Types of Programmed Instruction or Programmed Learning

By

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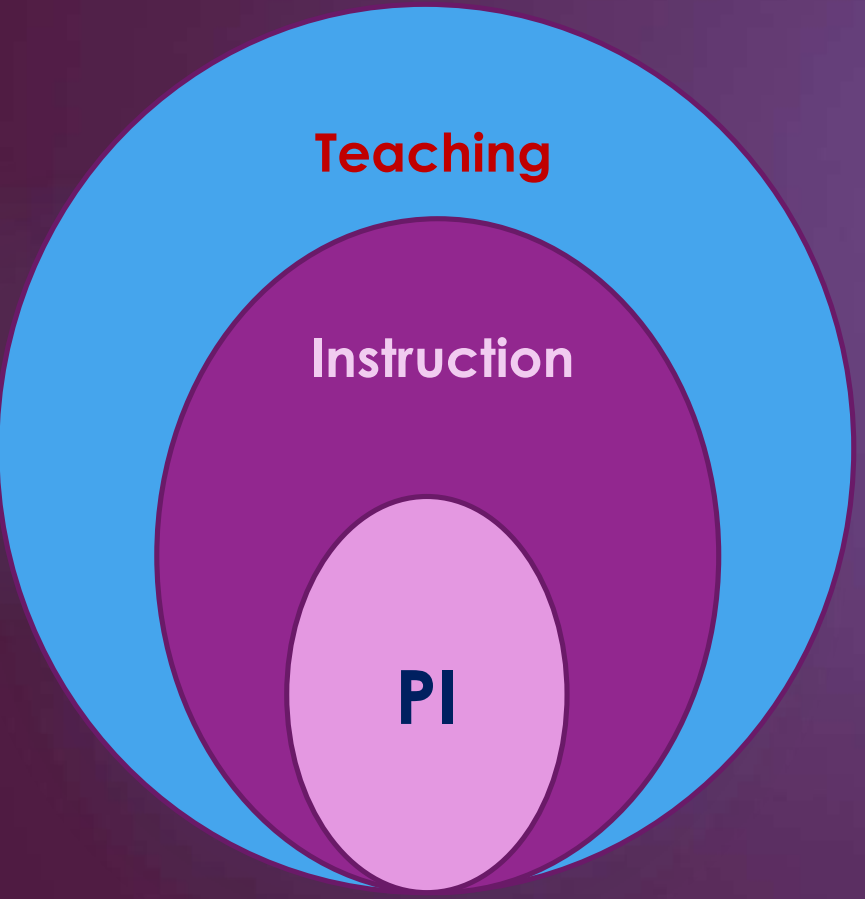
Teaching, Instruction and Programmed Instruction (PI)



Teaching: Teaching is the process of attending to people's needs, experiences and feelings, and making specific interventions to help them learn particular things. Teaching is a broader in its scope.

Instruction: Is a purposeful orderly controlled sequencing of learning experiences to reach a specified goal.

Programmed Instruction: is a sub head under instruction and represents a more rigorous attempt to develop a mastery over specified goals to secure learning

- Programmed Instruction or Programmed Learning is one of the important Innovation in the teaching-Learning process by using principles of operant conditioning and schedules of reinforcement.
- It is a Self Instructional Method

Types of Programmed Instruction

Basic or Fundamental Types of Programmed Instruction

1. Linear or Extrinsic Programming
2. Branching or Intrinsic Programming
3. Mathetics programming

1. Linear or Extrinsic Programming

Diagrammatic Representation of Linear Programming

Format of the Frame1

1. **Stimulus**
   - **i.A bit of Information**
   - **ii. Question based on the information**
2. **Response**
   - **i. Space for the Response**
   - **ii.Clue/ Hint(If necessary**

Format of the Frame2

1. **Response to Previous Frame**
2. **Stimulus**

   i.A bit of Information

   ii. Question based on the information

2. Response

   i. Space for the Response

   ii.Clue/ Hint(If necessary

1. Linear or Extrinsic Programming

- B.F. Skinner (1955), is considered the founder of this type of programmed instruction.
- It is directly related with his theory of "Operant Conditioning" and is based on the assumption that human behaviour can be shaped or conditioned gradually, step by step when we present suitable reinforcement for every desired response.
- In this programming, the instructional material is sequenced into a number of meaningful small steps, called **frames.**
- These frames are presented to the learner in the logical sequenced order, one at a time.
- The learner is required to respond actively at each step. Immediately after responding, the learner is given information about the correctness of his response.
- It reinforces his behaviour and motivates to learn the next frame in the arranged sequence
- By proceeding from one step to another, the learner is expected to acquire the desired learning experiences.

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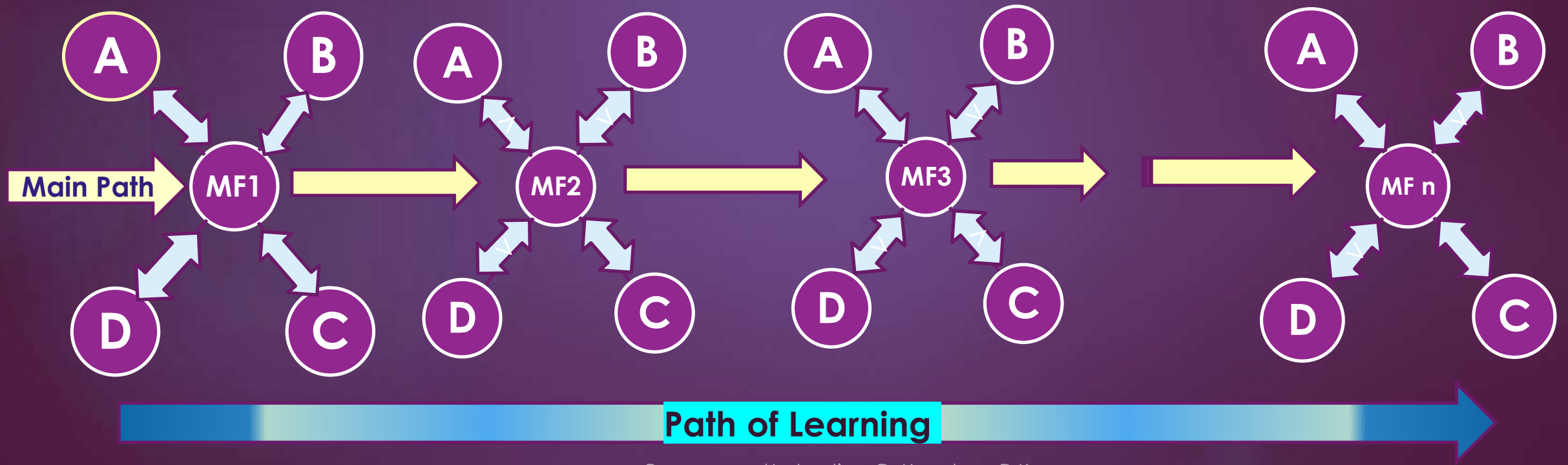
- This type of programming is referred to as 'linear' as the sequence of frames and path of learning in this programmed learning is systematic and is in straight line without any deviations.
- Hence, In this programming, all the learners have to proceed through the same frames and in the same order.
- In this manner, the students may proceed on their self-learning path by going from one frame to another arranged in a sequential and systematic way by taking their own time.
- The whole instructional procedure is well controlled. However, this control is quite extrinsic exercised by the programmer and so, the linear programming is also referred to as extrinsic programming.

Branching or Intrinsic Programming

A diagrammatic representation of the Main path and Branching in Branching programming.



Frame-1

The Word Communication came from the Latin word 'Communis' meaning 'to make common. In its application it means a common ground of understanding.

Communication can be defined as the process by which people share ideas, experience, knowledge and feelings through the transmission of symbolic messages.

Q1- The word communication has its origin from

a) Greek Go to Page-20

b) Latin Go to Page-15

c) French Go to Page-6

d) Persian Go to Page-10

2. Branching or intrinsic Programming

- Norman A. Crowder (1954), an American psychologist developed the branching programme of programmed instruction. In his own words, branching or intrinsic programming is one which adapts to the need of the students without a medium of an extrinsic device such as a computer,
- In contrast to linear programming, this programme provides an intrinsically involved with the path of learning in the sense that the path of learning is not controlled extrinsically by the programmer, instead depending upon the learner choice in making response his learning is determined. This able to adapt the instruction to his needs.

Basic Assumptions of Branching Programming

1. When the learning material is presented in its totality or in the form of meaningful components or units, the learning gets better,
2. Learning takes place better if the students are made to learn on the pattern of traditional tutorial methods.
3. Due to the Student's exposure to the new material, basic learning takes place.
4. In a learning process, errors may occur. If an error occurs, it may be detected and corrected before proceeding further on the learning path. The most significant feature of branching programming is that the wrong responses not necessarily hinder the learning of a correct response. Since it involves Remedial frames along with Main frames

5.Learning takes place better if a learner is allowed sufficient freedom to take decisions for adapting the instruction to his needs.

6. Learning will be better if each response is used to test the success of the latest communication to the student and the testing is followed by remedial instruction.

7. Multiple-choice items help more in the learning process than the force choice single response items.

Characteristics of Branching Programme

1.The size of the frames is quite large in branching programming when compare to linear programming and instructional material is divided into 'units' of material called 'frames'. More information, one or two paragraphs or even a page, is provided in a frame.

2.The learner is provided more than one choice while responding to the frames as he/she is required to respond to multiple choice questions associated with the learning material of the frame. So learner needs to discriminate and choose one right answer.

3.The learner moves forward if he answers correctly, but is diverted (branched) to one or more remedial frames if he does not choose right answer.

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4. These remedial frames explain the matter afresh, ask him/her questions to elicit the right answer and reveal his previous mistakes, and then return him to the original frame

5.This cycle goes on till the learner passes through the whole Programmed instructional material at his/her own pace.

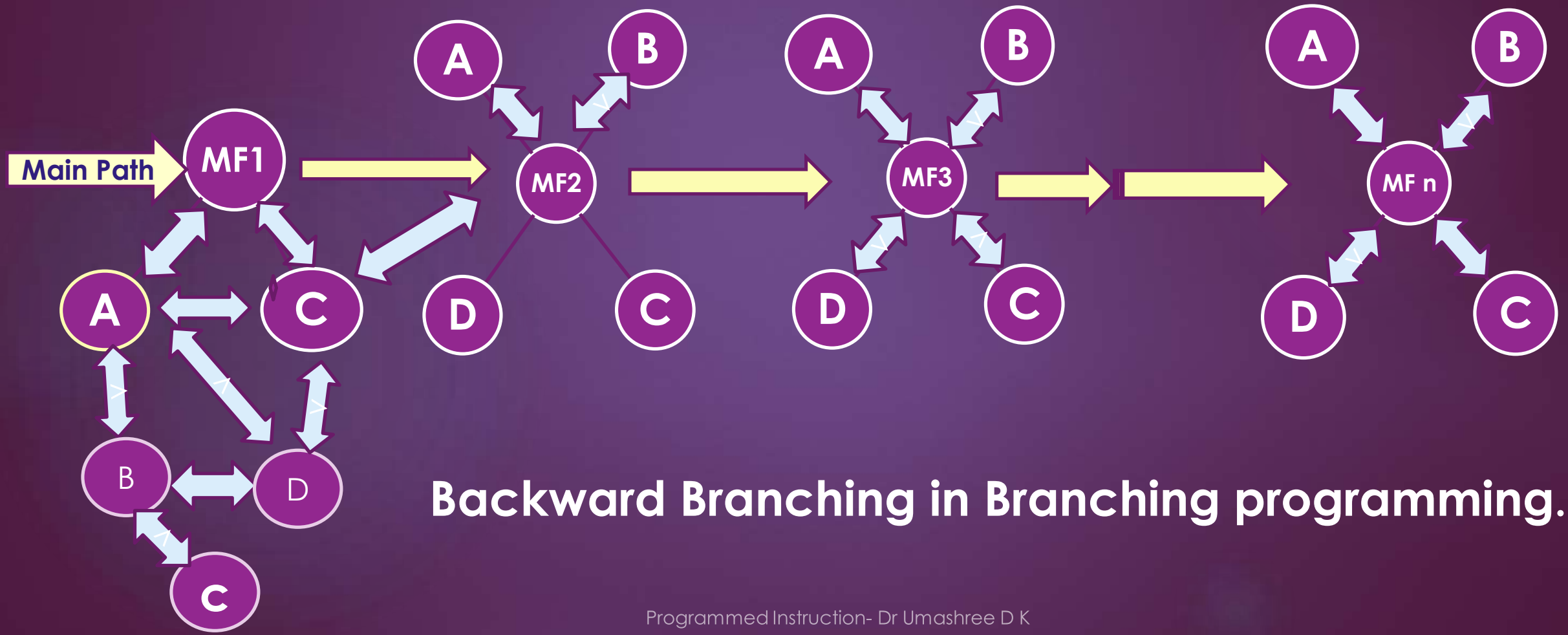
6. In a learning process, errors may occur. If an error occurs, it may be detected and corrected before proceeding further on the learning path.

7. The unique feature of branching programming is that the wrong responses not necessarily hinder the learning of a correct response. Since it involves Remedial frames along with Main frames

Types of Branching Programming

1. Backward Branching
2. Forward Branching

Backward Branching Programming

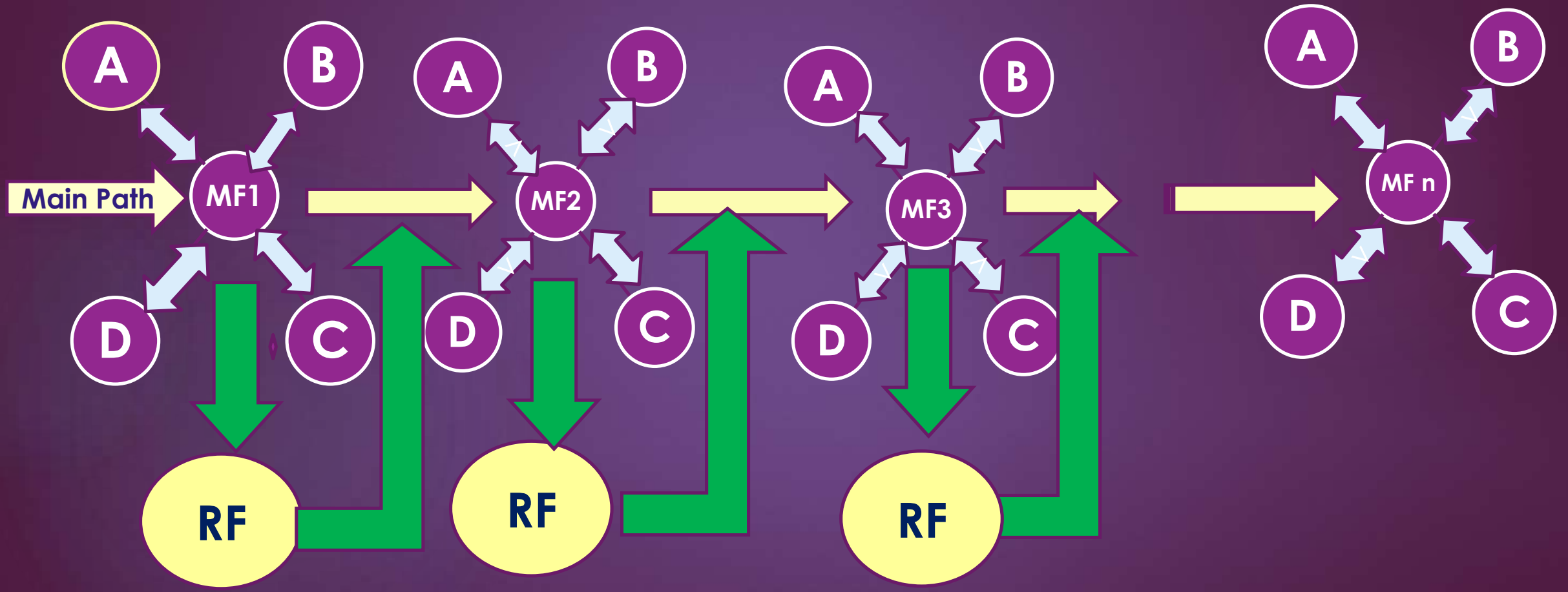


Backward Branching in Branching programming.

Backward Branching Programming

- Backward branching is based on the principle of repeating the missed frames.
- The learner goes from the first frame to second frame only if he makes a correct response. If the learner makes an error, he is led to a remedial frame where in he is given some more help in understanding the concept and in solving the solution by a better logic.
- He will be then directed to the original frame No. 1 so that he can read it again and answer it correctly in the light of the remedial material he has received. So the learner who has committed error goes through the same frame twice (once before the remedial material and once after the remedial material)

Forward Branching Programming



Forward Branching in Branching programming.

Forward Branching Programming

- In forward branching whether the learner makes a wrong choice or correct choice, he will always be going to new frames. Thus physically progressing from frame to frame.

The learner by making a correct choice will go directly to the next frame of the main stream.

If the learner makes wrong choice goes to a remedial frame wherein his mistakes is fully explained, probably followed by another parallel question from which he goes to the next frame of the main stream.

Advantages of Branching programming

1. Big size of a frame as well as the branching minimizes unnecessary repetitions and responding, thus reducing the amount of learning time and fatigue.
2. In remedial frames not only gets the correct response but also understands why some other response s is not correct.
3. Instead of simple response it provides alternatives in the form of multiple choice
4. Through its broad frames, branching programme provides for more freedom to respond and scope in the development of the power of discrimination of the learner.


THANK
YOU!