

Writing and Utilizing Quality Learning Objectives

Writing Learning Objectives

Learning objectives describe the activity the learner must do to demonstrate that information has been sufficiently mastered. These objectives must be stated in definable and measurable terms. They must communicate to the learner the exact intent or performance that the instructor has in mind. Learning objectives are learner-centered, focusing on what the learner will do to demonstrate they have mastered the topic.

A properly stated learning objective should communicate what the learner will be doing when they demonstrate that they have mastered the topic. It will be written clearly in performance or behavior terms. Frequently, learning objectives are worded so they are very clear to us, the instructors, but are open to many interpretations by the learner. Learning objectives are not course descriptions or summaries of course content. There are two words often used by writers of learning objectives, *know*, and *understand* that can be interpreted many ways. When we want someone to “know” something, do we want them to describe it, to use it, or possibly to recognize it? Until we describe precisely how the learner will demonstrate that they “know” the information, we cannot be sure that we have communicated exactly what we have in mind. The learning objective would be open to many different interpretations, which does not serve our purpose as educators very well.

The Best learning objectives identify the terminal behavior by name. Below I have listed a few examples of words that are nonspecific and open to many interpretations, and words that are open to fewer interpretations, which describe more specific behaviors that can be more easily measured. When constructing learning objectives, always use those words or terms that describe the desired behavior as specifically as possible.

NONSPECIFIC WORDS OPEN TO MANY INTERPRETATIONS

Know
Understand
really understand
Appreciate
fully appreciate
Learn
grasp the significance of
believe in
be aware of
react to
become better at

WORDS DESCRIBING MORE SPECIFIC BEHAVIORS

Write
Identify
Describe
Differentiate
Label
sequence (steps)
compare/contrast
List
Distinguish
Recognize
Define
Interpret

Here are two questions that can be applied to each objective to test if it is performance based and likely to be interpreted by the student as the instructor intended.

- 1) What is the learner doing when demonstrating that they have achieved the objective?
- 2) Does it identify the kind of performance that will be accepted as evidence that the learner has achieved the objective?

The object is to write objectives that communicate what the learner will be doing when they demonstrate they have achieved your educational outcome. You will continue to write as many learning objectives as will be needed to describe all of your educational outcomes for whatever unit you are going to teach.

Utilizing Learning Objectives

Learning objectives link the entire certification and training process together with the job analysis. Let's first focus on how they are used in training. Learning objectives are developed before the text of the manual and several benefits of this arrangement are apparent. They serve as an outline for developing manuals. We think that when the manuals are organized using learning objectives, the focus on the job and the flow of topics in the chapters has improved. We also believe that the certification achieved from these manuals is much more relevant to activities of the applicator, because the focus of the learning objectives are on the job analysis, thus the test is tied to the job analysis. Learning objectives have replaced study questions in our manuals. The students are encouraged to use the objectives just as they did the study questions. If they can satisfy the action required in the objective, then they know they have learned what they need to know. Without study questions the lead agency has more flexibility in developing test questions. There is no need to worry about duplicating a study question on the certification test.

In the classroom learning objectives are being used as the subject structure for lectures and presentations. Learning objectives facilitate the construction of in-class activities, such as hands on training activities. We are currently developing training modules for Core level classes and have incorporated the learning objectives into each presentation. The presentations begin with the review of the objectives. Then as the presentations progresses, the slide titles have a key word links the slide to the objective. Finally, we finish each presentation with a review of the learning objectives for that unit.

The learner is also benefiting from the use of learning objectives. Each chapter in the manual begins with its learning objectives. This lets the student know up front, what they are expected to know. This gives the learner an orientation to the topics in advance and this is a well-known technique for improving the learning experience. Each manual "Preface" has a section called "How to study this manual." We recommend the learner read the learning objectives first, then read the chapter, and finish by rereading the learning objectives. If they are having trouble satisfying an objective during review, we recommend they reread that portion of the manual until they have mastered the topic.

Learning objectives have become the basis for certification testing. Test questions are written to examine if the learner can demonstrate they can perform what was stated in the learning objective. This is an excellent way of linking the test to the job analysis. For example if we had this learning

objective “Cite how each herbicide active ingredient gets into and moves within the plant,” we could write a test question like this:

The herbicide that is adsorbed through both plant roots and foliage is _____.

- A. Imazapyr
- B. Paraquate
- C. Glyphosate
- D. 2,4-D

There are several very good books on the subject of learning objectives, but I strongly recommend the following book by Robert Mager.

Preparing Instructional Objectives: A Critical Tool in the Development of Effective Instruction (Paperback)

by Robert F. Mager (Author)

AMAZON.com

List Price: \$22.95

Price: \$21.80

Availability: In Stock. As of May 11, 2007

26 used & new available from \$11.47

Plus these references:

B.S. Bloom, Taxonomy of Educational Objectives. 1. Cognitive domain. New York, Longman, 1984.

R.M. Felder, “On Creating Creative Engineers,” Engr. Education, 77, 222(1987).

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N.E. Gronlund, How to Write and Use Instructional Objectives (4th ed.) New York, Macmillan, 1991.

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