Learning and Types of Learning

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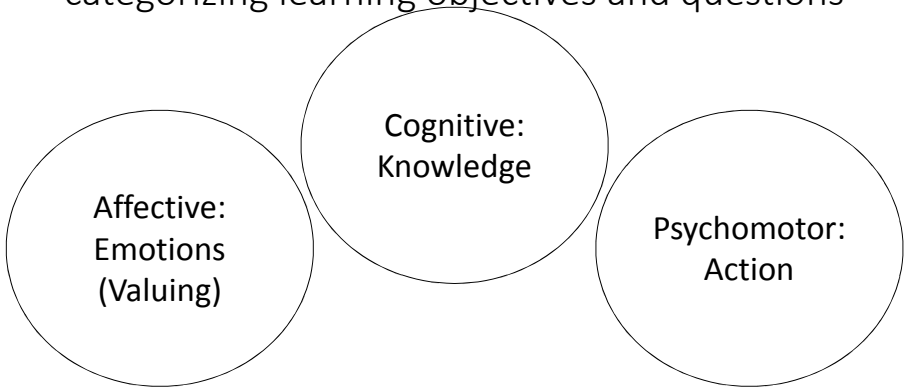
Learning

- Definition: Relatively permanent change in behavior or knowledge as the result of experience.
  - **Relatively permanent:** Knowledge or behavior must persist for some time
  - **Change:** Alteration of previous behavior or knowledge
    - Complete change
    - Addition of new to the old

Learning

- Definition: Relatively permanent change in behavior or knowledge as the result of experience.
  - **Behavior *or* Knowledge:** New knowledge does not always affect behavior immediately
  - **Result of Experience:** Not limited to teachers in the classroom
    - Books
    - Colleagues, Friends, Family
    - Practicals, Mentorships, Apprenticeships
    - Interaction with the environment

Bloom's Taxonomy: Framework for categorizing learning objectives and questions

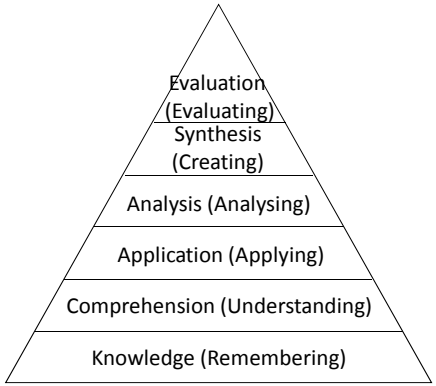


Original Bloom's Taxonomy

Cognitive Domain	**Affective** Domain	**Psychomotor** Domain
Knowledge	Receiving	Imitation
Comprehension	Responding (Inquires)	Manipulation (From Memory)
Application	Valuing	Precision
Analysis	Organization (Accepts)	Articulation (Adapt)
Synthesis	Characterization (Internalized)	Neutralization (Automated)
Evaluation		Adaptation

Bloom's Taxonomy: Cognitive Domain

(Revised Domain is in brackets)



Bloom's Taxonomy

- Characteristics of the Cognitive Domain
  - Higher in the taxonomy reflects better learning
  - If students can achieve a higher objective, then they can also achieve lower objectives
  - Bloom's Taxonomy has been revised (see the brackets)

Bloom's Taxonomy

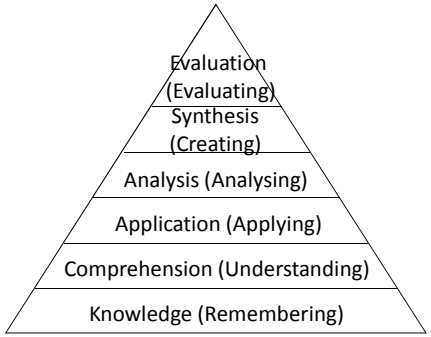
Category	**Definition**	**Keywords**
Knowledge (Remembering)	Recall information.	Recite. Define. Identify. Describe. Recognize. Know. List. Name.
Comprehension (Understanding)	Understand the meaning of a concept.	Comprehend. Explain. Summarize. Translate.
Application (Applying)	Use a concept in a familiar situation. Use a procedure.	Apply. Compute. Predict. Demonstrate. Implement. Use.
Analysis (Analysing)	Break information into parts to explore relationships and understanding.	Analyse. Compare. Contrast. Differentiate. Distinguish. Diagram.
Synthesis (Creating)	Generating new ideas, products, or ways of viewing something.	Create. Design. Generate. Plan. Construct. Produce. Invent.
Evaluation (Evaluating)	Make judgment about the value of a concept based on standards.	Criticize. Critique. Evaluate. Justify. Support.

Bloom's Taxonomy Examples

- **Knowledge:** Students will list effective study habits.
- **Comprehension:** Students will summarize the SQ3R reading strategy.
- **Application:** Students will apply the RCRC reading strategy as they review their notes
- **Analysis:** Students will compare and contrast the RCRC and SQ3R reading strategies
- **Synthesis:** Students will create their own goals and plans using the Self Regulation cycle
- **Evaluation:** Students will evaluate their current study practices in light of the tips for studying smartly

Bloom's Taxonomy

1. What is the definition of rote memorization?
2. What are the advantages and disadvantages of teaching for meaningful learning?
3. How can you use meaningful learning in your classroom?
4. Create your own lesson that focuses on meaningful learning.
5. What are the similarities between meaningful learning and constructivism?
6. Why should students engage in meaningful learning?



Gagné's Types of Learning

*Note: Types of Learning are arranged from Simple to Complex

1. **Signal Learning:** A neutral stimulus acquires the capacity to elicit a response after it is paired repeatedly with another stimulus
   - Also called Classical Conditioning
   - *Example*: Acquiring a liking to a scent that is worn by a loved one
2. **Stimulus-Response Learning:** Learner's behavior response is reinforced (rewarded) to promote a repetition of the response in the future
   - Also called Operant Conditioning
   - *Example:* A student comes to class early because she is rewarded by receiving a biscuit for coming early
3. **Chain Learning:** Learning with multiple connected stimulus-response behaviors
   - *Example:* Riding a bicycle

Gagné's Types of Learning (Continued)

*Note: Types of Learning are arranged from Simple to Complex

4. **Verbal Associate Learning:** Various parts of something verbal are learned separately and later connected (associated)
   - *Example:* Reciting the alphabet
5. **Multiple Discrimination Learning**: The learner differentiates between two stimuli that appear similar
   - *Example:* Pronouncing words that sound similar (e.g., Korb and cup; border and bother)
6. **Concept Learning:** A mental image representing a general idea about a person, thing, or event (concept)
   - Also called a *schema*
   - *Example:* Mental image of mango
   - A concept helps in classification, such as a mango is classified as a fruit

Gagné's Types of Learning (Continued)

*Note: Types of Learning are arranged from Simple to Complex

7. **Principle Learning:** Set of rules or statements to be applied when necessary
   - *Example:* Principle of floatation → Objects float if the density of the object is less than the density of the liquid
8. **Problem Solving Learning:** Two or more principles are used to solve a problem
   - Many cognitive abilities are needed in problem solving, including thinking, observation, imagination, and reasoning
   - *Example:* Given the principles of human development, how can we improve young children's reading abilities?