PEDAGOGY

B.Ed.,

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Unit – 2:
Teaching Models

The term 'model carries different meanings in our day-to-day life. We look at the model of Taj Mahal and find it an exact replica of the original. This is why models prove a quite effective aid use a substitute for reality in the class-room situation.

DEFINITIONS OF A TEACHING MODEL

B.R Joyce: Teaching models are just instructional designs. They describe the process of specifying and producing particular environmental situations that cause the students to interact in such a way that those specific changes occur in their behaviour.

N.J Jangira and Ajit Singh :A model of teaching is a set of interrelated components arranged in a sequence which provides guidelines to realize specific goals. It helps in designing instructional and environmental facilities carrying out of these activities and realization of the stipulated objectives

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Bloom's Mastery Learning Model

What is mastery learning in education?

Mastery learning in education is a method of learning where students achieve a mastery of the subject matter they are learning about before moving on to new material. It helps keep students on track to completing the learning objectives of a particular class and allows teachers to provide a form of individualized learning for all students without taking time away from the overall teaching goals for the year.

- **Changing the behaviour of a student can be conscious and deliberate effort by the teacher through communication and knowledge.**
- **Modification of the behaviour could be done through Interaction in the teaching learning process.**
- **Teaching is a simulation guidance, direction, and encouragement of learning.**
- **Teaching is a complex activity consisting of a number of verbal and non verbal acts, like, questioning, explaining, drawing, rewarding, smiling, nodding, movements etc.**

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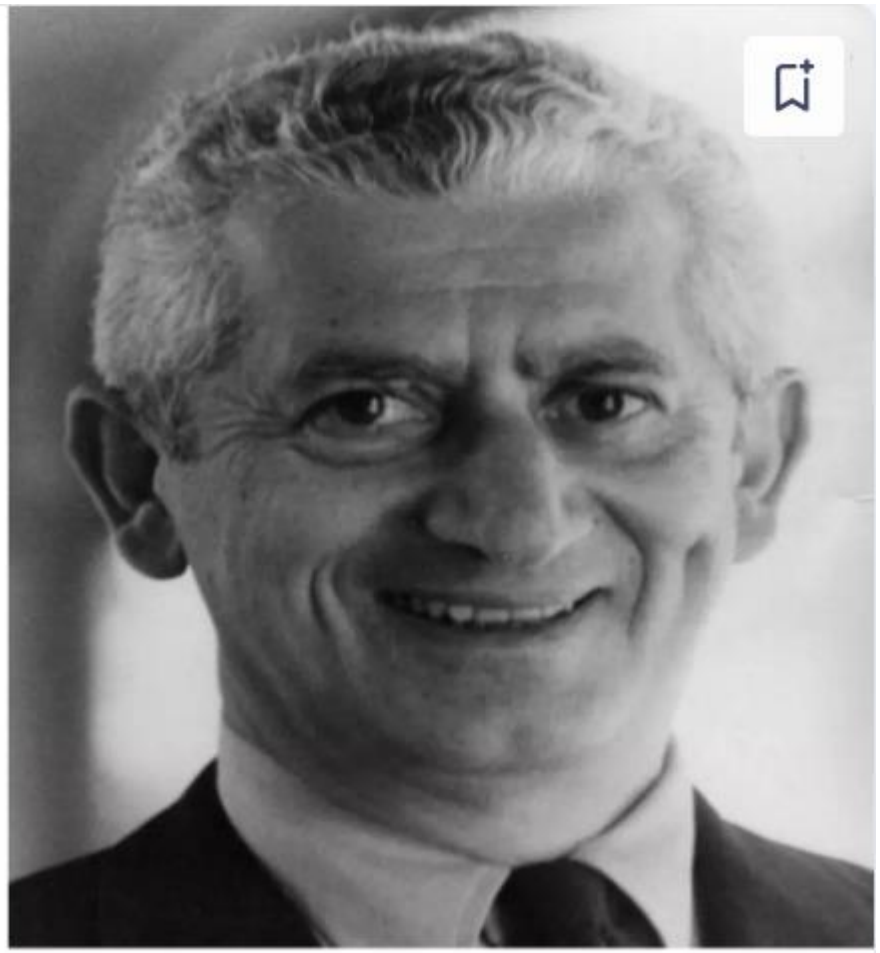
INTRODUCTION

- **Mastery learning, proposed by Benjamin Bloom in 1968,** is an instructional strategy for individual learning which provides flexible options for faculty and students.



- **Mastery learning is an approach to organizing instructions. This approach was formulated by John B. Carroll and B.S. Bloom.**

- ✓ Mastery learning **helps in attaining a satisfactory level of performance in school subjects.**
- ✓ It belongs to the **behavioral systems family of models** as classified by **Joyce and Weil**.
- ✓ Mastery learning provides a compact and **interesting way to increase the likelihood** that more students will attain a satisfactory level of performance in school subjects.

Mastery Learning 4 Components

1. SMALL DISCRETE UNITS-The subject matter is broken up into a bunch of little lessons that covers a small amount of material
2. A LOGICAL SEQUENCE-The basic concepts and procedures are learned before the more complex ones
3. DEMOSTRATION OF MASTERY AT END OF EACH LESSON- Students can't move to the next lesson until they show that they mastered the proceeding lesson.

4. ADDITIONAL ACTIVITIES FOR STUDENTS NEEDING EXTRA HELP OR PRACTICE TO ATTAIN MASTERY- Support and resources are tailored to individual needs. Examples could include a different instructional approach, different material, study groups, or individual tutoring.

Characteristics of Mastery Learning Model

•According to Bloom, The characteristics of mastery learning model are :-

1.Mastery of any subject is defined in terms of sets of measure objectives which represent the course of unit.

2.The substance is then divided into a larger set of relatively small learning unit. Each unit accompanies its own objectives. These objectives are parts of larger ones .These are considered essentials for there mastery.

3. Learning materials are then identified. After this, the instructional strategy is selected.

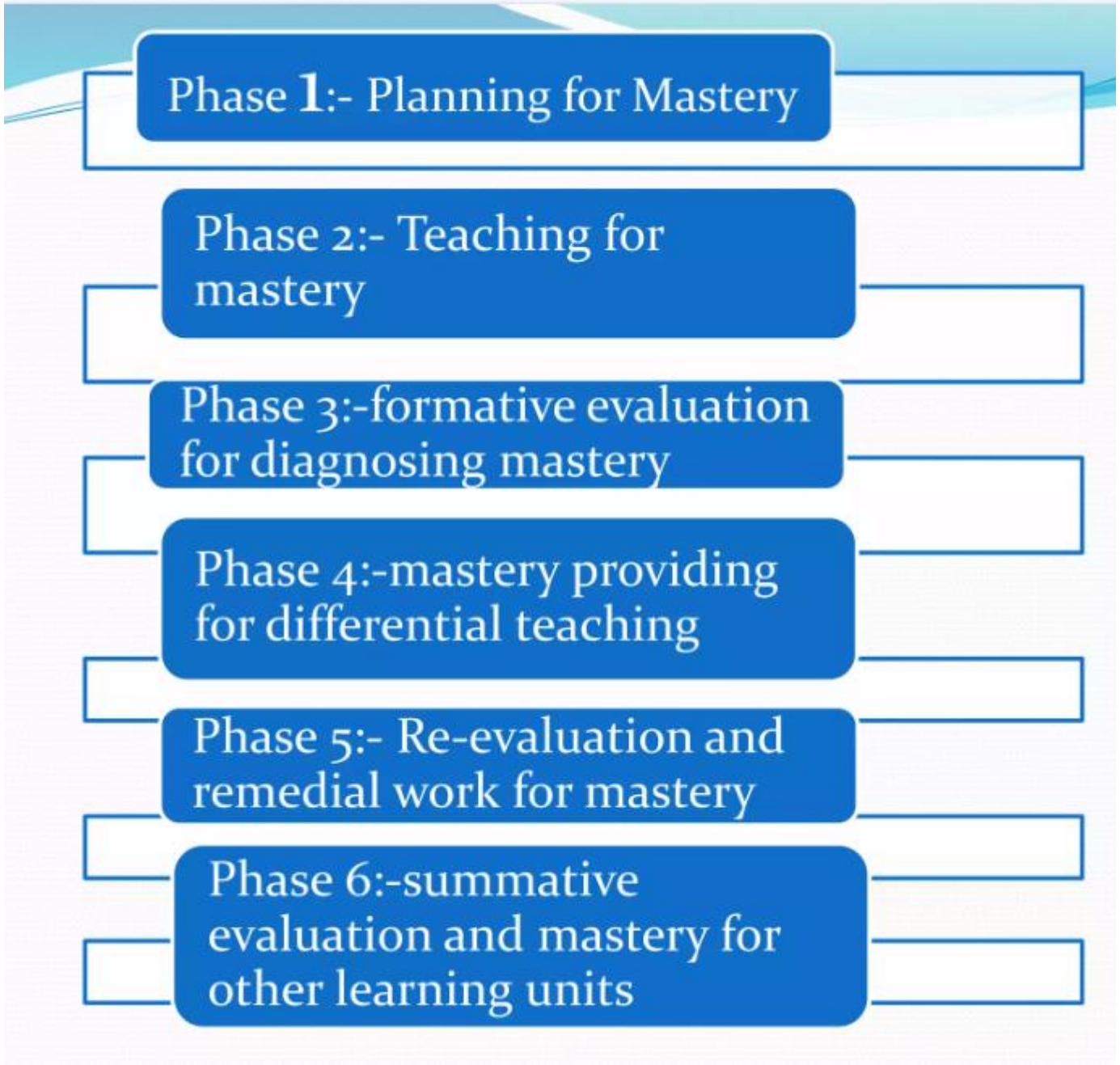
4.Each unit is accompanied by brief diagnostic tests to measure the pupils' progress. Also these diagnostic tests identified those particulars problems which each pupil is facing.

5.The data obtained from these diagnostic tests is used to provide supplementary instruction to the student to help him overcome his problems.

Description of mastery learning model in terms of the basic elements

1. Focus:- Its aim is to control the pace of the students ,his aptitudes, his previous knowledge of the subject. It is based on the assumption that all students of a class can learn and attain the mastery level if sufficient time ,adequate instructions and timely help is provided to them according to their interests and abilities. Therefore the model focuses to attain the mastery level.

2. Syntax:- The structure of model involve six steps :-



Merits of Mastery Learning Model

- Helps students what they have learned and what they need to learn better.
- Correctives are individualized.
- Prevents minor learning difficulties from accumulating and becoming major learning problems.
- Help students overcome their individual learning difficulties.
- Offers students a second chance at success.
- Special enrichment activities to broaden learning experiences.
- Reduces the variation in students' achievement levels.
- Students are given extended time to master the learning objectives.
- Can break cycle of failure .

Demerits

- Long process
- Time consuming
- No single method of instruction works for all.
- Teachers must increase variation in their teaching to decrease variation in results.
- Students may need additional time to learn.
- Implementation of mastery learning will require more time at first.

Operant Conditioning and B.F. Skinner

Operant conditioning is a powerful tool for understanding and shaping behavior. It is based on the idea that our actions have consequences, and these consequences can influence whether we repeat those actions in the future.

•Operant conditioning is a type of learning in which the probability of a behavior is strengthened or weakened by its consequences.
•Behaviors that are followed by positive consequences are more likely to be repeated, while behaviors that are followed by negative consequences are less likely to be repeated.

Key Principles of Operant Conditioning

- **Reinforcement:** This is the process of strengthening a behavior by following it with a positive consequence. There are two types of reinforcement:
- **Positive reinforcement:** This involves adding something pleasant after a behavior, making the behavior more likely to be repeated. (e.g., praising a child for completing their homework)
- **Negative reinforcement:** This involves removing something unpleasant after a behavior, making the behavior more likely to be repeated. (e.g., taking away a chore when it is completed

•**Punishment:** This is the process of weakening a behavior by following it with a negative consequence. There are two types of punishment:
•**Positive punishment:** This involves adding something unpleasant after a behavior, making the behavior less likely to be repeated. (e.g., giving a speeding ticket)
•**Negative punishment**: This involves taking away something pleasant after a behavior, making the behavior less likely to be repeated. (e.g., taking away a child's phone privileges for bad behavior)
•**Extinction:** This is the process of weakening a behavior by no longer providing reinforcement for it. When a behavior is no longer reinforced, it will eventually become weaker and disappear.

The Skinner Box

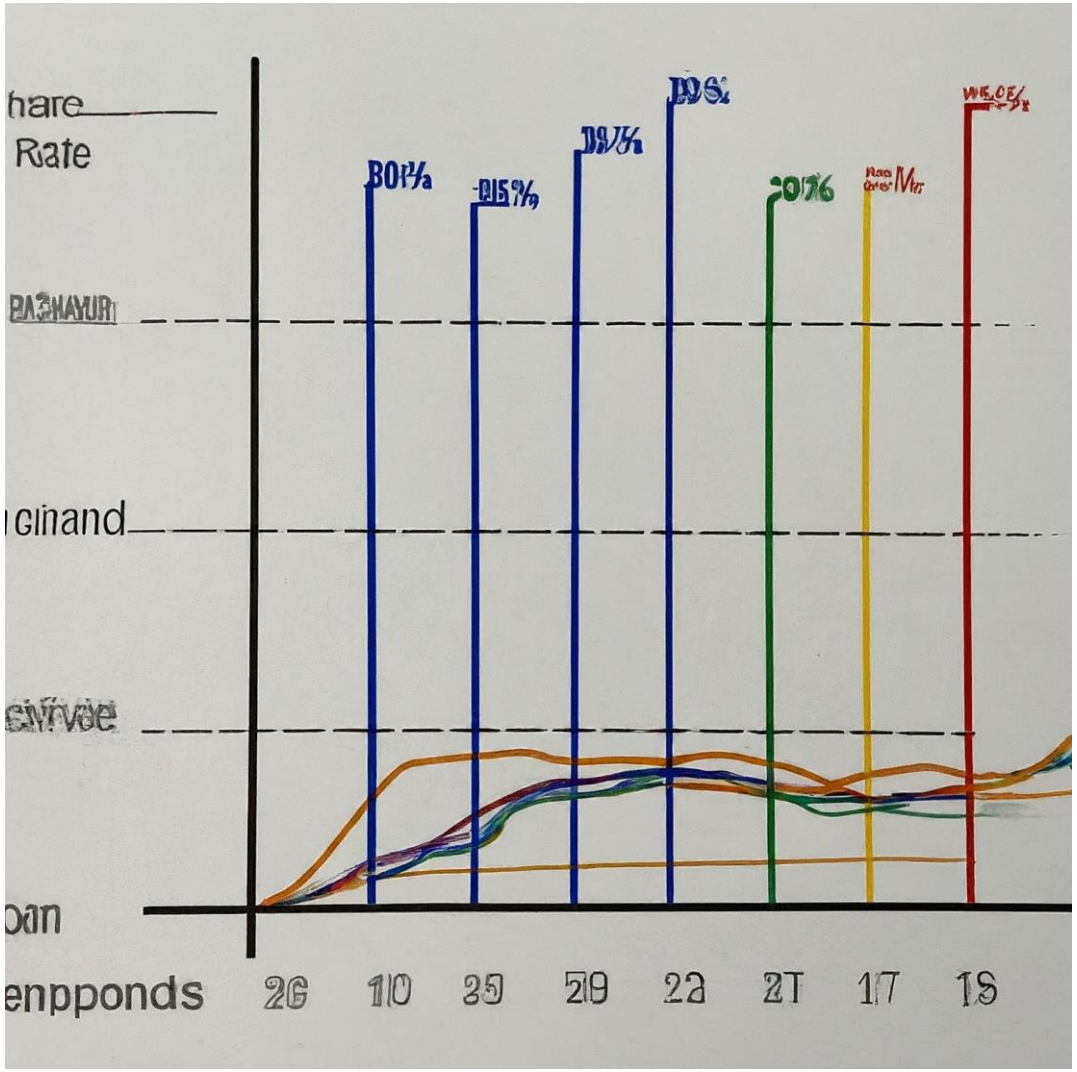
•The Skinner box is an operant conditioning chamber that was developed by B.F. Skinner.
•It is a small, enclosed environment where an animal can perform a specific behavior.
•The Skinner box is typically used to study the effects of reinforcement and punishment on behavior.

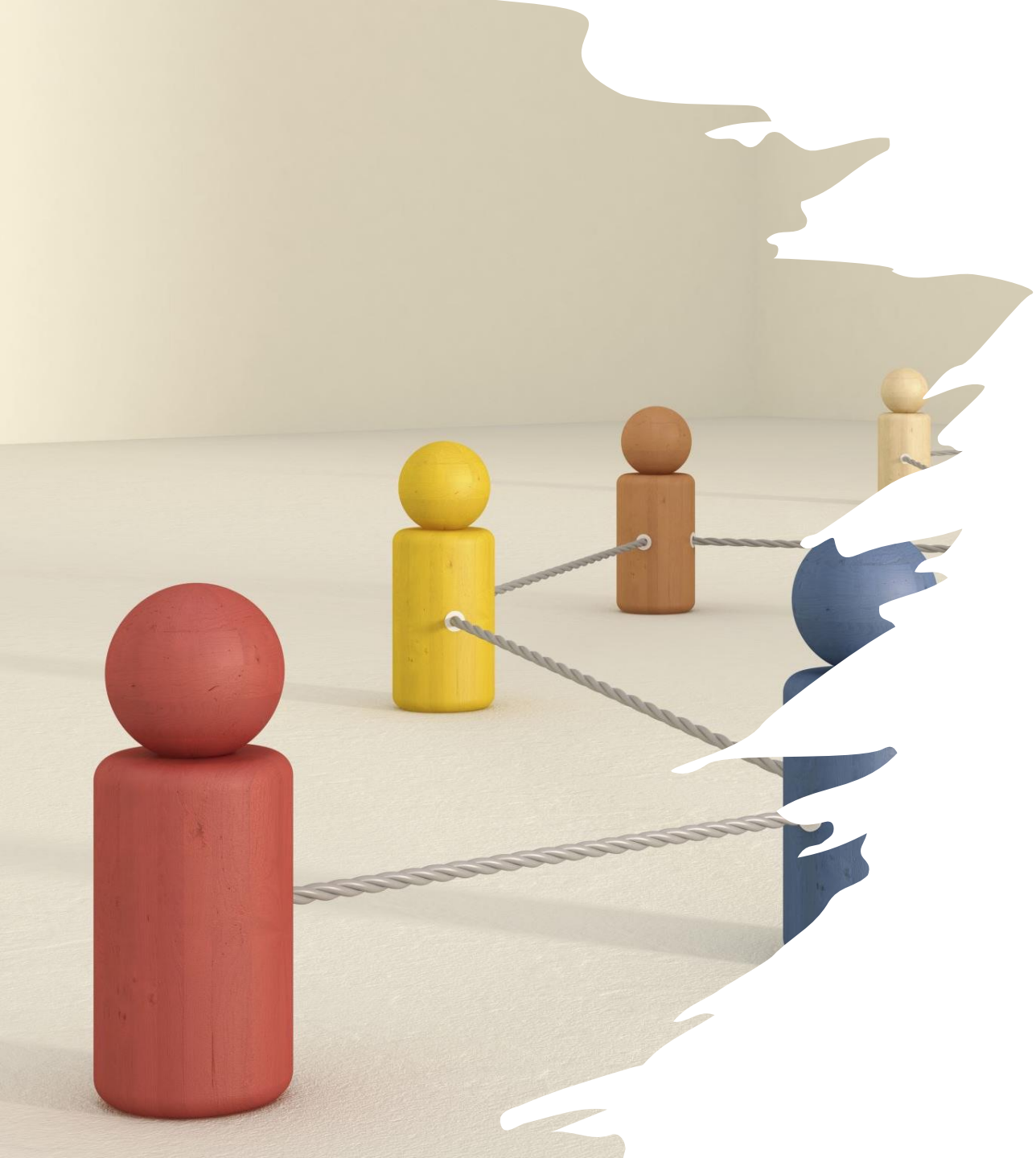
Schedules of Reinforcement

Schedules of reinforcement refer to the pattern in which reinforcement is delivered after a behavior. There are different schedules of reinforcement, each with different effects on behavior.

Some common schedules of reinforcement include:

- **Fixed ratio**: Reinforcement is delivered after a fixed number of responses.
- **Variable ratio:** Reinforcement is delivered after a variable number of responses.
- **Fixed interval**: Reinforcement is delivered after a fixed amount of time has elapsed.
- **Variable interval**: Reinforcement is delivered after a variable amount of time has elapsed.





Concept Attainment Model by Bruner

- **Understanding the Model**
- The Concept Attainment Model, developed by Jerome Bruner, is a teaching strategy designed to lead students to discover a concept through inductive reasoning. It involves presenting students with examples and non-examples of a concept, allowing them to identify the defining attributes.

Syntax of the Concept Attainment Model

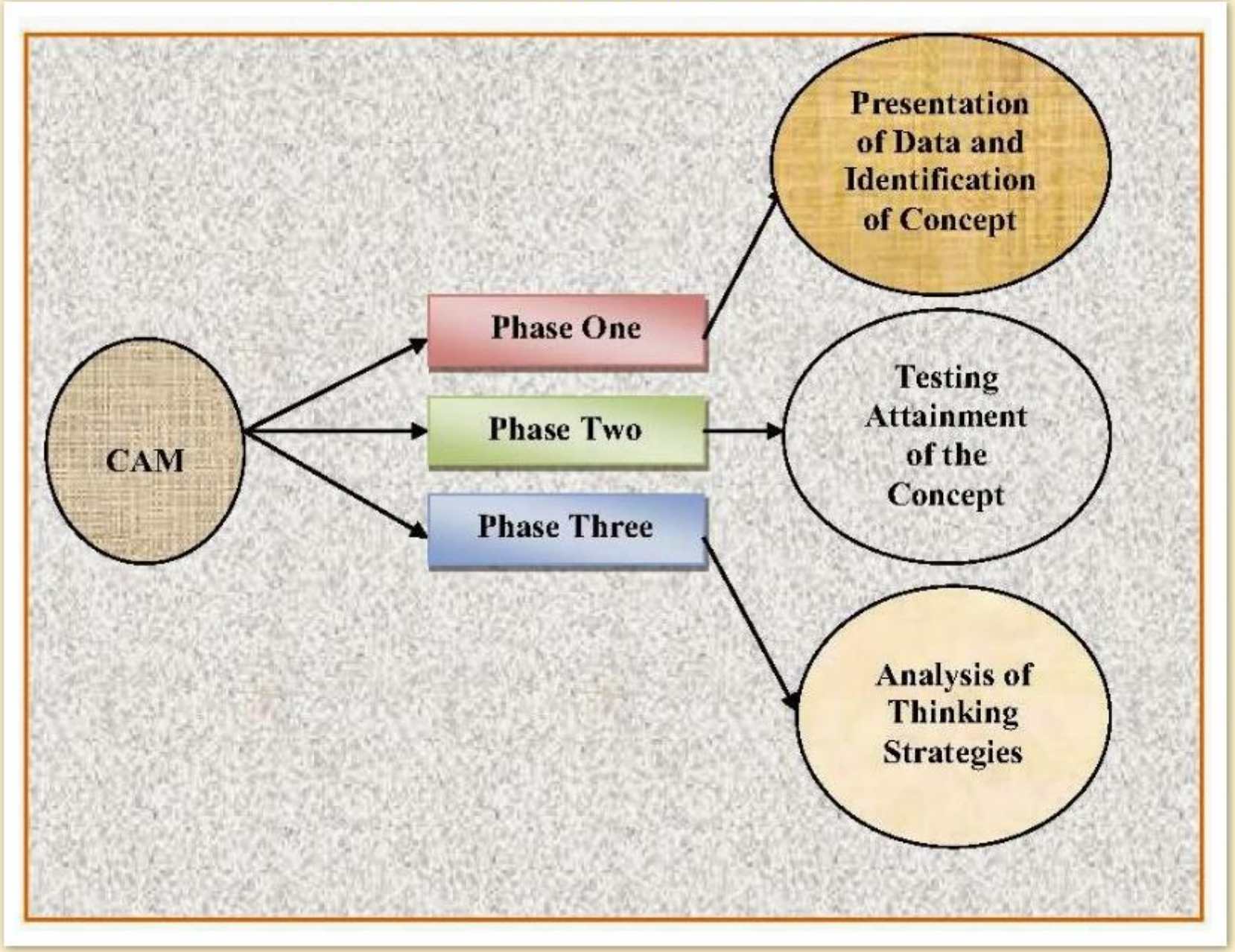


Table: 1

Phases of Concept Attainment Model

Phase	Outline	Activity
Phase One	Presentation of Data and Identification of Concept	1.Teacher present labeled examples. 2.Students compare attributes in positive and negative example. 3.Students generate and test hypotheses. 4.Students state a definition according to the essential attributes.
Phase Two	Testing Attainment of the Concept	1. Students identify additional unlabeled examples as yes or no. 2. Teacher confirms hypotheses, names concepts and re-states definitions according to essential attributes. 3. Students generate examples.
Phase Three	Analysis of Thinking Strategies	1. Students describe thoughts. 2. Students discuss role of hypotheses and attributes. 3. Students discuss type and number of hypotheses.

(b)Social System

Prior to teaching with the Concept Attainment Model, the teacher chooses the concept, selects and organizes the material into positive and negative examples and sequences the example. The three major functions of the teacher during concept attainment activity are to record, prompt (cue) and present additional data.

(c)Principle of Reaction

During the flow of the lesson, the teacher needs to be supportive of the students' hypotheses. In the later phase of the model, the teacher turn the students' attention towards analysis of their concepts and their thinking strategies, again being very supportive.

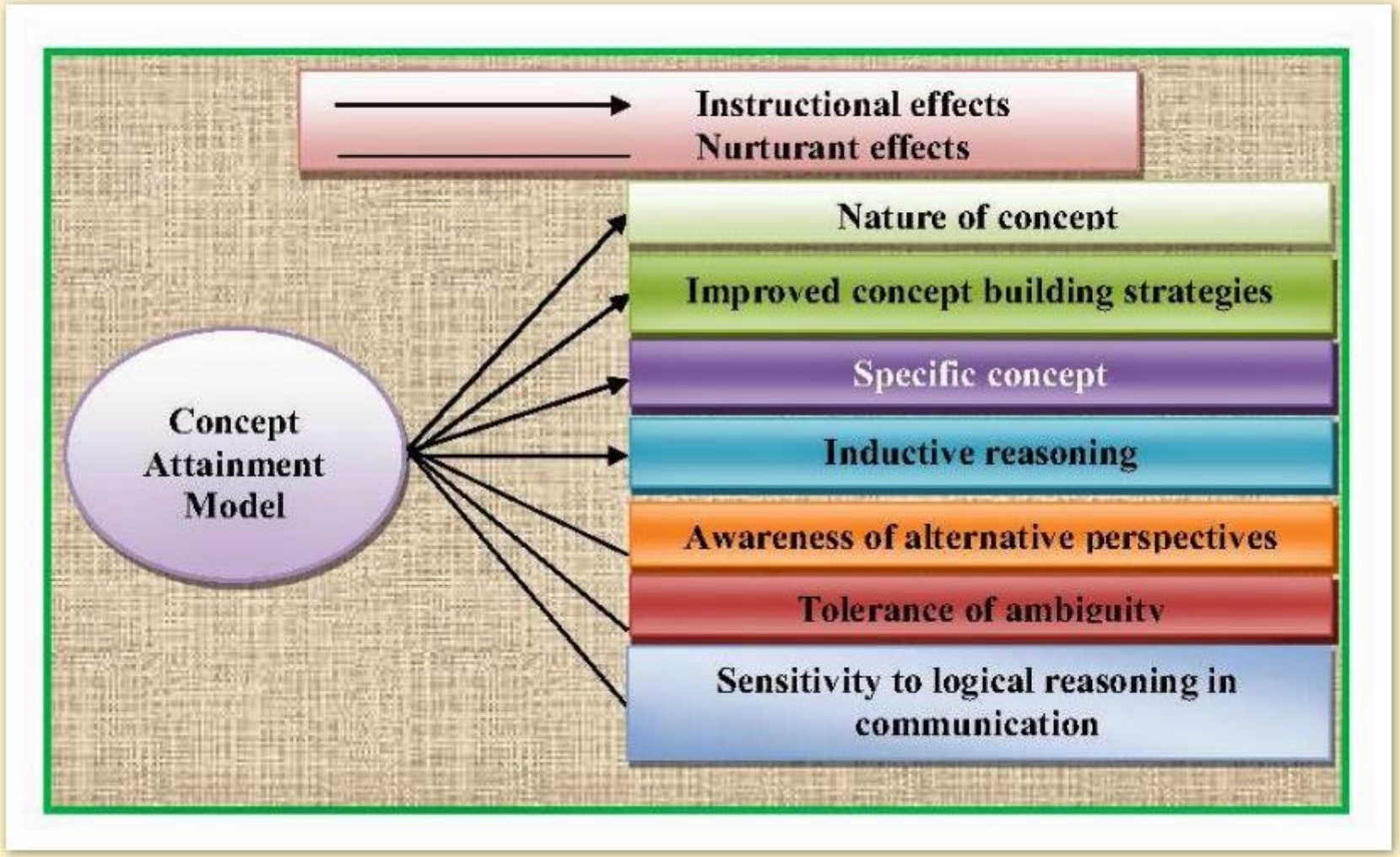
(d)Support System

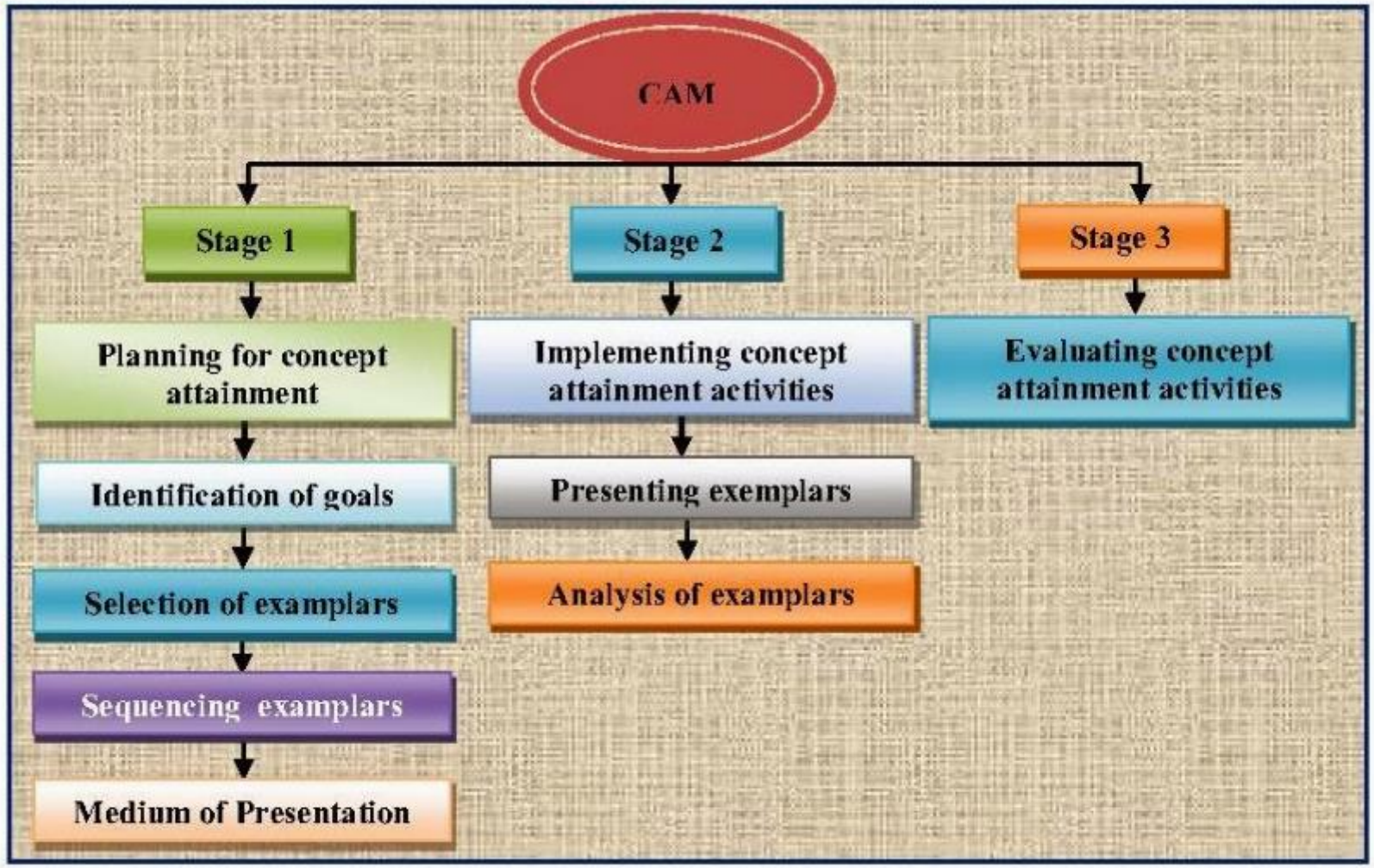
Concept Attainment lessons require that positive and negative examplars be presented to the students. The data sources are known beforehand and the attributes visible. When students are presented with an example, they describe its characteristics (attributes), which can then be recorded.

(e)Instructional and Nurturant Effects

Concept Attainment Model is designed for instruction on specific concepts and on the nature of concepts. With abstract concepts, the strategies nurture an awareness of alternative perspectives, a sensitivity to logical reasoning in communication and a tolerance of ambiguity. The instructional and nurturant effects of Concept Attainment Model are depicted in the following figure.

Instructional and Nurturant Effects of CAM




CAM
Stage 1
Stage 2
Stage 3
Planning for concept attainment
Identification of goals
Selection of examplars
Sequencing examplars
Medium of Presentation
Implementing concept attainment activities
Presenting exemplars
Analysis of examplars
Evaluating concept attainment activities

Syntax		
Phase	Selection Model	Reception Model
Phase 1. Presentation of data Identification of Attributes of Concept	• Teacher presents unlabeled examples. • Students inquire which examples are positive ones. • Students generate and test hypotheses.	• Teacher presents labeled examples(both positive and negative) • Students compare the attributes, in positive and negative attributes. • Students generate and test hypotheses. • Students name the concept, state definition
Phase 2. Testing attainment of the concept	• Students identify additional unlabeled example. • Students generate examples. • Teacher confirms hypothesis ,names concept.	
Phase 3. Analysis of thinking strategies	• Students describe thoughts. • Students discuss type and number of hypotheses	

ADVANCE ORGANIZER MODEL

- Advance Organizer Model is given by David Ausubel who is one of the educational psychologist. This theory of meaningful verbal learning deals with three concerns:-
- (a) How knowledge (curriculum content) is organized;
- (b) How the mind works to process new information (learning); and
- (c) How teacher can apply these ideas about curriculum and learning when they present new material to students (instruction). This model is designed to strengthen student's cognitive structure.

Diagram 1

Syntax of the Advance Organizer Model

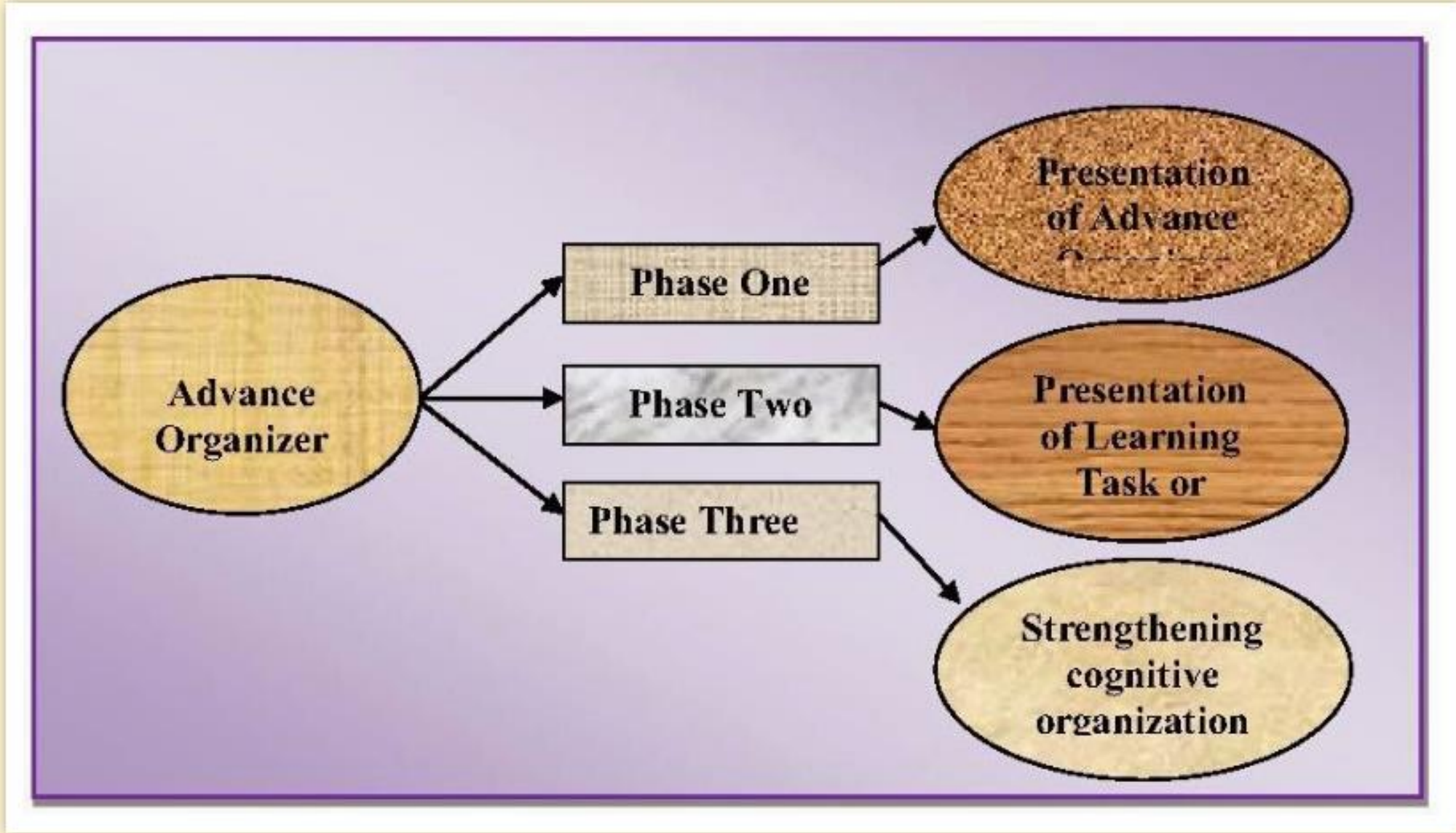
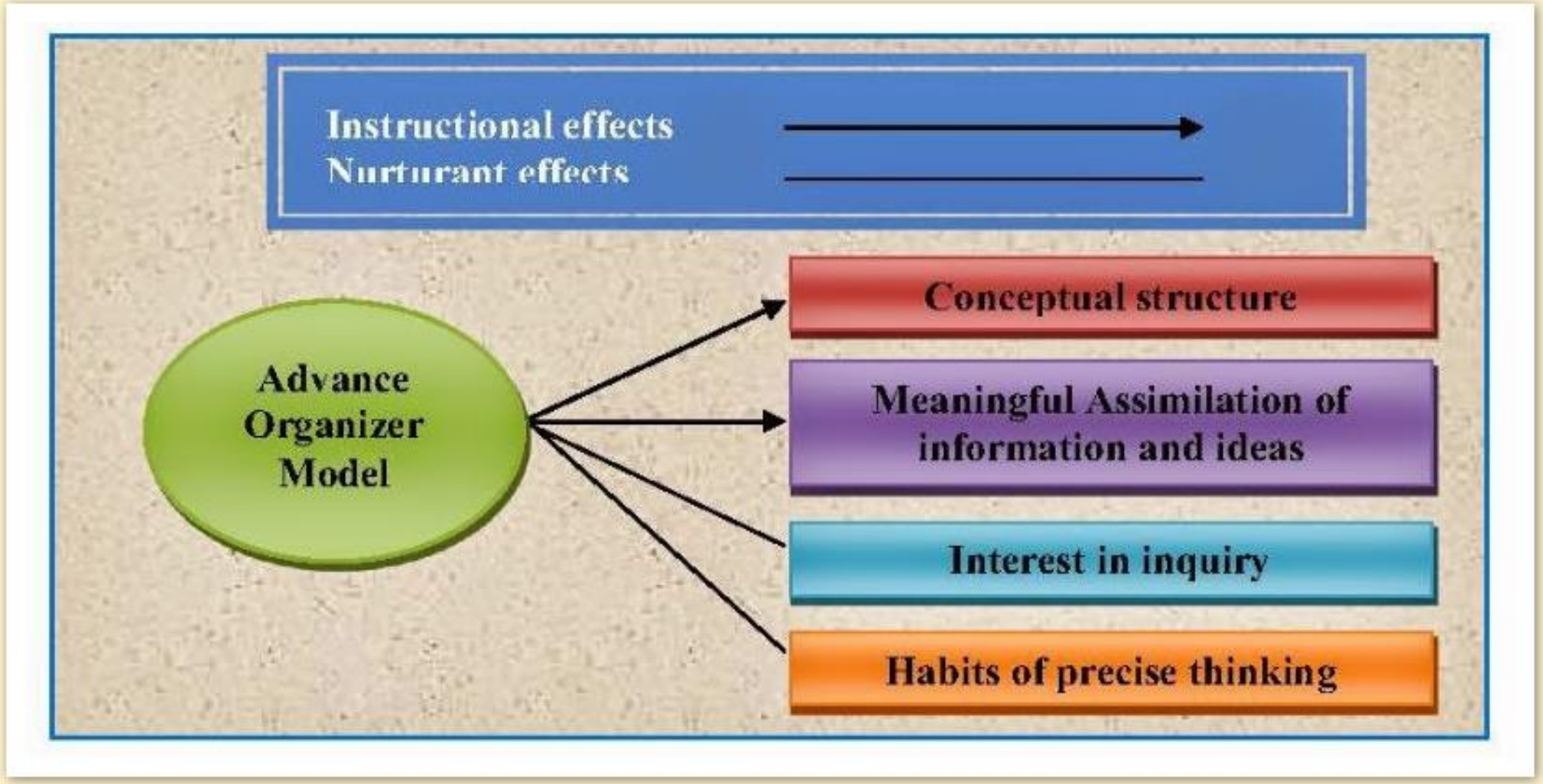


Table 1

Phases of Advance Organizer Model

Phase	Outline	Activity
Phase one	Presentation of Advance Organizer	1. Clarify aims of the lesson. 2. Present organizer:- a. Identify defining attributes b. Give examples c. Provide context d. Repeat
		3. Prompt awareness of learner's relevant knowledge and experience.
Phase two	Presentation of learning Task or Material	1. Present material. 2. Maintain attention. 3. Make organization explicit. 4. Make logical order of learning material explicit.
Phase three	Strengthening Cognitive organization	1. Use principles of integrative reconciliation.
		2. Promote active reception learning. 3. Elicit critical approach to subject matter. 4. Clarify.


Instructional effects
Nurturant effects
Advance Organizer Model
Conceptual structure
Meaningful Assimilation of information and ideas
Interest in inquiry
Habits of precise thinking