

Writing Educational Goals and Objectives

What are Goals?

- Goals are broad, generalized statements about what is to be learned. Think of them as a target to be reached, or "hit."

What are Instructional Objectives?

- Instructional objectives are specific, measurable, short-term, observable student behaviors.
- Objectives are the foundation upon which you can build lessons and assessments that you can prove meet your overall course or lesson goals.
- Think of objectives as tools you use to make sure you reach your goals. They are the arrows you shoot towards your target (goal).
- The purpose of objectives is not to restrict spontaneity or constrain the vision of education in the discipline; but to ensure that learning is focused clearly enough that both students and teacher know what is going on, and so learning can be objectively measured. Different archers have different styles, so do different teachers. Thus, you can shoot your arrows (objectives) many ways. The important thing is that they reach your target (goals) and score that bullseye!



Common Types of Objectives

- **Psychomotor:** Physical skills (e.g., "The student will be able to ride a two-wheel bicycle without assistance and without pause as demonstrated in gym class."); actions which demonstrate the fine motor skills such as use of precision instruments or tools, or actions which evidence gross motor skills such as the use of the body in dance or athletic performance. See also [a detailed description of the psychomotor domain](#).
- **Cognitive:** understandings, awarenesses, insights (e.g., "Given a description of a planet, the student will be able to identify that planet, as demonstrated verbally or in writing." or "The student will be able to evaluate the different theories of the origin of the solar system as demonstrated by his/her ability to compare and discuss verbally or in writing the strengths and weaknesses of each theory."). This includes knowledge or information recall, comprehension or conceptual understanding, the ability to apply knowledge, the ability to analyze a situation, the ability to synthesize information from a given situation, and the ability to evaluate a given situation. See also [Blooms' Taxonomy](#).
- **Affective:** attitudes, appreciations, relationships (e.g., "Given the opportunity to work in a team with several people of different races, the student will demonstrate an positive increase in attitude towards non-discrimination of race, as measured by a checklist utilized/completed by non-team members."). See also [a detailed description of the affective domain](#).

Tips for Writing Objectives

Objectives should specify four main things:

- **Audience** - Who? Who is this aimed at?
- **Behavior** - What? What do you expect them to be able to do? This should be an overt, observable behavior, even if the actual behavior is covert or mental in nature. If you can't see it, hear it, touch it, taste it, or smell it, you can't be sure your audience really learned it.
- **Condition** - How? Under what circumstances will the learning occur? What will the student be given or already be expected to know to accomplish the learning?
- **Degree** - How much? Must a specific set of criteria be met? Do you want total mastery (100%), do you want them to respond correctly 80% of the time, etc. A common (and totally non-scientific) setting is 80% of the time.

This is often called the **ABCD's of objectives**, a nice mnemonic aid!

Examples of Well-written Objectives

Audience - Green

Behavior - Red

Condition - Blue

Degree - Pink

Psychomotor - "Given a standard balance beam raised to a standard height, the student (attired in standard balance beam usage attire) will be able to walk the entire length of the balance beam (from one end to the other) steadily, without falling off, and within a six second time span."

Cognitive (comprehension level) - "Given examples and non-examples of constructivist activities in a college classroom, the student will be able to accurately identify the constructivist examples and explain why each example is or isn't a constructivist activity in 20 words or less."

Cognitive (application level) - "Given a sentence written in the past or present tense, the student will be able to re-write the sentence in future tense with no errors in tense or tense contradiction (i.e., I will see her yesterday.)."

Cognitive (problem solving/synthesis level) - "Given two cartoon characters of the student's choice, the student will be able to list five major personality traits of each of the two characters, combine these traits (either by melding traits together, multiplying together complimentary traits, or negating opposing traits) into a composite character, and develop a short (no more than 20 frames) storyboard for a cartoon that illustrates three to five of the major personality traits of the composite character."

Affective - "Given the opportunity to work in a team with several people of different races, the student will demonstrate an positive increase in attitude towards non-discrimination of race, as measured by a checklist utilized/completed by non-team members."

If you're paying attention here, you'll notice two things:

- As you move up the "cognitive ladder," it becomes increasingly difficult to *precisely* specify the degree.
- Affective objectives are the hardest objectives for most people to write and assess. They deal almost exclusively with internal feelings and conditions that can only be artificially observed externally.
- The verbs you use to describe the overt, measurable activity can be tricky to write. Fortunately, a page on [psychomotor objectives](#), a page on cognitive objectives ([Blooms' Taxonomy](#)), and a page on [affective objectives](#) exists to assist you.

[See how these specific objectives were used to develop assessment instruments.](#)

Typical Problems Encountered When Writing Objectives

Problems	Error Types	Solutions
Too vast/complex	The objective is too broad in scope or is actually more than one objective.	Simplify/break apart.
False/missing behavior, condition, or degree	The objective does not list the correct behavior, condition, and/or degree, or they are missing.	Be more specific, make sure the behavior, condition, and degree is included.
False givens	Describes instruction, not conditions	Simplify, include ONLY ABCDs.
False performance	No true overt, observable performance listed.	Describe what behavior you must observe.

Bloom's Taxonomy of Cognitive Objectives

Bloom's taxonomy of cognitive objectives, originated by Benjamin Bloom and collaborators in the 1950's, describes several categories of cognitive learning.

Category	Description
Knowledge	Ability to recall previously learned material.
Comprehension	Ability to grasp meaning, explain,

	restate ideas.
Application	Ability to use learned material in new situations.
Analysis	Ability to separate material into component parts and show relationships between parts.
Synthesis	Ability to put together the separate ideas to form new whole, establish new relationships.
Evaluation	Ability to judge the worth of material against stated criteria.

Many people also call the analysis, synthesis, and evaluations categories "problem solving."

BEHAVIORAL VERBS APPROPRIATE FOR EACH LEVEL OF BLOOMS' TAXONOMY
(Cognitive Domain)

<u>Knowledge</u>	<u>Comprehension</u>	<u>Application</u>	<u>Analysis</u>	<u>Synthesis</u>	<u>Evaluation</u>
Define Identify List Name Recall Recognize Record Relate Repeat Underline	Choose Cite examples of Demonstrate use of Describe Determine Differentiate between Discriminate Discuss Explain Express Give in own words Identify Interpret Locate Pick Report Restate Review Recognize Select Tell Translate Respond Practice Simulates	Apply Demonstrate Dramatize Employ Generalize Illustrate Interpret Operate Operationalize Practice Relate Schedule Shop Use Utilize Initiate	Analyze Appraise Calculate Categorize Compare Conclude Contrast Correlate Criticize Deduce Debate Detect Determine Develop Diagram Differentiate Distinguish Draw conclusions Estimate Evaluate Examine Experiment Identify Infer Inspect Inventory Predict Question Relate Solve Test Diagnose	Arrange Assemble Collect Compose Construct Create Design Develop Formulate Manage Modify Organize Plan Prepare Produce Propose Predict Reconstruct Set-up Synthesize Systematize Devise	Appraise Assess Choose Compare Critique Estimate Evaluate Judge Measure Rate Revise Score Select Validate Value Test

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<http://www.personal.psu.edu/staff/b/x/bxb11/Objectives/index.htm>