

## Developing competencies, instructional goals, and learning objectives

### Developing a new competency

A *competency domain* is a statement of a set of skills, knowledge and attitudes required to perform a job or broad task (e.g., Epidemiology, Communication).

For each competency, there are accompanying statements of activities that, upon completion, will indicate competence in the domain (e.g., Develop written public health communications).

A program may decide to add a whole new domain, but most often may wish to develop a competency statement within a previously defined domain. *Competency statements* are composed of a single phrase or sentence written broadly enough to be a complete activity that the trainee can demonstrate upon completion of the program. They encompass several areas of knowledge and skill.

These are typically statements that, for example, would be the kinds of activities you would include in a job announcement for a field epidemiologist.

For example, you might advertise for someone who can “conduct an economic analysis for a public health program or project,” but you would not advertise for such detailed activities as “calculate burden of disease measures.” “Conducting an economic analysis of a public health program or project” would be a competency statement that encompasses several areas of knowledge and a number of skills to complete.

<b>Competency Statement</b>	<b>Not a Competency Statement</b>
Conduct an economic analysis for a public health program or project.	Calculate burden of disease measures.

### Developing a new instructional goal

An instructional goal broadly states what the learner will be able to do upon completion of the instruction. We previously noted “calculate burden of disease measures” as too broad for a competency statement, but it broadly states an instructional activity that, with other related activities, would allow a trainee to perform the activity in the competency statement.

Instructional goals should not be so narrow as to be the final statement of instruction. It typically constitutes a group of even more narrow statements called learning objectives that describe in detail what a learner will be able to do during a course of instruction. While we note that “calculate burden of disease measures” is an instructional goal, the definition and calculation of each of the specific measures used to calculate the burden of disease would be too detailed – for example, “calculate disability-adjusted life years (DALYs)” and “calculate years of life lost (YLL).”

Instructional Goal	Not an Instructional Goal
Calculate burden of disease measures.	Define and calculate disability-adjusted life years (DALYs). Define and calculate years of life lost (YLLs).

### Developing a learning objective

A *learning objective* is a precise, measurable statement of what a learner will be able to do upon completion of instruction. A learning objective is a description of the specific *skills or behavior*. What is it that the learner will be able to do upon completion of the lesson?

One of the basic rules of developing learning objectives is that they must include an action-oriented verb (e.g., calculate, define, analyze) that an instructor could see a learner perform. Why? Look at the learning objective below:

*Understand* the steps of an outbreak investigation.

This is not action-oriented. How will one measure that a learner “understands” the steps of an outbreak investigation? Using an action verb identifies what the trainee must do in order to demonstrate understanding.

*List and describe* the steps of an outbreak investigation.

For this reason, learning objectives are used to develop both evaluation of the course and assessment of the learner.

Of course, the intention of “understanding” an outbreak investigation may have been more than just being able to describe the steps of an outbreak investigation, but likely the elements involved in “conducting an outbreak investigation” (a competency statement), include several instructional goals and related learning objectives in order to complete the competency.

**Rule:** The verbs “know” and “understand” cannot be used in a learning objective (or an instructional goal).

As you will soon learn, the importance of developing a clearly stated learning objective makes further development of instruction much simpler.

For a list of “action verbs” you can use to create both learning objectives and instructional goals, there is a list known as *Bloom’s taxonomy* on the following page.

## BLOOM'S TAXONOMY<sup>1</sup> (Cognitive Domains of Learning)

	Categories of Learning	Action words and cues
Simple 	<b>Knowledge</b> Recall and memorization	list, define, tell, describe, identify, show, label, collect, examine, memorize, name
	<b>Comprehension</b> Understand information; interpret information; order information and infer causes	classify, describe, discuss, explain, express, identify, indicate, locate, organize, recognize, report, restate, review, select, summarize, translate
	<b>Application</b> Use the knowledge to solve problems; use methods, theories in new situations	apply, choose, dramatize, employ, illustrate, interpret, modify, operate, practice, schedule, draw, solve, use, write
	<b>Analysis</b> See patterns; identify components	analyze, calculate, categorize, compare, contrast, criticize, diagram, differentiate, discriminate, distinguish, examine, experiment, question, support, test
	<b>Synthesis</b> Use old ideas to make new ones; relate knowledge from several areas	arrange, assemble, collect, compose, construct, create, design, develop, formulate, integrate, invent, manage, organize, plan, predict, prepare, propose, set up, write
	<b>Evaluation</b> Make judgments; compare ideas; make choices	argue, assess, choose, compare, conclude, convince, decide, defend, estimate, judge, predict, prioritize, rate, support, evaluate
Complex		

<sup>1</sup> Bloom, Benjamin (ed.). Taxonomy of Educational Objectives. Handbook I: Cognitive Domain. David McKay Company, Inc. New York: 1956.