

## **DIMENSIONS OF LEARNING**

- Developing and delivering lessons by teachers are an integral part of the teaching process.
- Hence, it is important for teachers to ensure that the three dimensions of learning which include cognitive (thinking), affective (emotions or feeling) and performance (Physical or kinesthetic) are addressed.
- It is imperative to understand that there are different categories of learners who have varying needs and as such different methods must be adopted in the planning and delivery of lessons to ensure that such needs are addressed.
- In 1956, educational psychologist Dr. Benjamin Bloom created a system to classify learning objectives into a series of learning dimensions that encourage teachers to think holistically about education. His system came to be known as Bloom's Taxonomy.
- Bloom identified three dimensions or domains, or categories, of educational activities:
- Cognitive: Knowledge or Mental Skills
- Affective: Attitude or Emotions
- Performance or Psychomotor Skills or Physical Skills

## **COGNITIVE DIMENSION**

- The cognitive dimension involves knowledge and the development of intellectual skills (Bloom, 1956).
- This includes the recall or recognition of specific facts, procedural patterns, and concepts that serve in the development of intellectual abilities and skills.
- There are six major categories of cognitive processes, starting from the simplest to the most complex.
- These categories are knowledge, comprehension, application, analysis, synthesis, and evaluation.
- These categories can be thought of as degrees of difficulties. That is, the first ones must normally be mastered before the next one can take place.
- A revised version of Bloom's taxonomy was published by Anderson et al. in 2001. Three most prominent changes were as follows:
  - changing the names in the six categories from noun to verb forms
  - re-arranging them
  - creating processes and levels of knowledge matrix
  - Bloom's taxonomy is hierarchical i.e. higher level learning is reliant on knowledge and skills attained at lower levels.

As per revised version, the 6 levels within the Cognitive domain are:

- **Remembering:** To recall, recognise, or identify concepts
- **Understanding:** To comprehend meaning, explain data in own words
- **Applying:** Use or apply knowledge, in practice or real life situations
- **Analysing:** Interpret elements, structure relationships between individual components
- **Evaluation:** Assess effectiveness of whole concepts in relation to other variables
- **Creation:** Display creative thinking, develop new concepts or approaches

This new taxonomy reflects a more active form of thinking and is perhaps more accurate.

### **AFFECTIVE DIMENSION**

- The affective domain (Krathwohl, Bloom, Masia, 1973) includes the manner in which we deal with things emotionally, such as feelings, values, appreciation, enthusiasms, motivations, and attitudes.
- The five major categories are listed from the simplest behaviour to the most complex:
  - Receiving Phenomena: Open to experience or idea, willing to hear
  - Responding to Phenomena: Get involved in or participate actively
  - Valuing: Attach values and express personal opinions
  - Organising: Reconcile disparate elements or conflicts, develop value system
  - Internalising / characterization: Adopt belief system or philosophy

### **PERFORMANCE DIMENSION**

- The Performance Dimension is also known as Psychomotor Domain.
- The Psychomotor domain (Simpson, 1972) includes physical movement, coordination, and use of the motor-skill areas.
- Development of these skills requires practice and is measured in terms of speed, precision, distance, procedures, or techniques in execution.
- Thus, psychomotor skills range from manual tasks, such as digging a ditch or washing a car, to more complex tasks, such as operating a complex piece of machinery or dancing.
- There are seven major categories of Performance Dimension.

They are listed from the simplest behaviour to the most complex behaviour below:

- **Perception (awareness):** The ability to use sensory cues to guide motor activity.
- **Set:** Readiness to act. It includes mental, physical, and emotional sets.

- **Guided Response:** The early stages in learning a complex skill includes imitation and trial and error. Adequacy of performance is achieved by practicing.
- **Mechanism (basic proficiency):** This is the intermediate stage in learning a complex skill. Learned responses become habitual and the movements can be performed with some confidence and proficiency.
- **Complex Overt Response (Expert):** The skilful performance of motor acts involve complex movement patterns. Proficiency is indicated by a quick, accurate, and highly coordinated performance, requiring a minimum of energy.
- **Adaptation:** Skills are well developed and the individual can modify movement patterns to fit special requirements
- **Origination:** Creating new movement patterns to fit a particular situation or specific problem.