

Models of Teaching

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Models of Teaching: An Overview

- **Concept and definition of Models of Teaching**
- **Types of Teaching Models; Information Processing Models, Behavioural Models, Social Models, Personal Models, & Bloom's mastery learning.**

Concept of Teaching Model

- “A model of teaching is a plan or pattern that can be used to shape curricula (long-term courses of studies), to design instructional materials, and to guide instruction in the classroom and other settings. They describe the process of specifying and producing particular environment situations which cause the student to interact in such a way that specific change occurs in his behaviour.”

..... **Joyce and Weil (1980)**

Concept of Teaching Model

- “A model of teaching is a set of inter-related components arranged in a sequence which provides guidelines to realize specific goal. It helps in designing instructional activities and environmental facilities, carrying out of these activities and realization of the stipulated objectives.”

...**Jangira, N.K. & Singh, Ajit (1983)**

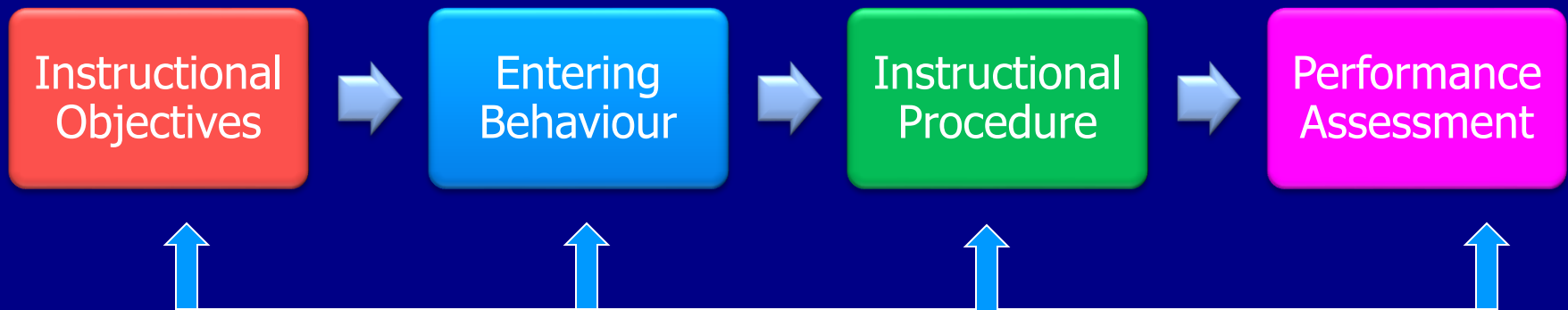
Basic Elements of a Teaching Model

- **Focus:** Objectives of teaching and aspects of environment generally constitute the focus of the model.
- **Syntax:** Steps involved in the organization of the complete programmed of teaching. It includes the sequences of teaching activities and interactions between pupil and the teacher.
- **Principles of Reaction:** It is concerned with teacher's reaction to the students responses and guides the teacher, how to regard the learner and to respond appropriately and selectively to the activities of the students.

Basic Elements of a Teaching Model-Contd.

- **The Social System:** It is concerned with the interactive roles of the pupil and the teacher and their mutual relationships. It also includes the selection of motivating strategies and tactics for the students.
- **Support system:** 'Support' refers to additional requirements beyond the usual human skills, capacities and technical facilities. It includes special knowledge & skills of the teacher, special audio-visual material like films, self-instructional material, laboratory kits, books, reference materials, visit to special place etc.
- **Application & Effect:** Each model attempts to establish the feasibility of its use in varying contexts related with goal achievements in terms of cognitive, and affective behaviour modification.

Basic Teaching Model of Robert Glaser (1962)



Glaser's Basic Teaching Model

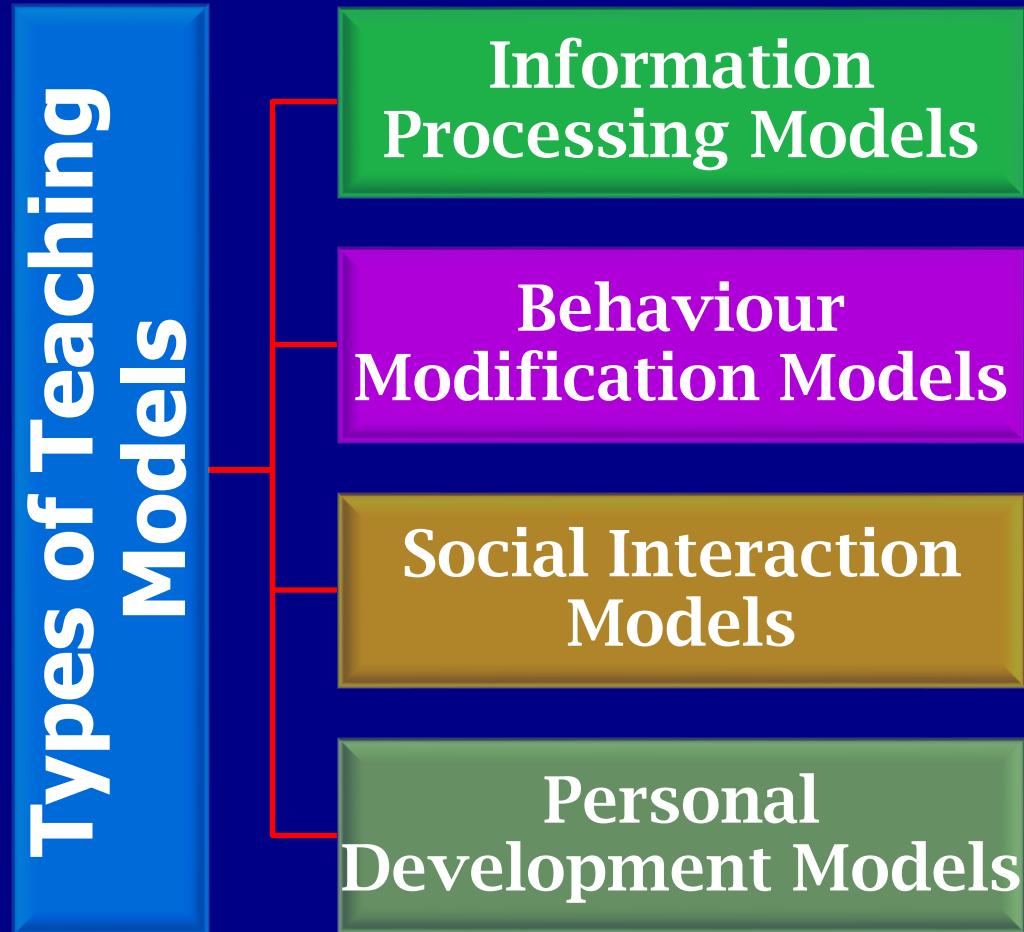
Functions of Teaching Models

- ❑ Provide guidance to planners & teachers in Designing curriculum or course of study.
- ❑ Enable the teachers to formulate a complete, systematic & perfect teaching scheme & carry out the teaching process effectively.
- ❑ Offers them alternative ways of representing content/skills.
- ❑ Assist them in the Development & Selection of interesting and effective Instructional Material.
- ❑ Help them in developing learning experiences that yield successful outcomes.

Functions of Teaching Models- Contd.

- ❑ Help them in finding out ways and means of creating favourable environmental situation for carrying out teaching process and achieving desirable teacher-pupil interaction during teaching.
- ❑ Help them assess the impact of instruction and the changes in the students behaviours
- ❑ Enable teachers to analyse & evaluate their teaching strengths & weaknesses so as to plan & implement appropriate follow-up actions.
- ❑ Support as basic guidance for teachers for reflection during feedback session.
- ❑ Help students in different kinds of learning as well as in effective learning.

Types of Teaching Models



Information Processing Models

- ❑ Information processing models are concerned with the intellectual development of the individual and help to develop the method of processing information from the environment.
- ❑ They are concerned with the ability of the learner to observe, handle stimuli from the environment, organize data, sense problem, generate concepts and solution to problems and use verbal and nonverbal symbols.

Primary Purposes of IPM

- ❑ The mastery of methods of inquiry.
- ❑ The mastery of academic concepts and facts.
- ❑ The development of general intellectual skills such as powers of reasoning and logical thinking, aiding students in organizing and retaining information, and in enhancing their metacognitive functions.

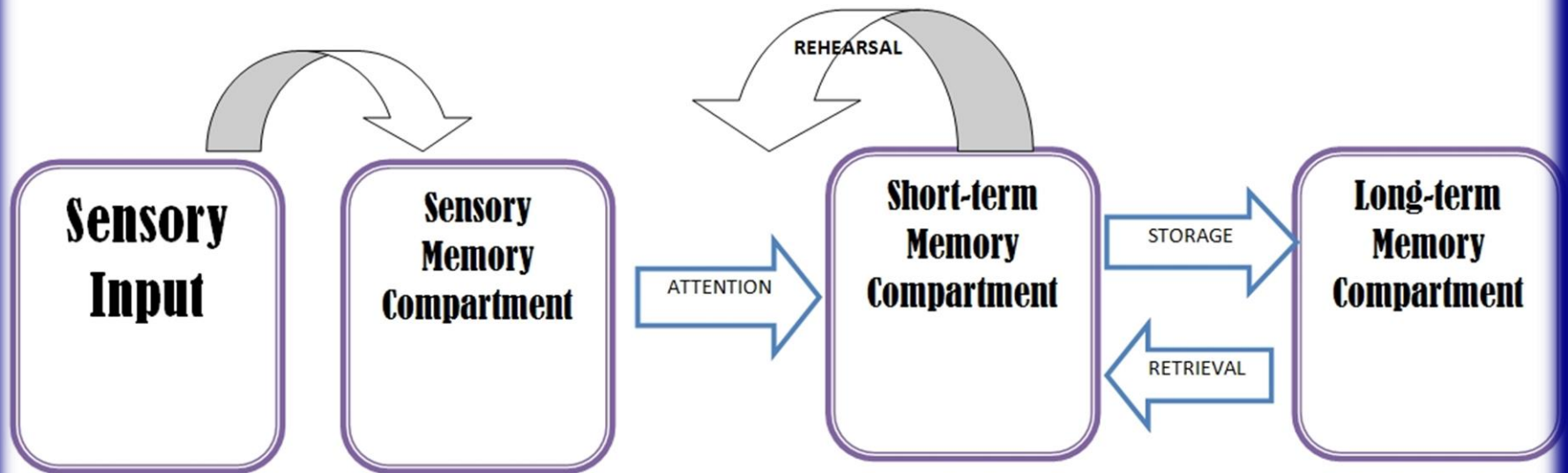
Metacognitive Functions

- ❑ Identifying one's own learning style and needs.
- ❑ Articulate what they learned
- ❑ Communicate their knowledge, skills, and abilities to a specific audience
- ❑ Planning for a task and Setting goals.
- ❑ Gathering and organizing materials
- ❑ Arranging a study space and schedule
- ❑ Monitoring their progress, mistakes, and revising their own work.
- ❑ Evaluating task success.
- ❑ Evaluating the success of any learning strategy and adjusting and implementing effective learning strategies.
- ❑ Transfer learning from one context to another

Models Under IPF

- ❑ **Atkinson & Shiffrin's** Model of Memory Storage (1971)
- ❑ **Robert Gagne's** Information Processing Model
- ❑ Concept Attainment Model- **Jerome S. Bruner**
- ❑ Inductive Thinking Model - **Hilda Taba**
- ❑ Inquiry Training Model - **J. Richard Suchman**
- ❑ Advance Organizer Model - **David P. Ausubel**
- ❑ Memory Model - **Jerry Lucas, Henry Lorayne**
- ❑ Biological Science Inquiry or Scientific Inquiry Model -**Joseph Jackson Schwab**
- ❑ Cognitive Development Model -**Jean Piaget, Kohlberg, Siegal**

Information Processing Model of Memory

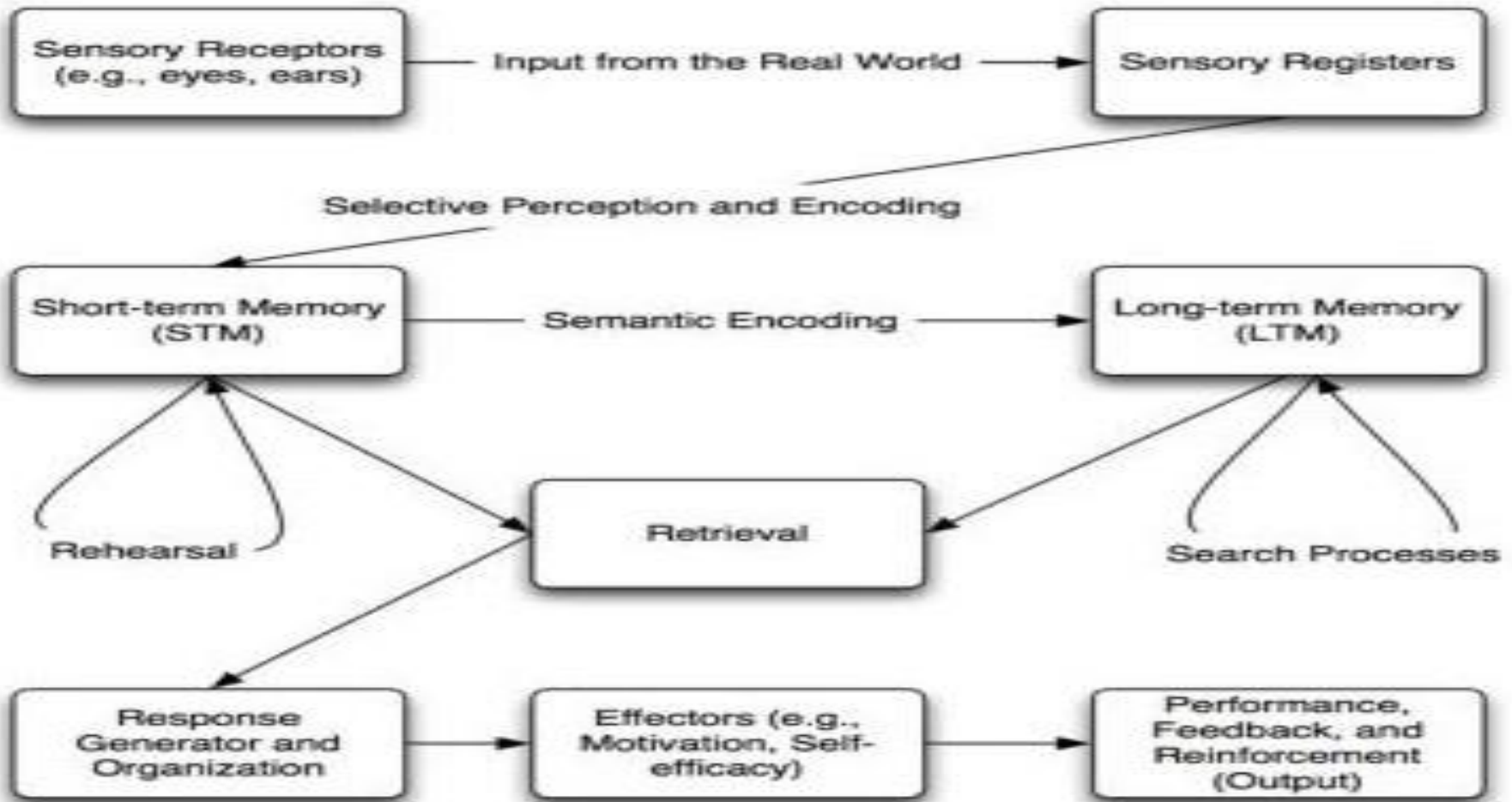


Atkinson & Shiffrin's Model of Memory Storage (1971)

Information Processing Model of Memory

Sensory Memory Compartment	<ul style="list-style-type: none">❑ Hold a large amount of information in a duration❑ Retains information for only a fraction of a second but enough to select the portion of information that arrests one's attention.❑ The small portion of information that caught one's attention is selected for longer storage
Short-term Memory	<ul style="list-style-type: none">❑ Capacity is limited.❑ Storage duration is brief (unless assisted with rehearsal)❑ Can hold unrehearsed information for about 20 – 30 seconds❑ Information can be stored longer if it is engaged under rehearsal. (Repetition of memorizing).
Long-term Memory	<ul style="list-style-type: none">❑ A very large storage capacity (unlimited).❑ Storage duration is longer; Information encoded may last for weeks, months or even years.

Gagne's Information Processing Model



Adapted from Gagne, Golas, Wager, and Keller (2005): The Postulated Structures of Cognitive Learning Theories and the Processes Associated with Them

Gagne's Hierarchy of learning tasks for intellectual skills

- ❑ Stimulus recognition
- ❑ Response generation
- ❑ Procedure following
- ❑ Use of terminology
- ❑ Discrimination: recognizing that two classes of things differ
- ❑ Concrete concept: classifying things by their physical features
- ❑ Defined concept: classifying things by their abstract (and possibly physical) features
- ❑ Rule application: applying a simple procedure to solve a problem or accomplish a task

Gagne's 9 Instructional Events and Corresponding Cognitive Processes

1. Gaining attention (**reception**);
2. Orienting the learners or Informing learners of the objective (**expectancy**);
3. Stimulating recall of prior learning (**retrieval**);
4. Presenting the stimulus or the content material (**selective perception**);
5. Providing learning guidance (**semantic encoding**);
6. Eliciting performance or practice (**responding**);
7. Providing informative feedback (**reinforcement**);
8. Assessing performance in the light of objectives (**retrieval**);
9. Enhancing retention and transfer (**generalization**).

Concept Attainment Model

- ❑ This model is designed to help students learn concepts effectively for organizing information.
- ❑ Concepts are abstract notions that have common characteristics and are generally identified by a single verbal label or sometimes two words.
- ❑ Concept attainment is the process of identifying or defining concepts by finding those attributes that are absolutely essential to the meaning of the concept and disregarding those that are not. It is a Process in constructing a meaningful definition of the Concept.

Types of Concepts from Jerome Bruner

- **Conjunctive** - with common attributes - common juncture like Chair, Car, Triangle etc.
- **Disjunctive** - without common attributes like Rough, Smooth, Smart, love etc.

Types of Concepts from Blumer, 1954

- ❑ **Definitive** (like conjunctive in Bruner's)- Means we have clarity or no confusion like chair, truck etc.
- ❑ **Sensitizing** (disjunctive in Bruner's)- Means we have a lack of clarity and we work at getting increasing clarity but usually never really get absolute clarity like Justice, Love etc.

Phases of Concept Attainment

1. **Determining the concept in question**
2. **Identifying the critical attributes that identify that concept.**
3. **Creating a list of exemplars and non-exemplars**
4. **Presentation of Data samples**
 - a) **Decide on the order & Method of presentation**
 - b) **Teacher presents labeled examples.**
 - c) **Students compare attributes in positive and negative examples.**
 - d) **Students generate and test hypotheses of the concept that distinguishes the exemplar from non-exemplar.**
 - e) **Students state a definition according to the essential attributes.**

Phases of Concept Attainment-Contd.

5. Testing Attainment of the Concept

- a) Students identify additional unlabeled examples as yes or no.
- b) Teacher confirms hypotheses, names concept, and restates definitions according to essential attributes.
- c) Students generate examples

6. Analysis of Thinking Strategies

- a) Students describe thoughts.
- b) Students discuss role of hypotheses and attributes.
- c) Students discuss type and number of hypotheses.

Suchman's Inquiry Training Model

- Based on assumption that strategies used by scientists can be used as a teaching model especially in the study of science.
- **Procedures:**
- Teacher determines & indicates the problem.
- Teacher explains the inquiry process to solve the previous problem.
- Students are guided to form hypothesis, follows by the collection of relevant data.
- Students use collected data to test hypothesis, aim to formulate theorem, law, principle or theory.
- Discussion & making inferences.
- Teacher & students discuss together and analyze.

Behaviour Modification Models

- ❑ Behaviour modification models stress changing the external behaviour of the learners and describe them in terms of visible behaviour rather than underlying behaviour.
- ❑ These models are highly structured with finite goals toward specific pre-determined ends.
- ❑ B. F. Skinner is one of the more well known developers of behavioural techniques like his Operant Conditioning.

Models Under BMF

- ❑ Contingency Management Model - **B. F. Skinner**
- ❑ Self-control through Operant Methods - **B. F. Skinner**
- ❑ Mastery Learning - **Washburne (1922), Henry C. Morrison (1926), John B. Carroll (1963), B. S. Bloom (1968/1971)**
- ❑ Criterion Referenced Instruction (CRI) Model - **Robert Mager**
- ❑ Stress Reduction Model - **David C. Rimm, John C. Masters**
- ❑ Desensitisation Model - **Joseph Wolpe**
- ❑ Assertive Training Model - **Wolpe & Lazarus**

Behaviourist Model -B.F. Skinner

- Behaviour that is positively reinforced will recur; intermittent reinforcement is particularly effective
- Information should be presented in small amounts so that responses can be reinforced ("shaping")
- Reinforcements will generalize across similar stimuli ("stimulus generalization") producing secondary conditioning.

B.F. Skinner's Steps of Teaching

1. Clearly specify the action or performance the student is to learn to do.
2. Break down the task into small achievable steps, going from simple to complex.
3. Let the student perform each step, reinforcing correct actions.
4. Adjust so that the student is always successful until finally the goal is reached.
5. Transfer to intermittent reinforcement to maintain the student's performance.

Mastery Learning Model

- ❑ Refers to a theory & practice of using remedial teaching based on feedback of pupils' performance to assist them to achieve the learning objectives.
- ❑ It is based on the premise that students will achieve a high level of understanding in a given domain if they are given enough time.
- ❑ Moreover, It refers to a category of instructional methods which establishes a level of performance that all students must master before moving on to the next unit (Slavin, 1987).
- ❑ Thus, through one or more trials, students have to achieve a specified level of content knowledge prior to progression on to a next unit of instruction.

Mastery Learning Model

1. Determine learning outcomes by planning explicit learning objective (based on students' performance) and method of their assessment.
2. Teach pupils with effective teaching method & technique (use of suitable learning materials to suit different learning styles)
3. Evaluate learning result by diagnostic test & formative test (level of mastery & achievement)
4. Carry out remedial activities for pupils who have not fully mastered certain skills & provide enrichment activities for pupils who have mastered the lesson.
5. Test that final learning criterion has been achieved.

Programmed instruction

- ❑ Programmed instruction is a method of presenting new subject matters to students in a graded sequence of controlled steps.
- ❑ Contents are broken down into pieces of instructions called frames which expose the students to the subject in gradual steps. A frame contains statements and questions.
- ❑ Learners then read the frame and immediately answer a question about the frame
- ❑ There is an immediate feedback about the correctness of the frame (usually in a different place)
- ❑ Instruction is self-paced and learners are active (in the sense of reactive)

Stages in Programmed Instruction

1. The aims of the course are stated in terms which are objective, and can be measured.
2. A pre-test is given, or the initial behaviour is stated.
3. A post-test is provided as to make clear, how the terminal behaviour will be evaluated.
4. The materials have been tried out and revised according to results (developmental testing).
5. The materials are constructed according to a predetermined scheme (stimulus control).
6. The material is arranged in appropriate steps.

Stages in Programmed Instruction

7. The learner has to respond actively (not necessarily overtly).
8. Arrangements are made for responses to be confirmed (knowledge of results).
9. The teaching medium is appropriate for the subject-matter and the students.
10. The materials are self-paced or presented in a manner which suits the learner.

Social Interaction Models

- ❑ Social interaction models stress the relationship of the individual to other person and to society.
- ❑ These models also emphasize that human learning occurs in social settings and through modelled behaviours and social exchanges.
- ❑ Such models aims at building learning communities and purports to develop productive ways of interacting in a democratic setting and learning to work together in order to identify and solve academic or social problems.

Models Under Social Interaction Family

- Group Investigation Model - Herbert Thelen & John Dewey
- Social Inquiry Model - Benjamin Cox, Byron Massialas
- Jurisprudential Inquiry Model - Donald Oliver & James P. Shaver
- Laboratory Training Model - National Training Laboratory, Bethel, Maine
- Social Simulation Model - Cybernetics Psychologists, Seren Boocok and Harold Guitzknow
- Role Playing Model - Fannie & George Shaftel

Group Investigation Model

- ❑ The group investigation model was described in 1960 by **Herbert Thelen**, who drew upon **John Dewey's** educational philosophy concerning democratic problem solving.
- ❑ GIM includes four important components (“the four I’s”): investigation, interaction, interpretation and intrinsic motivation.
- ❑ In **Thelen's model**, students are provided with opportunities to experience democratic decision making and problem solving through the investigation of real problems, issues, or concerns.

Group Investigation Model

- ❑ This model also provides educators with an opportunity to integrate subject areas such as science, language arts, and math with social studies.
- ❑ Critical thinking, decision making, and problem solving are all essential elements required in this cooperative learning model.
- ❑ With regard to social skills, students have an opportunity to respect other's value systems and ways of learning.
- ❑ A sense of affiliation can develop during the group's construction of knowledge.
- ❑ Collective responsibility also results in a sense of accomplishment and self-worth for participants.

Steps in Group Investigation Model

1. The teacher presents a multi-faceted problem to the class, and students choose an interest group.
2. Groups plan their investigation; the procedures, tasks and goals consistent with the chosen subtopic.
3. Groups carry out the investigation as planned in the above step.
4. Groups plan their presentation. They evaluate what they have learned, and synthesize it into a form that can be understood by the class.
5. Groups conduct the presentation.
6. The teacher and students evaluate the investigation and resulting presentations.

Social Enquiry Model

- ❑ Used to study topics related to Social & Humanity aspects.
- ❑ Based on activities such as Observation, interview, & questionnaire.
- ❑ Emphasizes on social interaction process.

6 Steps:

- ❑ Formulation of problem by teacher.
- ❑ Formulation of hypothesis by pupils.
- ❑ Define hypothesis.
- ❑ Discuss & confirm validity of the hypothesis.
- ❑ Collect & analyze evidences for the hypothesis.
- ❑ Interpret & derive inference & conclusion

Jurisprudential Enquiry Model

- ❑ Used to look for reality & accuracy in current issues (e.g. learning science is more useful than learning arts).
- ❑ Concerns with science & philosophy of human law.
- ❑ Argument-based, legal/ethical case-based; activities, discussions and debates.
- ❑ **Two types of Jurisprudential Inquiry Model:**
- ❑ Guided inquiry: Teacher guides pupils to carry out the whole discussion process.
- ❑ Open Inquiry: No guidelines given. Students have to do the discussion themselves.

Jurisprudential Enquiry Model

1. Orientation to the case
2. Identify issues and positions
3. Explore assumptions for different positions
4. Take a position
5. Refine and qualify the position
6. Test assumptions about facts, definitions, and consequences

Personal Development Models

- ❑ A major thesis of this family of models is that the better-developed, more affirmative, self-actualizing learners have increased learning capabilities. Self actualization leads to lifelong learning skills that promote quality of life.
- ❑ With that reason PDMs lay emphasis on the development of selfhood i.e. developing an individual into an integrated, confident and competent personality.
- ❑ PDMs attempt to help students understand themselves and their goals, and to adopt the means for educating themselves, nurturing their creativity and the capacity of self-expression and the teachers to moderate the entire learning environment accordingly.

Personal Development Models- Contd.

- ❑ Models in this category foster the importance of individuals in creating, directing, and structuring personal meaning.
- ❑ They also focus on the emotional life of an individual and help students recognise their emotions and become more aware of the way emotions affect other aspects of their behaviour.
- ❑ Also, Models in this group aim to foster things like self-esteem, self-efficacy, emotional and personal understanding and acceptance.

Models Under Personal Development Category

- Non-Directive Teaching Model - Carl Rogers
- Enhancing Self-esteem- Abraham Maslow
- Synectics Teaching Model - William J. J. Gordon and George M. Prince
- Awareness Training Model - William C. Schutz, Frederick (Fritz) S. Peris, and George Brown
- The Classroom Meeting Teaching Model - William Glasser
- Conceptual System Model - David. F. Hunt

Non-Directive Teaching Model - Carl Rogers

- ❑ Based on Carl Rogers' work, he believes that positive human relationships enable people to grow. Therefore instruction should be based on concepts of human relations.
- ❑ Teacher helps students to explore new ideas.
- ❑ Students have freedom to making decisions and choices.
- ❑ Teacher and students are considered as partners in learning.
- ❑ Encourages students to think and reflect their uncertain feelings and become better and be positive.

Non-Directive Teaching Model-Phases

1. Defining the Helping Situation; Teacher encourages free expression of feelings.
2. Exploring the Problem; Student is encouraged to define problem. Teacher accepts and clarifies feelings.
3. Developing Insight; Student discusses problem and Teacher supports student.
4. Planning and Decision Making; Student plans initial decision making & Teacher clarifies possible decision.
5. Integration; Student gains further insight and develops more positive actions, Teacher is supportive.
6. Student's initiates positive actions Outside.

ENHANCING SELF-ESTEEM

ABRAHAM MASLOW

- **Abraham Maslow** (April 1, 1908 – June 8, 1970) suggested (1943) that before individuals meet their full potential (Self-Actualization), they need to satisfy a series of needs viz. Physiological, Safety & Security, Love & Belonging and Esteem.
- When the first 03 needs are met, the esteem needs, based on desires for appreciation, social acceptance and respect from others, begin to motivate behavior.
- Self-esteem might be based on two factors; what others say about you or what you say about yourself.

Enhancing Self-Esteem - Contd.

- ❑ Having positive feelings about self is necessary for the overall emotional health and well-being.
- ❑ Problems that may arise from an inability to achieve validation and acceptance are social anxiety disorder, low self-esteem and an inferiority complex.
- ❑ To support students' esteem needs, teachers need to provide affirmative, concrete, and transparent feedback so that students know their specific strengths and can articulate when they've to use them to succeed in the classrooms.

Enhancing Self-Esteem - Contd.

- ❑ Motivate Students to gain knowledge and experiences by enhancing their interests in learning through self-concepts and to develop their full potential
- ❑ Provide them opportunities to express their ideas and listen to other's opinions.
- ❑ Use activities like Group/Individual Presentation, musical performances, stage performances etc.
- ❑ Classroom environment should be pleasing and stimulating.
- ❑ Appreciate the abilities & talents one possesses and Boost their confidence.
- ❑ Reflect positive approaches and optimistic reinforcements.

Synectics Teaching Model:

William J. J. Gordon & George M. Prince

- ❑ Synectics is a creative problem-solving process developed by **William J. J. Gordon** (1919-2003) and **George M. Prince** (1918-2009) in the 1960s (Gordon, 1961).
- ❑ Synectics outlines the processes that people can use to help them overcome mental blocks while working on difficult tasks.
- ❑ By using Synectics, people's divergent thinking and capacity for solving problems increase.

Synectics Teaching Model: Steps

1. **Task Headline/Substantive Input:** Define or describe the current situation or problem.
2. **Task Analysis;** The teacher Set out why the problem exists, and its background, the opportunity before learners and what they have already tried or thought of.
3. **Springboards:** The teacher Invite provocative statements and random ideas to set off creative thinking.
4. **Selection:** Select the most appealing ideas to emerge from the Springboard, to work on further. These may be practical, visionary or intriguing.
5. **Ways and Means:** Explore practical steps to develop selected ideas, and ways you may be able to implement them.

Synectics Teaching Model: Steps

6. **Emerging Idea:** Allow one idea to emerge as the strongest potential solution.
7. **Itemised Response:** Evaluate the Emerging Idea, looking for ideas for how to make it work until you identify the best way forward, if the idea were finally chosen. Test out your level of satisfaction with the idea/implementation package: is this your possible solution? If it is not, return to Step 6 and work with a new Emerging Idea.
8. **Possible Solution:** State and document the Possible Solution and the associated implementation approaches.
9. **Next Step:** Document the actions to be taken, by whom and to what deadlines?

Awareness-Training Model

- Awareness-training Model refers to an approach in psychology and education that stresses self-awareness, self-realization, exploration, and interpersonal sensitivity.
- The awareness-training model is associated with such writers as German-born U.S. psychologist **Frederick (Fritz) S. Perls** (1893-1970) and U.S. psychologist **William C. Schutz** (1925-2002).
- **Schutz** asserted that before one can realize his potential fully, there are four (04) types of development necessary; Bodily function, Personal function, Interpersonal development; and the individual's relationship to societal institution, social organizations, and culture.

Awareness-Training Model-Contd.

- ❑ **Schutz** maintained that “a person’s self is derived from relations with others.” (Joyce and Weil, 1980:190)
- ❑ In this relationship the individual has three (3) basic needs, for inclusion, control and affection.
- ❑ It is advocated that learning activities should be designed so as to give people the opportunity to express their emotional responses.
- ❑ The methods are more or less built on the encounter or exploration game, which is believed to be suitable to the classroom situation.
- ❑ **Msheliza’s** (1999:7) assertion that “pupils learn through exploration, experimentation and discovery” is considered suitable here.

Goals of Awareness-Training Model

- ❑ To help people become aware of their body mannerism and the emotions behind them.
- ❑ To help individuals recognize their feelings and modes of behaviour with respect to inclusion, control and affection and to help them cope with their participation in social groups.
- ❑ To focus on opening up for greater personal development and subject matter agenda.

Application of Awareness-Training Model

1. Maintain openness at all times, but with respect to his/her acceptance of feelings and ideas from learners.
2. Give all information on the activity to be done in a clear term or voice.
3. Remain alert to both verbal and non verbal expression of the participant.
4. Access (or show familiarity with) a variety of exploratory games especially areas that relate to the interpersonal areas of inclusion, control and affection.
5. Show competence in recognizing feelings and in facilitating open, acceptable social climate.
6. Help individuals have insight into their own behaviour, so that they can manipulate it if asked to do so.

Phases of Awareness-Training Model

1. The arrangement of the learners into groups, posing the problem and their engagement in the activity generating experience.
2. Completing the task through discussion & analysis; the participants are encouraged to analyze their reactions and those of others and to begin to probe into the area of concern (exploration) and generate some ideas about their development in that area.
3. Teacher evaluates, verifies, and makes necessary corrections or gives directions.

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Thank You