• Unit 9: Learning and Thinking :

- Definitions the Learning and Thinking .
- Conditions of learning.
- Kinds and levels of thinking.



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Psychology for Nurses

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At the end of this lecture, learners will be able to:

1. Describe how Classical conditioning is used to change animal and human behavior.
2. Describe an briefly compare between Operant conditioning and classical conditioning.
3. Define the term learning.
4. Identify the key elements of classical conditioning as demonstrated in Pavlov's classic experiment.
5. Define the term thinking.
6. Describe the types of thinking and levels of thinking according to Blooms Taxonomy.



Definition: Learning

Learning is any relatively permanent change in behavior brought about by experience or practice.

By learning, the humans are able to adapt to our environments.

- We learn to expect and prepare for significant events such as food or pain (classical conditioning).
- We typically learn to repeat acts that bring rewards and avoid acts that bring unwanted results (operant conditioning).
- We learn new behaviors by observing events and watching others, and through language, we learn things we have neither experienced nor observed (cognitive learning).

- **Learning:** the process of acquiring through experience new information or behaviors.
- **Associative learning:** learning that certain events occur together. The events may be two stimuli (as in classical conditioning) or a response and its consequences (as in operant conditioning).
- **Stimulus:** any event or situation that evokes a response.
- **Respondent behavior:** behavior that occurs as an automatic response to some stimulus.
- **Operant behavior:** behavior that operates on the environment, producing consequences.



Classical Conditioning

Two related events:

Stimulus 1:

Lightning



+

Stimulus 2:

Thunder



→

Response:

Startled reaction; wincing



Result after repetition:

Stimulus:

Lightning



→

Response:

Anticipation of booming thunder; wincing

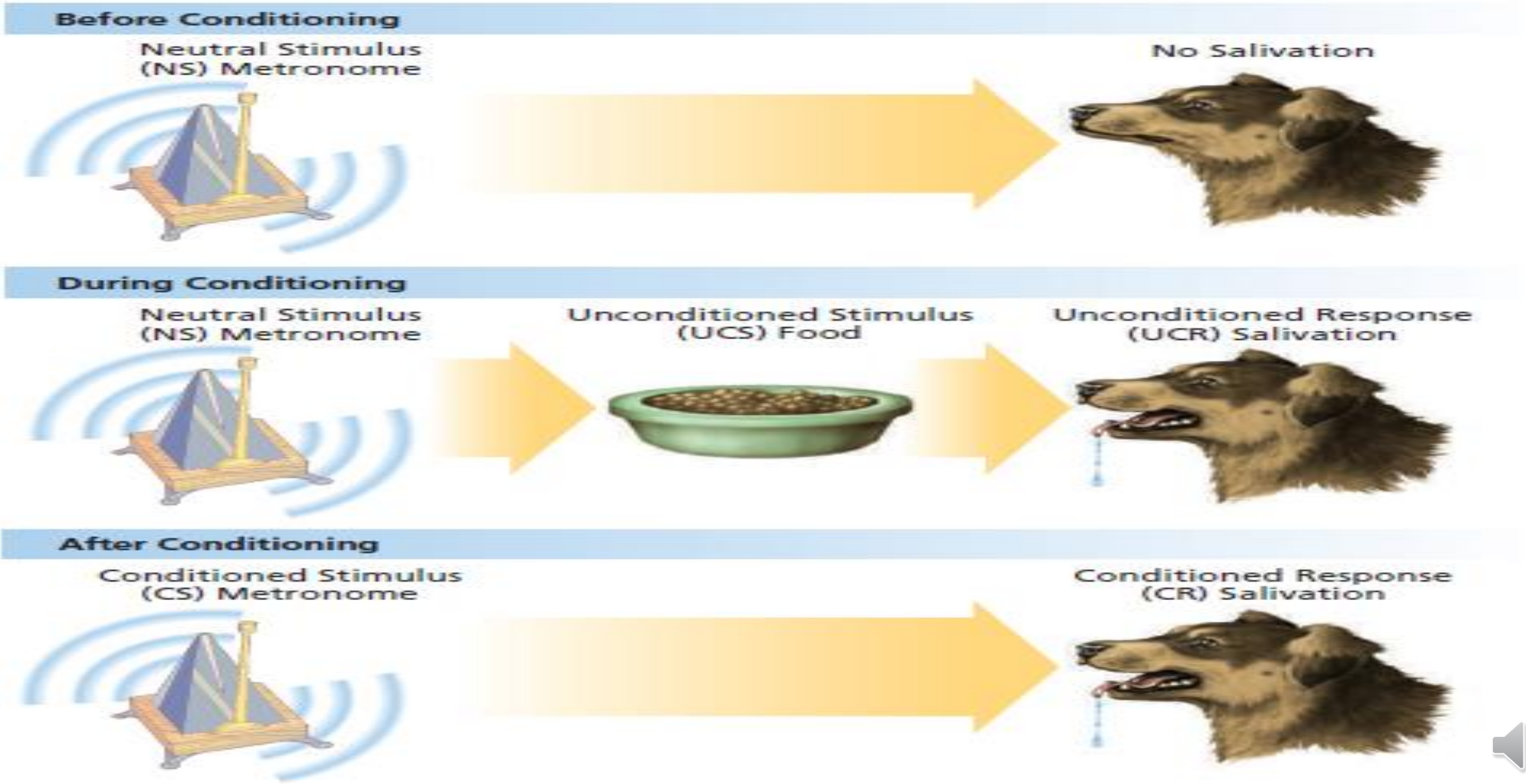


▼ FIGURE 7.1
Classical conditioning

- **Cognitive learning** the acquisition of mental information, whether by observing events, by watching others, or through language.
- **Classical conditioning** a type of learning in which one learns to link two or more stimuli and anticipate events.
- **Unconditioned response (UR)** in classical conditioning, an unlearned, naturally occurring response (such as salivation) to an unconditioned stimulus (US) (such as food in the mouth).
- **Unconditioned stimulus (US)** in classical conditioning, a stimulus that unconditionally—naturally and automatically— triggers an unconditioned response (UR).

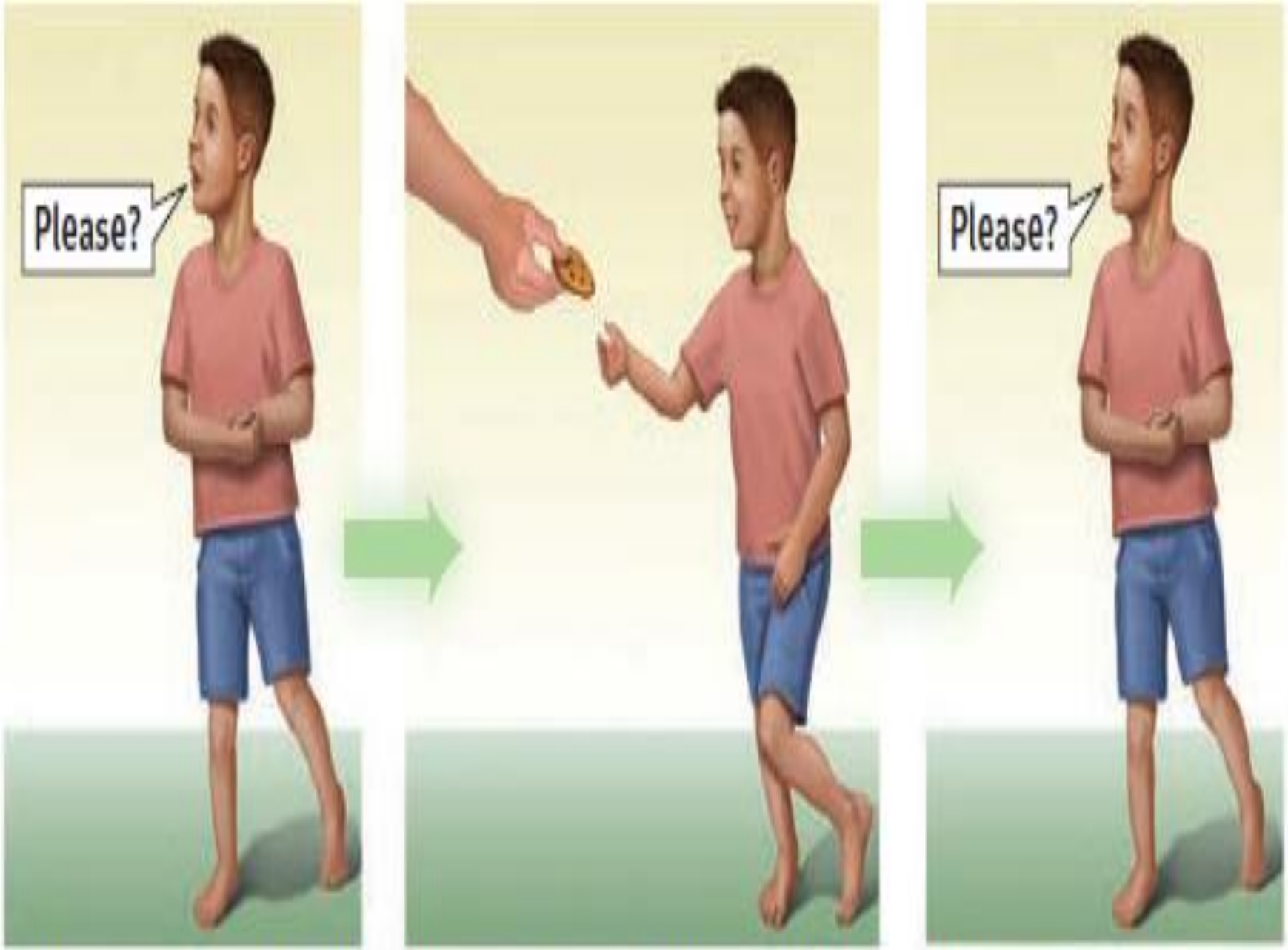
Classical Conditioning

❖ What was behaviorism's view of learning? Ivan Pavlov (1849–1936)



- **UNCONDITIONED Stimulus** The original, naturally occurring stimulus is called the unconditioned stimulus (UCS). The term unconditioned means “unlearned.” This is the stimulus that ordinarily leads to the involuntary response.
- **UNCONDITIONED Response** The automatic and involuntary response to the unconditioned stimulus .
- **CONDITIONED stimulus** Pavlov determined that almost any kind of stimulus could become associated with the unconditioned stimulus (UCS) . In his original study, the sight of the food dish itself became a stimulus for salivation before the food was given to the dogs. Every time they got food (to which they automatically salivated), they saw the dish. At this point, the dish was a neutral stimulus (NS) because it had no effect on salivation.

Classical conditioning	Operant conditioning
1. Classical conditioning involves involuntary behavior based on the pairing of stimuli with biologically significant events.	**1.** Operant behavior is said to be "voluntary
2. The responses are under the control of some stimulus because they are reflexes, automatically elicited by the appropriate stimuli. For example, sight of sweets may cause a child to salivate, or the sound of a door slam may signal an angry parent, causing a child to tremble.	**2.** In operant conditioning, stimuli present when a behavior that is rewarded or punished, controls that behavior. For example, a child may learn to open a box to get the sweets inside, or learn to avoid touching a hot stove; in operant terms, the box and the stove are "discriminative stimuli".



(a) Response: Being polite (b) Consequence: Getting a treat (c) Behavior strengthened

▼ FIGURE 7.2
Operant conditioning

❖ Classical Conditioning Applied to Human Behavior

- Apply classical conditioning to examples of phobias, taste, and drug dependency.

Definition: Thinking

- Thought (also called thinking): is the mental process in which beings form psychological associations and models of the world.
- Thinking: is manipulating information, as when we form concepts, engage in problem solving, reason and make decisions.
- Thought: is the act of thinking, produces more thoughts. A thought may be an idea, an image, a sound or even control an emotional feeling.



❖ Types of Thinking

1. **Analytical thinking** – refers to the ability to separate a whole into its basic parts in order to examine the parts and their relationships. It involves thinking in a logical, step-by-step manner to break down a larger system of information into its parts.
2. **Critical thinking** – refers to the ability to exercise careful evaluation or judgment in order to determine the authenticity, accuracy, worth, validity, or value of something. In addition to precise, objective analysis, critical thinking involves synthesis, evaluation, reflection, and reconstruction.



3. Concrete thinking – refers to the ability to comprehend and apply factual knowledge. It is about thinking of objects or ideas as specific items, rather than as a theoretical representation of a more general concept.

4. Abstract thinking – refers to the ability to use concepts to make and understand generalizations then relating or connecting them to others items, events, or experiences.

5. Divergent Thinking – refers to the ability to generate creative ideas by exploring many possible solutions in an effort to find one that works. It involves bringing facts and data together from various sources and then applying logic and knowledge to solve problems or make decisions.

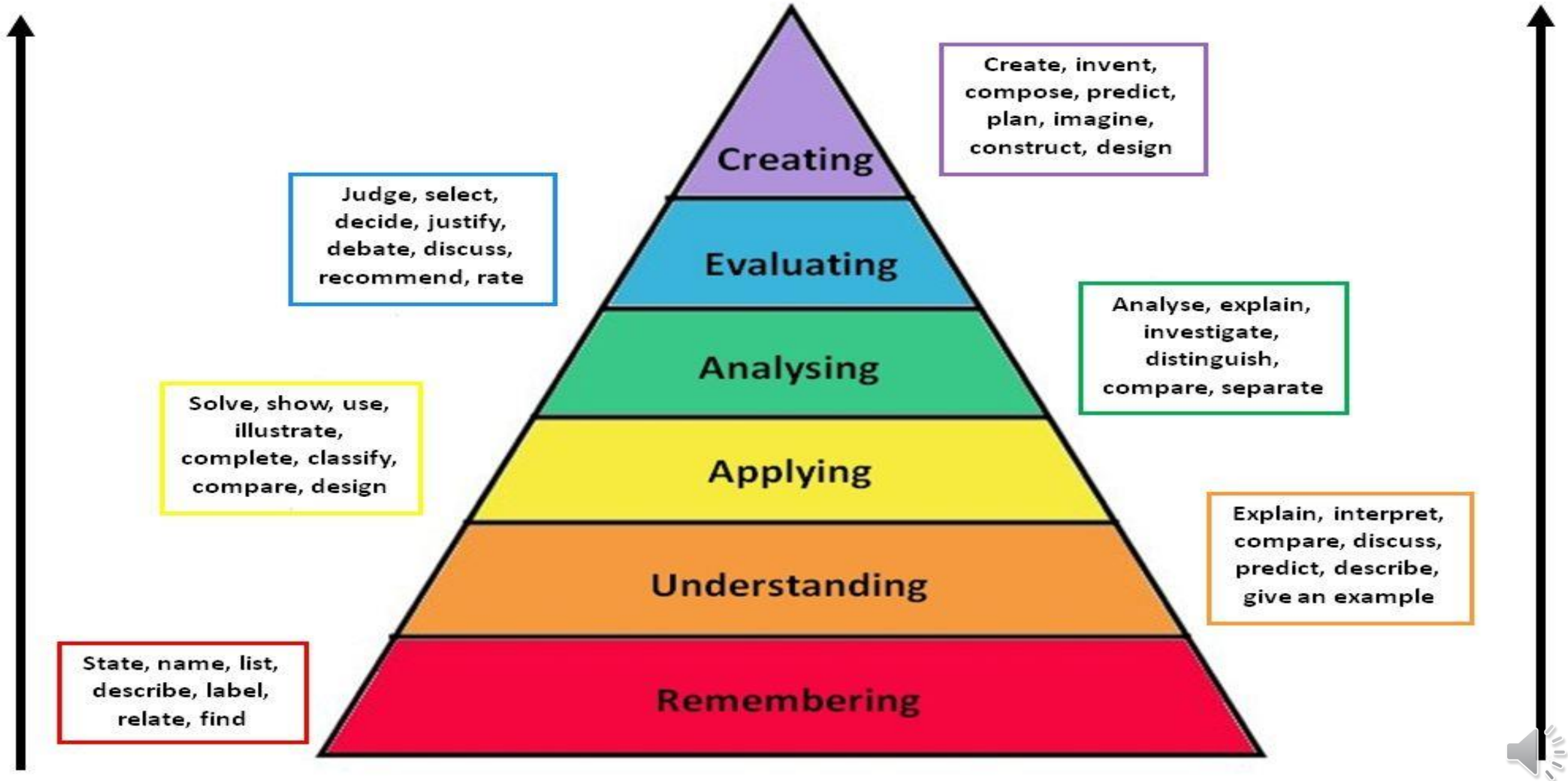
6. Convergent thinking – refers to the ability to put a number of different pieces or perspectives of a topic together in some organized, logical manner to find a single answer.



7. Sequential (linear) thinking – refers to the ability to process information in an orderly prescribed manner. It involves a step-by-step progression where a response to a step must be obtained before another step is taken.

8. Holistic (nonlinear) thinking – refers to the ability to see the big picture and recognize the interconnectedness of various components that form the larger system.

Bloom's Taxonomy



❖ Levels of thinking

1. Remembering and Recalling: count, describe, draw, enumerate, find, identify, label, list, match, name, quote, recall, recite, search, select, sequence, tell and write.

2. Understanding: conclude, describe, discuss, explain, generalize, identify, illustrate, interpret, paraphrase, predict, report, review and summarize.

3. Applying: articulate, change, chart, choose, collect, compute, control, demonstrate, determine, dramatize, imitate, implement, interview, participate, prepare, produce, provide, role-play and use.

4. Analyzing:break down, characterize, classify, compare, contrast, debate, deduce, diagram, differentiate, discriminate and examine.

5. Evaluating: Appraise, argue, assess, beta test, choose, collaborate, conclude, critique, decide, defend, evaluate, judge, justify, predict, prioritize, prove and support.

6. Creating: Adapt, animate, combine, compose, construct, create, design, develop, devise, film, formulate, integrate, invent, make, model, modify, organize, perform, plan, produce and program.



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