Writing Learning Objectives

It is important that learning objectives be specific, measurable, and observable behaviors. Learning outcomes should describe what students should be able to know or do as a result of a learning experience. Words to be avoided include: appreciate, believe, know, learn, understand – these are open to many interpretations and are not specific.

Every learning objective should be:

- Taught in the course
- Assessed in the course
- Specific and measurable

Aspirations, which do not satisfy the criteria above, are valuable but distinct from learning objectives. Examples of aspirations include "Appreciate ethics" and "Become lifelong learners". Aspirations can be included in the course description and help the students to understand the instructor's broader goals for the course.

Steps for Writing an Objective

1. Choose the desired level of knowledge or skill that you want your learner to demonstrate. Lower-order skills include retrieval (recognizing, recalling, executing) and comprehension (integrating and symbolizing) of information. Higher-order skills involve analysis (matching, classifying, analyzing errors, generalizing, and specifying) and knowledge utilization (decision-making, problem-solving, experimenting, and investigating). Select a verb from the list on the next page that matches the desired skill. Remember, the verb should indicate a specific, measurable, and observable behavior.

2. Assemble your objective. The format of a learning objective is:

Action verb + noun (+ condition + timescale)

Condition and timescale are not always included. For example, the following are well-composed learning objectives:

- Analyze a given data set in Excel.
- Label the bones shown in an x-ray image.
- Describe post-treatment care to a patient during an office visit.
- Given four works of short fiction of contrasting genres, students will be able to match each work with its correct genre.
- Given a case description, students will be able to identify legal and ethical issues and suggest plans of action.

Create an objective for each concept students will be expected to master by the end of the course.

3. Review your objectives to make sure each has an outcome. Double-check that you have not created a list of learning activity descriptions or agenda items (for example, "students will watch a video about XYZ"). Learning outcomes should describe what students should be able to know or do as a result of a learning experience.

Tips:

When writing learning objectives, ask yourself these questions:

- Does the objective focus on student performance?
- Is this skill taught and assessed in your course?
- What criteria will I use to establish that the objective has been reached?

A typical class meeting often covers 1-3 learning objectives. It is helpful for students to identify those objectives before the class proceeds.

Watch out for these common **mistakes**:

- Listing desired mental states, indicated by the words know, understand, learn, appreciate, value, etc.
- Making a mental state sound like a learning objective by using "camouflage verbs" such as demonstrate and show. For example, "Demonstrate an understanding of interviewing techniques."
- Listing the steps that are actually included in another learning objective, making them redundant. This is referred to as scaffolding. For example, these five learning objectives:
    - Identify research priorities.
    - Use effective online search strategies.
    - Identify gaps in the research literature.
    - Formulate a good research question.
    - Produce a research proposal ← This is the only learning objective required because the first four are required steps.
- Listing course activities rather than skills obtained in the course. For example:
    - Attend a professional presentation.
    - Complete an online survey.
    - Observe a professional practitioner.
    - Work collaboratively.

Marzano's Taxonomy of Educational Objectives – Verb List

Level of Difficulty		Process	Useful Verbs, Phrases, Definitions
Increasing cognitive level →	*1. Retrieval*	Recognizing	recognize (from a list); select (from a list); identify (from a list); determine (true / false) *The student can determine whether provided information is accurate, inaccurate, or unknown*
		Recalling	name; list; describe; state; identify who, where or when; describe what *The student can produce information on demand*
		Executing	use; demonstrate; show; make; draft; complete *The student can perform procedures without significant errors*
	2. Comprehension	Integrating	describe how or why; describe the key parts of; describe the effects; describe the relationship between; explain ways in which; paraphrase; summarize *The student can identify the critical or essential elements of knowledge*
		Symbolizing	symbolize; depict; represent; illustrate; draw; show; use models; diagram; chart *The student can depict critical aspects of knowledge in a pictorial or symbolic form*
	3. Analysis	Matching	categorize; compare & contrast; differentiate; discriminate; distinguish; sort; create an analogy or metaphor *The student can identify similarities and differences in knowledge*
		Classifying	classify; organize; sort; identify a broader category; identify different types / categories *The student can identify super-ordinate and subordinate categories to which information belongs*
		Analyzing Errors	identify errors or problems; identify issues or misunderstandings; assess; critique; diagnose; evaluate; edit; revise *The student can identify and explain logical or factual errors in knowledge*
		Generalizing	what conclusions can be drawn; what inferences can be made; create a principle, generalization, or rule; trace the development of; form conclusions *The student can infer new generalizations from known knowledge*
		Specifying	make and defend; predict; judge; deduce; what would have to happen; develop an argument for; under what conditions *The student can make and defend predictions about what might happen*
	4. Knowledge Utilization	Decision-Making	decide; select the best among the following alternatives; which of these is most suitable *The student can select among alternatives that initially appear to be equal and defend their choice*
		Problem-Solving	solve; how would you overcome; adapt; develop a strategy to; figure out a way to; how will you reach your goal under these conditions *The student can accomplish a goal for which obstacles exist*
		Experimenting	experiment; generate and test; test the idea that; what would happen if; how would you test that; how would you determine if / how can this be explained; based on the experiment, what can be predicted *The student generates and tests a hypothesis by conducting an experiment and collecting data*
		Investigating	investigate; research; find out about; take a position on; what are the differing features of; how & why did this happen; what would have happened if *The student generates a hypothesis and uses the assertions and opinions of others to test the hypothesis*

Scaffolding Student Learning in Your Course

1. For your course, create 3-5 benchmark goals.
2. Break each benchmark goal into essential topics.
3. Create learning objectives for each topic at different cognitive levels.

Essential Benchmark Goals of the Course	Essential Topics Related to Goal	Learning Objective (for each topic)