

Writing student learning objectives

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This appendix was taken from the General Education Program Guidelines 1998, San Jose State University, retrieved from www2.sjsu.edu/ugs/ge/geguidelines.html on November 10, 2004. The information is provided to faculty to help them write measurable student learning objectives in general education courses.

AN OVERVIEW OF LEARNING OBJECTIVES

There is a range of approaches for defining learning objectives. One approach is to limit objectives to statements of behavioral objectives; that is, if the objective has been achieved, there must be a clearly observable outcome. Generally, however, objectives need not focus solely on observable behavior. When we teach, we aim to develop understandings and attitudes that may be difficult to measure. An approach to writing learning objectives relevant to the nature of a particular subject or course should be chosen.

Learner-centered objectives

Focus on learning outcomes rather than on instructor or instructional goals. Rather than phrase objectives in the form of "what this course will do" or "the topics this course will cover," focus on what students will accomplish, and what knowledge and skills they will demonstrate.

Topic-Centered: This course will instill an understanding of the scientific method.

Learner-Centered: The learner will distinguish between valid and invalid conclusions.

Representing various domains

Using Bloom's Taxonomy (knowledge, comprehension, application, analysis, synthesis, evaluation) is one way to frame your objectives. Aim for a distribution of objectives, with a disposition to the higher domains. Creating objectives that stress "knowing" make it all too easy and tempting to create an environment in which "telling," or knowledge transmission, is the primary mode of learning. Be wary of objectives that create a passive learning environment. "Recognize," "explain," and "describe" are often translated into "make students memorize." Instead, find activities in which performance of certain functions requires the application or utilization of certain knowledge. This results in more active, and thus more effective, learning. For example:

Knowledge: Become aware of the resources available for small businesses.

Performance: Evaluate a set of on-line resources you discovered for small businesses

Performance actually places knowledge in context, which increases learning and recall, establishes a rationale for students, and elevates motivation.

Major categories in the taxonomy of educational objectives (Bloom 1956)

1. *Knowledge*: Knowledge is (here) defined as the remembering of previously learned materials. Recalling appropriate information.

Sample verbs: *defines; enumerates; identifies; labels; lists; matches; names; reads; reproduces; restates; selects; states; views*

2. *Comprehension*: Grasping the meaning of material.

Sample verbs: *classifies; cites; converts; describes; discusses; estimates; explains; generalizes; gives examples; paraphrases; summarizes; understands*

3. *Application*: The use of learned material in new and concrete situations.

Sample verbs: *acts; administers; articulates; assesses; charts; collects; computes; constructs; contributes; controls; determines; develops; discovers; establishes; extends; implements; includes; informs; instructs; operationalizes; participates; predicts; prepares; preserves; produces; projects; provides; records; relates; reports; shows; solves; takes; teaches; transfers; uses; utilizes*

4. *Analysis*: The breaking down of material into its component parts so that its organizational structure may be understood.

Sample verbs: *breaks down; correlates; diagrams; differentiates; discriminates; distinguishes; focuses; illustrates; infers; limits; outlines; points out; prioritizes; recognizes; separates; subdivides*

5. *Synthesis*: Putting parts together to form a whole.

Sample verbs: *adapts; anticipates; categorizes; collaborates; combines; communicates; compares; compiles; composes; contracts; contrasts; creates; designs; devises; expresses; facilitates; formulates; generates; incorporates; individualizes; initiates; integrates; intervenes; models; modifies; negotiates; plans; progresses; rearranges; reconstructs; reinforces; reorganizes; revises; structures; substitutes; validates*

6. *Evaluation*: Judging the value of material for a given purpose.

Sample verbs: *appraises; concludes; confronts; criticizes; critiques; decides; defends; interprets; judges; justifies; reframes; translates*

(<http://weber.u.washington.edu/~krumme/guides/bloom.html>) Adapted from: Bloom Benjamin S. and David R. Krathwohl, (1956). "Taxonomy of Educational Objectives: the classification of educational goals", by a committee of college and university examiners. *Handbook I: Cognitive Domain*. New York, Longmans, Green, 1956.

Learning objectives - who benefits?

Learning objectives are an important part of the educational process, because they help clarify the relationship between the learner and the educator. The writing of learning objectives assists educators in designing course content, teaching strategies or processes, and appropriate assessment methods.

Learning objectives benefit students in a number of ways. After reading the learning objectives, Students should have a clearer understanding of what they will learn should they successfully complete the course, subject, or task. Learning objectives also indicate to students what they may be expected to demonstrate in assignments and examinations.

Writing learning objectives

The task of developing realistic and useful learning objectives might be approached with these simple guidelines in mind:

- Remember to think from the student's perspective. What will students be able to do at the end of the learning exercise that they perhaps could not do at the beginning?
- Refer to the list of verbs in the table that follows later in this Appendix.
- Strive for higher level verbs that go beyond knowledge or comprehension and that require analysis, evaluation, or synthesis, as suggested by Bloom's Taxonomy.
- There are no fixed rules on the number of learning objectives; this depends on whether you are considering the outcomes of a course, subject, or particular lesson or task.
- Consider how performance of the objectives will be evaluated. Choose teaching strategies relevant to the nature of the learning expected and assessment methods that reflect the action verbs you have used.

Evaluating your objectives

1. Are the objectives appropriate to your GE area competency goals?
2. Are the objectives in synch with the goals of assessment?
3. Are the objectives attainable within the course time period?

SAMPLE ACTION VERBS* FOR WRITING LEARNING OBJECTIVES***Creative Behaviors***

Alter, Ask, Change, Create, Design, Develop, Generalize, Listen, Modify, Paraphrase, Predict, Question, Rearrange, Recombine, Reconstruct, Regroup, Rename, Reorganize, Reorder, Rephrase, Restate, Restructure, Retell, Revise, Rewrite, Simplify, Synthesize, Systematize, Vary

Problem Solving Behaviors

Analyze, Appraise, Combine, Compare, Conclude, Contrast, Criticize, Decide, Deduce, Derive, Determine, Diagnose, Evaluate, Explain, Formulate, Generalize, Generate, Induce, Infer, Interpret, Plan, Relate, Structure, Substitute, Translate

General Discriminative Behaviors

Choose, Collect, Define, Describe, Detect, Differentiate, Discriminate, Distinguish, Estimate, Identify, Indicate, Isolate, List, Locate, Match, Omit, Order, Pick, Place, Point, Recognize, Select, Separate

Laboratory and Clinical Behaviors

Apply, Calibrate, Compute, Conduct, Connect, Convert, Decrease, Demonstrate, Dissect, Feed, Grow, Increase, Insert, Keep, Lengthen, Limit, Manipulate, Operate, Plant, Prepare, Remove, Replace, Report, Reset, Set, Specify, Straighten, Time, Transfer, Use, Weigh

- As listed on the web site page

<http://cwis.usc.edu/hsc/med-sch/med-ed/attach-b.html>. The Department of Medical Education at the University of Southern California School of Medicine