

OBJECTIVES AND EDUCATIONAL OUTCOMES

1. Definition of Objectives

Education is, without any doubt, a purposeful activity. Every step of this activity has and should definitely have a particular purpose. Therefore learning objectives are a prime and integral part of teaching learning process. A learning objective refers to the statement of what students will obtain through instruction of certain content. In other words 'an objective is a description of a performance you want learners to be able to exhibit before you consider them competent. An objective describes an intended result of instruction, rather than the process of instruction itself.' Defining objectives In teaching learning process, learning objectives have a unique importance. The role learning objectives play includes but is not limited to the following three: firstly, they guide and direct for the selection of instructional content and procedures. Secondly, they facilitate the appropriate evaluation of the instruction. Thirdly, learning objectives help the students to organize their efforts to accomplish the intent of the instruction.

2 Characteristics/ Attributes of the Objectives

Good objectives have three essential characteristics:

Behavior - Firstly, an objective must explain the competency to be learned, the intended change in the behavior of the learners. For this purpose it is necessary to use the verb in the statement of the objective which identifies an observable behavior of the learner.

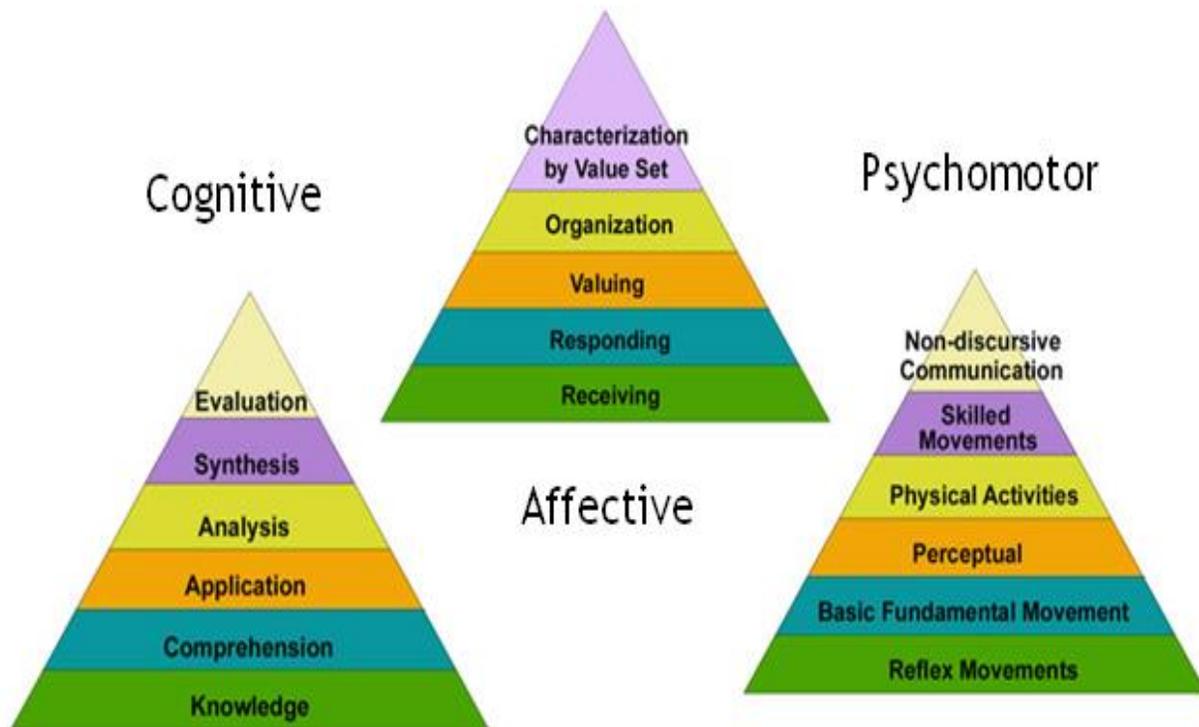
Criterion - Secondly, an objective must clarify the intended degree of performance. In other words objective should not only indicate the change in the behavior of the students but also the level or degree of that change as well. For this purpose the statement of the objective must indicate a degree of accuracy, a quantity or proportion of correct responses or the like.

Conditions - Thirdly, an objective should describe the conditions under which the learning will occur. In other words, under what circumstances the learner will develop the competency? What will the learner be given or already be expected to know to accomplish the learning? For example, a condition could be stated as, told a case study, shown a diagram, given a map, after listening a lecture or observing a demonstration, after through reading, etc Though all the three characteristics are essential for stating clear objectives, in some cases one or two of these elements are easily implied by a simple statement.

3 Taxonomy of Educational Objectives

Following the 1948 Convention of the American Psychological Association, a group of college examiners considered the need for a system of classifying educational goals for the evaluation of student performance. Years later and as a result of this effort, Benjamin Bloom formulated a classification of "the goals of the educational process". Eventually, Bloom established a hierarchy of educational objectives for categorizing level of abstraction of questions that

commonly occur in educational settings (Bloom, 1965). This classification is generally referred to as Bloom's Taxonomy. Taxonomy means 'a set of classification principles', or 'structure'. The followings are six levels in this taxonomy: Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation.



The detail is given below:

Cognitive domain:

The cognitive domain (Bloom, 1956) involves the development of intellectual skills. 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 levels of this domain starting from the simplest cognitive behavior to the most complex. The levels can be thought of as degrees of difficulties. That is, the first ones must normally be mastered before the next ones can take place.

Affective domain:

The affective domain is related to the manner in which we deal with things emotionally, such as feelings, values, appreciation, enthusiasms, motivations, and attitudes. The five levels of this domain include: receiving, responding, valuing, organization, and characterizing by value.

Psychomotor domain:

Focus is on physical and kinesthetic skills. The psychomotor domain 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. There are seven levels of this domain from the simplest behavior to the most complex. Domain levels include: Perception, set, guided response, mechanism, complex or overt response, adaptation.

Writing Cognitive Domain Objectives In teaching learning process, cognitive domain of Blooms taxonomy is of prime focus. So let's discuss this domain in detail and learn to write objectives of this domain.

Cognitive abilities in this taxonomy are arranged on continuum ranging from the lower to the higher

1. Knowledge
2. Comprehension
3. Application
4. Analysis
5. Synthesis
6. Evaluation

An analogy depicting the taxonomy of learning objectives can be thought as assembling blocks in building a pyramid. The knowledge level creates the basis for the foundation from which the higher- level skills are built. When writing educational objectives, a teacher must know that for a good objective it is necessary to use the clear verb that clearly indicates the type of observable behavior. The following table will not only help you to understand the level of cognitive domain but will guide you what action verbs can be used to state objectives of that particular level.

Learning Objectives and Action Verbs

Learning Objective/ Level	Description	Action Verbs to be used to state objectives
Knowledge	The first level of learning is knowledge. Knowledge can be characterized as awareness of specifics and of the ways and means of dealing with specifics. The	To arrange, to define, to describe, to identify, to list, to label, to name, to order, to recognize, to recall, to relate,

	knowledge level focuses on memory or recall where the learner recognizes information, ideas, principles in the approximate form in which they were learned.	to repeat, to reproduce, to state, to underline
Comprehension	Comprehension is the next level of learning and encompasses understanding. Has the knowledge been internalized or understood? The student should be able to translate, comprehend, or interpret information based on the knowledge.	To choose, to compare, to classify, to describe, to demonstrate, to determine, to discuss, to discriminate, to explain, to express, to identify, to indicate, to interpret, to label, to locate, to pick, to recognize, to relate, to report, to respond, to restate, to review, to select, to tell, to translate
Application	Application is the use of knowledge. Can the student use the knowledge in a new situation? It can also be the application of theory to solve a real world problem. The student selects, transfers, and uses data and principles to complete solve a problem.	To apply, to classify, to demonstrate, to develop, to dramatize, to employ, to generalize, to illustrate, to interpret, to initiate, to operate, to organize, to practice, to relate, to restructure, to rewrite, to schedule, to sketch, to solve, to use, to utilize, to transfer
Analysis	Analysis involves taking apart a piece of knowledge, the investigation of parts of a concept. It can only occur if the student has obtained knowledge of and comprehends a concept. The student examines, classifies, hypothesizes, collects data, and draws conclusions.	To analyze, to appraise, to calculate, to categorize, compare, conclude, contrast, or criticize; to detect, to debate, to determine, to develop, distinguish, or deduce; to diagram, to diagnose, differentiate, or discriminate; to estimate, to examine, to evaluate, to experiment, to inventory, to inspect, to relate, solve, or test; to question
Synthesis	Synthesis is the creative act. It's the taking of knowledge and the creation of something new. It is an inductive process—one of building rather than one of breaking down. The student originates, integrates, and combines ideas into something that is new to him/her.	To arrange, to assemble, to collect, to compose, to construct, to constitute, to create, to design, to develop, to device, to document, to formulate, to manage, to modify, to originate, to

		organize, to plan, to prepare, to predict, to produce, to propose, to relate, to reconstruct, to set up, to specify, to synthesize, to systematize, to tell, to transmit
Evaluation	Evaluation is judgment or decision making. The student appraises, assesses or criticizes on a basis of specific standards and criteria.	To appraise, argue, or assess; to attach, to choose, to contrast, to consider, to critique, to decide, to defend, to estimate, to evaluate, to judge, to measure, to predict, to rate, to revise, to score, to select, to support, to standardize, to validate, to value, to test

SOLO Taxonomy

The SOLO taxonomy stands for:

1. Structure of
2. Observed
3. Learning
4. Outcomes

SOLO taxonomy was developed by Biggs and Collis (1982) which is further explained by Biggs and Tang (2007). This taxonomy is used by Punjab for the assessment. It describes level of increasing complexity in a student's understanding of a subject through five stages, and it is claimed to be applicable to any subject area. Not all students get through all five stages, of course, and indeed not all teaching.



1 **Pre-structural:** here students are simply acquiring bits of unconnected information, which have no organisation and make no sense.

2 **Unistructural:** simple and obvious connections are made, but their significance is not grasped.

3 **Multistructural:** a number of connections may be made, but the metaconnections between them are missed, as is their significance for the whole.

4 **Relational level:** the student is now able to appreciate the significance of the parts in relation to the whole.

5 **At the extended abstract level,** the student is making connections not only within the given subject area, but also beyond it, able to generalise and transfer the principles and ideas underlying the specific instance.

Table of Specification

It has been discussed earlier that the educational objectives play a significant role in the development of classroom tests. The reason is that the preparation of classroom test is closely related to the curriculum and educational objectives. And we have also explained that a test should measure what was taught. For ensuring that there is similarity between classroom instruction and test content is the development and application of table of specification, which is

also called a test blue print. As the name implies, it specifies the content of a test. It is a two-way framework which ensures the congruence between classroom instruction and test content. This is one of the most popular procedures used by test developers for defining the content-domain. One dimension of the test reflects the content to be covered and other dimension describes the kinds of student cognitive behavior to be assessed.

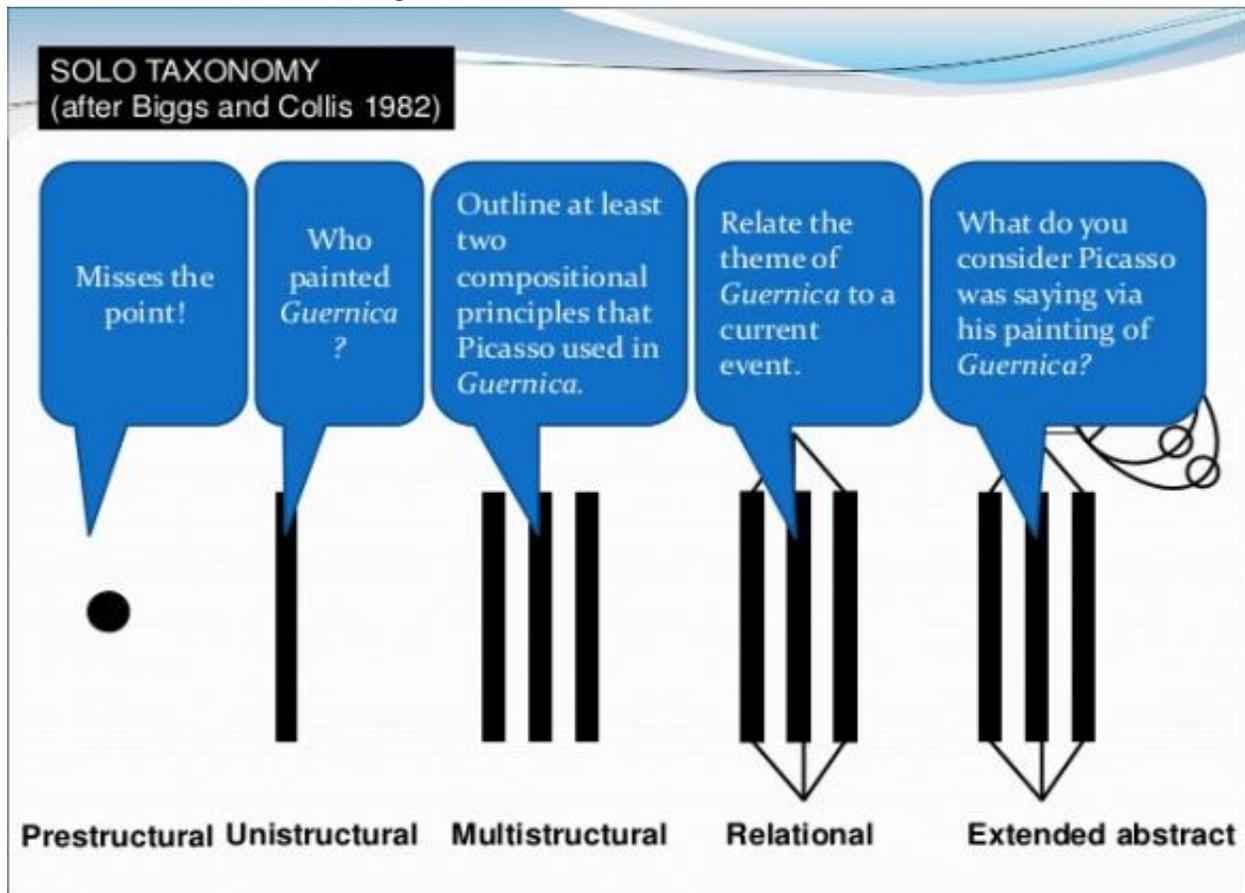


Table: General Table of Specification

Number of Test Items for Each Cognitive Level

Topics	Knowledge	Comprehension	Application	Analysis	Total
Topics1	5	2	2	3	12
Topics2	3	3	4	2	12
Topics3	2	2	3	2	09
Topics4	3	3	1	1	08
Topics5	1	2	1	1	05
Topics6	2	2	0	0	04
Total	16	14	11	09	50

Look at table 2.2, the top of each column of the table represent the level of cognitive domain, the extreme left column represent the categories of the content (topics) or assessment domains. The numerals in the cells of two way table show the numbers of items to be included in the test. You can readily see that how the fifty items in this table have been allocated to the content topics and the levels of cognitive behavior. The teacher may add some more dimensions. The table of specification represents four level of cognitive domain. It is not necessary for teacher to develop a test that completely coincides with the content of taught domain. The teacher is required to adequately sample the content of the assessment domain. The important consideration here for teachers is that they must make a careful effort on conceptualizing the assessment domain. An appropriate representativeness must be ensured. Unfortunately, many teachers develop tests without figuring out what domains of knowledge, skills, or attitude should be promoted and consequently, formally be assessed. A classroom test should measure what was taught. In simple words a test must emphasize what was emphasized in the class.

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