**Writing Learning Objectives**

**I. Learning Objectives: Their Importance and Construction**

**What is a Learning Objective?**

A learning objective is a statement of what students will be able to do when they have completed instruction.

A learning objective has three major components:

1. A description of what the student will be able to do
2. The conditions under which the student will perform the task.
3. The criteria for evaluating student performance.

***What is the difference between a GOAL and a Learning Objective?***

A GOAL is a statement of the intended general outcome of an instructional unit or program. A goal statement describes a more global learning outcome. A learning objective is a statement of one of several specific performances, the achievement of which contributes to the attainment of the goal. A single GOAL may have many specific subordinate learning objectives.

For example:

GOAL: The goal of the Learning Assessment course is to enable the students to make reliable and accurate assessments of learning.

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| *Learning Objective #1:* | Given a learning objective the student will be able to develop an appropriate multiple-choice question to measure student achievement of the objective. |
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| *Learning Objective #2:* | Given a printout from an item analysis of a multiple choice exam the student will be able to state the accuracy of the test scores. |  |
| *Learning Objective #3:* | Given the discrimination and difficulty indices of an item the student will be able to determine if the item contributes to the reliability of the exam. |  |

***Why are Learning Objectives important? Learning objectives are guides to:***

1. Selection of content
2. Development of an instructional strategy.
3. Development and selection of instructional materials.
4. Construction of tests and other instruments for assessing and then evaluating student learning outcomes.

***How do you write a Learning Objective? In writing a Learning Objective:***

1. Focus on student Performance not teacher performance.
2. Focus on product — not process.
3. Focus on terminal behavior — not subject matter.
4. Include only one general learning outcome in each objective.

A learning objective is a statement describing a competency or performance capability to be acquired by the learner. There are three characteristics essential to insuring clear statements of objectives.

*Behavior* — First, an objective must describe the competency to be learned in performance terms. The choice of a verb is all-important here. Such frequently used terms as know, understand, grasp, and appreciate do not meet this requirement. If the verb used in stating an objective identifies an observable student behavior, then the basis for a clear statement is established. In addition, the type or level of learning must be identified. See Section II for a description of the types of learning and their levels.

*Criterion* — Second, an objective should make clear how well a learner must perform to be judged adequate. This can be done with a statement indicating a degree of accuracy, a quantity or proportion of correct responses or the like.

*Conditions* — Third, an objective should describe the conditions under which the learner will be expected to perform in the evaluation situation. What tools, references, or other aids will be provided or denied should be made clear.

Sometimes, one or even two of these elements will be easily implied by a simple statement. Other times, however, it may be necessary to clearly specify in detail each element of the objective. The following is an example of a completed learning objective:

**OBJECTIVE: "Given a set of data the student will be able to compute the standard deviation."**

*Condition* — Given a set of data
*Behavior* — the student will be able to compute the standard deviation.
*Criterion* — (implied) - the number computed will be correct.

***Checklist for Writing a Specific Instructional Objective***

1. Begin each statement of a specific learning outcome with a verb that specifies definite, observable behavior. (See the Table of Process Oriented Learner Behaviors below.)
2. Make sure that each statement meets all three of the criteria for a good learning objective: observable behavior, the conditions under which the student will be expected to perform, and the criteria to be used for evaluation of the student's performance.
3. Be sure to include complex objectives (appreciation, problem-solving, etc.) when they are appropriate.

***Guides or aids to writing learning objectives:***

Educators and psychologists concerned with learning theory have given considerable thought to the various types of learning that take place in schools. Probably the most comprehensive and widely known analysis of objectives is the Taxonomy of Educational Objectives by Benjamin Bloom and others. Blooms Taxonomy provides a consistent means of developing the single most powerful tool in instruction and the assessment of student learning outcomes - the learning or performance objective. The Taxonomy distinguishes between three major categories of objectives termed the COGNITIVE DOMAIN, the PSYCHOMOTOR DOMAIN, and the AFFECTIVE DOMAIN.

**II. Blooms Taxonomy of Learning**

Learning is a psychological process. Thus, the assessment of learning, of necessity, requires the assessment of various psychological processes. In developing assessment tools (tests) it is important that we first have an understanding of these psychological processes and how to go about measuring them. Although there are many psychological models for the process of learning, for this workbook we have chosen Benjamin Blooms taxonomy as a useful tool. In Blooms taxonomy there are three fundamental learning domains: Cognitive, Psychomotor, and Affective.

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| *Affective* — | learning of beliefs, attitudes, and values. |
| *Psychomotor*— | learning of physical movements such as ballet steps, how to pitch a curve ball, how to drill out a cavity in a molar, etc. |
| *Cognitive* — | learning of information and the processes of dealing with that information. |

In the 1990's, a former student of Bloom, Lorin Anderson, revised Bloom's Taxonomy and published this- Bloom's Revised Taxonomy in 2001.Key to this is the use of verbs rather than nouns for each of the categories and a rearrangement of the sequence within the taxonomy. They are arranged below in increasing order, from low to high.

Bloom's Revised Taxonomy Sub Categories

* **Remembering -** Recognizing, listing, describing, identifying, retrieving, naming, locating, finding
* **Understanding -**Interpreting, Summarizing, inferring, paraphrasing, classifying, comparing, explaining, exemplifying
* **Applying -** Implementing, carrying out, using, executing
* **Analyzing -**Comparing, organizing, deconstructing, Attributing, outlining, finding, structuring, integrating
* **Evaluating -** Checking, hypothesizing, critiquing, Experimenting, judging, testing, Detecting, Monitoring
* **Creating -**designing, constructing, planning, producing, inventing, devising, making

Each of the categories or taxonomic elements has a number of key verbs associated with it

Lower Order Thinking Skills (**LOTS**) and Higher Order Thinking Skills (**HOTS**)

The elements cover many of the activities and objectives but they do not address the new objectives presented by the emergence and integration of Information and Communication Technologies into the classroom and the lives of our students.

Bloom's Revised Taxonomy not only improved the usability of it by using action words, but added a cognitive and knowledge matrix.

While Bloom's original cognitive taxonomy did mention three levels of knowledge or products that could be processed, they were not discussed very much and remained one-dimensional:

**Factual** - The basic elements students must know to be acquainted with a discipline or solve problems.

**Conceptual** – The interrelationships among the basic elements within a larger structure that enable them to function together.

**Procedural**- How to do something, methods of inquiry, and criteria for using skills, algorithms, techniques, and methods.

In Krathwohl and Anderson's revised version, the authors combine the cognitive processes with the above three levels of knowledge to form a matrix. In addition, they added another level of knowledge - metacognition:

**Metacognitive** – Knowledge of cognition in general, as well as awareness and knowledge of one’s own cognition.

**Summary:** A Learning Objective is a statement of what students will be able to do when they have completed instruction. Learning objectives have their roots in the instructional analysis and the definition of entry behaviors. They form the basis for subsequent instructional design activities.

A Learning Objective has three major components:

* **A description of what the student will be able to DO.**
* **The conditions under which the student will perform the task.**
* **The criteria for evaluating student performance**

Each statement of a learning objective should begin with a verb and should include only one general learning outcome. Learning Objectives should focus on:

* **Student performance**
* **Product**
* **Terminal behavior**