their answers to the questions. This allows the learner to focus on the material that they need the most help with.

SOME OTHER PROGRAMMED LEARNING…..

- Here are some other types of programmed learning:

- **Mathetics** is a type of programmed learning that is specifically designed for teaching mathematics. Mathetics uses a step-by-step approach to teaching mathematical concepts, and it provides immediate feedback on the learner's responses.

- **Tutorials** are a type of programmed learning that is designed to provide instruction on a specific topic. Tutorials typically include a combination of text, images, and videos, and they may also include interactive exercises.

- **Computer-based training (CBT)** is a type of programmed learning that is delivered on a computer. CBT programs typically include a series of lessons, each of which includes a set of objectives, activities, and assessments.

STEPS OF PROGRAMMED LEARNING

- Here are the steps of programmed learning:

❑ 1. Define the learning objectives.

❑ 2. Break down the material into small steps.

❑ 3. Write the frames.

❑ 4. Sequencing the frames.

❑ 5. Provide immediate feedback.

❑ 6. Allow learners to progress at their own pace.

❑ 7. Provide opportunities for review.

❑ 8. Test the programmed learning.

DEFINE THE LEARNING OBJECTIVES

- The first step in developing programmed learning is to define the learning objectives. What do you want learners to be able to do after completing the programmed learning? The learning objectives should be specific, measurable, achievable, relevant, and time-bound.

BREAK DOWN THE MATERIAL INTO SMALL STEPS

- Once you have defined the learning objectives, you need to break down the material into small steps. Each step should be small enough that learners can master it before moving on to the next step. This will help learners to learn the material gradually and to avoid feeling overwhelmed.

WRITE THE FRAMES

- A frame is a unit of instruction that typically includes a stimulus, a response, and feedback. The stimulus is the information that is presented to the learner. The response is the answer that the learner is expected to give. The feedback is the information that is given to the learner after they give their response.

SEQUENCING THE FRAMES

- The frames should be sequenced in a logical order so that learners can build their knowledge and understanding gradually. The frames should also be sequenced in a way that keeps learners engaged.

PROVIDE IMMEDIATE FEEDBACK

- Learners should receive feedback on their responses as soon as possible. This helps them to correct their mistakes and to learn more effectively. The feedback should be clear and concise.

ALLOW LEARNERS TO PROGRESS AT THEIR OWN PACE

- Learners should be able to progress through the programmed learning at their own pace. This allows them to learn at the level that is right for them.

PROVIDE OPPORTUNITIES FOR REVIEW

- Learners should have opportunities to review the material throughout the programmed learning. This helps them to solidify their understanding of the material.

TEST THE PROGRAMMED LEARNING

- Once the programmed learning is complete, it should be tested with a group of learners. This helps to identify any potential problems with the material.

ADVANTAGES OF PROGRAMMED LEARNING

- Here are some of the advantages of programmed learning, in pointers form:

❑ **Self-paced:** Learners can progress at their own speed.

❑ **Immediate feedback:** Learners receive feedback on their responses.

❑ **Flexible:** Programmed learning can be delivered in a variety of formats.

❑ **Cost-effective:** Programmed learning materials can be reused multiple times.

❑ **Effective for mastery learning:** Programmed learning can be effective for mastery learning.

DEMERITS OF PROGRAMMED LEARNING

- **Can be boring:** Some learners may find programmed learning to be boring.
- **Can be difficult to develop:** High-quality programmed learning materials can be difficult to develop.
- **May not be suitable for all learners:** Programmed learning may not be suitable for all learners, such as those with learning disabilities.
- **Can be repetitive:** Programmed learning can be repetitive, especially for learners who are already familiar with the material.
- **Can be isolating:** Programmed learning can be isolating, as learners are not interacting with other people.

CONCLUSION

- Programmed learning is a valuable tool for instruction. It can be used to teach a wide variety of subjects and to help learners to learn more effectively. However, it is important to note that programmed learning is not a magic bullet. It is a tool that can be used effectively, but it must be used correctly.

THANK YOU