Composing Student Learning Outcomes Statements

> Assessment is a systematic and on-going process of collecting, interpreting, and acting on information relating to the goals and outcomes developed to support [an] institution's mission and purpose. It answers the questions:
>
> 1. What are we trying to do?
> 2. How well are we doing it?
> 3. How can we improve what we are doing?

http://www.tamu.edu/qep/conference/2003/Writing-Measurable-Learning-Outcomes.pdf

Student learning outcomes (SLOs) are the knowledge, skills, and attitudes students should take with them after completing a course.

Most SLOs are "behavioral" goals that state outcomes a student should be able to demonstrate at the end of a course

SLOs are not statements about what is covered in a course. The following are not student learning outcome statements:

- Students will write three papers in the course.
- The course offers students the opportunity to exercise their critical thinking skills.
- Student will be exposed to a wide range of theories currently practices in the field.

An SLO includes

- the specific knowledge, skills, or attitude students should be able to demonstrate at the end of the course
- simple, specific action verbs that lend themselves to measurement

Verbs are crucial to writing effective learning outcome statements. Concrete verbs are better than vague verbs. "Define" is better than "be familiar with"; "apply" is better than "know."

Angelo and Cross
Teaching Goals Inventory

Higher Order Thinking Skills

1. Develop ability to apply principles and generalizations already learned to new problems and situations

2. Develop analytic skills

3. Develop problem-solving skills

4. Develop ability to draw reasonable inferences from observations

5. Develop ability to synthesize and integrate information and ideas

6. Develop ability to think holistically: to see the whole as well as the parts

7. Develop ability to think creatively

8. Develop ability to distinguish between fact and opinion

Basic Academic Success Skills

9. Improve skill at paying attention

10. Develop ability to concentrate

11. Improve memory skills

12. Improve listening skills

13. Improve speaking skills

14. Improve reading skills

15. Improve writing skills

16. Develop appropriate study skills, strategies, and habits

17. Improve mathematical skills

Discipline-Specific Knowledge and Skills

18. Learn terms and facts of this subject

19. Learn concepts and theories in this subject

20. Develop skill in using materials, tools, and/or technology central to this subject

21. Learn to understand perspectives and values of this subject
22. Prepare for transfer or graduate study
23. Learn techniques and methods used to gain new knowledge in this subject
24. Learn to evaluate methods and materials in this subject
25. Learn to appreciate important contributions to this subject

Liberal Arts and Academic Values

26. Develop an appreciation of the liberal arts and sciences
27. Develop an openness to new ideas
28. Develop an informed concern about contemporary social issues
29. Develop a commitment to exercise the rights and responsibilities of citizenship
30. Develop a lifelong love of learning
31. Develop aesthetic appreciations
32. Develop an informed historical perspective
33. Develop an informed understanding of the role of science and technology
34. Develop an informed appreciation of other cultures
35. Develop capacity to make informed ethical choices

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Work and Career Preparation

36. Develop ability to work productively with others
37. Develop management skills
38. Develop leadership skills
39. Develop a commitment to accurate work
40. Improve ability to follow directions, instructions, and plans
41. Improve ability to organize and use time effectively
42. Develop a commitment to personal achievement

43. Develop ability to perform skillfully

Personal Development

44. Cultivate a sense of responsibility for one's own behavior
45. Improve self-esteem/self-confidence
46. Develop a commitment to one's own values
47. Develop respect for others
48. Cultivate emotional health and well-being
49. Cultivate physical health and well-being
50. Cultivate an active commitment to honesty
51. Develop capacity to think for one's self
52. Develop capacity to make wise decisions

Action Verbs and Bloom's Taxonomy

Cognitive Learning	Action Verbs
Knowledge: to recall or remember facts without necessarily understanding them	arrange, articulate, collect, define, describe, duplicate, enumerate, examine, identify, label, list, memorize, name, order, quote, recognize, relate, recall, reproduce, show, tabulate, tell
Comprehension: to understand and interpret learned information	associate, classify, contrast, describe, differentiate, discuss, distinguish, estimate, explain, express, interpret, locate, paraphrase, predict, recognize, report, restate, review, translate
Application: to put ideas and concepts to work in solving problems	apply, calculate, complete, compute, change, choose, deliver, demonstrate, discover, dramatize, employ, establish, examine, experiment, illustrate, interpret, make, modify, operate, practice, relate, schedule, show, sketch, solve, use
Analysis: to break information into its components in order to see interrelationships and ideas	analyze, appraise, arrange, calculate, categorize, classify, compare, connect, contrast, criticize, differentiate, distinguish, divide, examine, experiment, infer, interpret, investigate, order, question, separate, test
Synthesis: to use creativity to compose and design something original	arrange, assemble, collect, compose, construct, create, design, formulate, generalize, integrate, manage, organize, plan, prepare, propose, set up, rewrite
Evaluation: to judge the value of information based on established criteria	appraise, argue, assess, attach, conclude, convince, compare, critique, defend, evaluate, judge, predict, question, rate, recommend, review, summarize, support
Affective Learning	appreciate, accept, attempt, challenge, defend, dispute, join, judge, praise, question, share, support
Psychomotor Learning	bend, grasp, handle, operate, reach, relax, shorten, stretch, differentiate (by touch), express (facially), perform (skillfully)

- Students will be able to *articulate* the dominant theoretical approaches to problem solving employed in the field.
- Students will be able to *collect* and *classify* examples of advertisements employing a range of rhetorical techniques.
- Students will be able to *analyze* and *evaluate* research published in professional journals over the past two years.
- Students will be able to *explain* professional proposals to novice audiences.

Identifying Student Learning Outcomes
Possible Starting Points and Strategies

1. Consult your discipline's professional organizations

   Association of College and Research Libraries Outcomes
   Writing Program Administrators Outcomes Statement

2. Consult your discipline's accreditation standards

3. Consult college catalogues and websites at institutions, programs, or departments similar to yours

4. Consult your department, program, school, or university mission statement(s)

5. Visualize your "ideal" graduate, one who exemplifies everything you are trying to accomplish through your course

6. Angelo and Cross's Teaching Goals Inventory

   Angelo, T.A., & Cross, K.P. (1993). Teaching goals inventory. In *Classroom assessment techniques: A handbook for college teachers* (pp. 393-97). San Francisco, CA: Jossey-Bass.
   Teaching Goals Inventory. http://www.uiowa.edu/~centeach/tgi/

Types of Outcomes to Consider

Increase Knowledge and Basic Understanding

Explain how to access the web from computers in campus labs.
Summarize the distinctive characteristics of a Hemingway's novels.
Identify each element of the scientific method.

Develop Thinking and Other Skills

Locate online resources on a particular topic
Apply scientific and economic principles to everyday life.
Explain why a research paper is structured the way it is.
Explain the impact of the Korean War on U.S.-Far East relations today.
Theorize what is likely to happen when two chemicals are combined, and justify the theory.
Conceive of original, unorthodox solutions to a problem.
Judge the effectiveness of a use of color in a work of art.
Choose the appropriate mathematical procedure for a given problem.
Identify the strengths and weaknesses of one's completed work.
Develop and use effective time-management skills.

Develop Attitudes and Values

Be a passionate and curious lifelong learner
Choose ethical courses of action

Suskie, LInda. *Assessing Student Learning: A Common Sense Guide*. Bolton, MA: Anker, 2004. 79-86.

Guide to Writing Student Learning Outcomes

1. List the knowledge, skills, abilities, attitudes, or values you would like students to possess when they graduate from your course

Hint: Consider the relationship between your class and your department, program, school, or university mission statement. If this course is supposed to directly serve that mission (for example, a capstone course for majors in a department), list the knowledge, skills, abilities, attitudes, or values present in that mission statement that you deliver in your course. Likewise, if you must link your course student learning outcomes to a set of accreditation standards in your school, list which of those outcomes you specifically address in your class.

2. Using appropriate action verbs, state what students will be able to do or what they should be able to demonstrate as a result of completing your course. Do not list course content, pedagogies, or class activities.

Hint: Consider the major assignments and projects you already require students to complete in your course. Why do you have students complete these assignments? What do you hope they will learn by completing them?

3. Use language that is clear and direct. When possible, use language your students can understand.

Tips on Writing Effective Student Learning Outcomes Statements
Linda Suskie

Aim for goals that are neither too broad nor too specific

- *Students will demonstrate information literacy skills (too vague)*
- *Students will be able to use institutional online services to retrieve information (too specific)*
- *Students will locate information and evaluate it critically for its validity and appropriateness. (better)*

Define fuzzy terms

- "think critically" or "analyze and evaluate arguments"

Focus on the end, not the means

- what students should be able to do after they finish your course

Focus on the most important goals

- limit yourself to 3-6

Work with colleagues

Assessing Student Learning: A Common Sense Guide. Bolton: MA: Anker, 2004. 78-9.

Key Questions to Ask

1. Are you trying to assess what your program is accomplishing and how successful it is (program assessment) or what your students are learning as a result of completing your class or curriculum (learning outcomes assessment)?

2. Are your outcomes measuring something useful and meaningful?

3. Are the learning outcomes appropriate and realistic given the level and types of students taking your class?

4. Is the outcome measurable?

5. Do you have too many student learning outcomes listed?

Composing Student Learning Outcomes
Worksheet

Course: _____

Knowledge Students Should Learn	Skills Students Should Obtain	Attitudes Students Should Develop

As a result of completing this course, students should be able to:

1.

2.

3.

4.

5.

6.