

## Writing Student Learning Outcomes

Student learning outcomes serve as the foundation upon which the assessment plan is constructed, as assessment methods cannot be crafted before the outcomes are known. In my previous email, I discussed the difference between student learning objectives and student learning outcomes. In this message, I would like to provide you with some information about how to develop student learning outcomes.

For the purpose of this discussion, I am defining student learning outcomes as specific statements that describe the knowledge, skills and dispositions that students are expected to learn as a result of their successful completion of the curriculum. While I will be referring to program student learning outcomes, much of what follows is also applicable to student learning outcomes at other levels of the curriculum.

## Identifying Student Learning Outcomes

If your program doesn't already have a set of student learning outcomes, I have summarized some of the approaches that could be used to develop your outcomes. The first three approaches involve reviewing outcomes developed by others and adapting them to fit your particular curriculum. I would be glad to assist any program that needs assistance with the development of student learning outcomes.

1. Your discipline's professional association. Some professional organizations have already developed a set of student learning outcomes. For example, the Association of College & Research Libraries have developed student learning outcomes for information literacy such as, "Differentiates between primary and secondary sources, recognizing how their uses and importance vary with each discipline."
2. Your discipline's specialized accreditation body. Specialized accreditation organizations are increasingly stressing the importance of the assessment of student learning. As a result, they may offer a set of learning outcomes or have professional competencies or standards that could be used to develop outcomes. For example, in my former life as the director of an athletic training program that aspired to becoming accredited, I adapted and collapsed the professional competencies for athletic trainers to develop the student learning outcomes for our program.
3. College and university websites and catalogs. Look at outcomes developed by programs similar to your own.
4. Visualize your "ideal" graduate. Think of a graduate who you think exemplifies what you are trying to accomplish through the learning experiences in your curriculum. What were the knowledge, skills, and dispositions (values and attitudes) that you believe the student gained as a result of your curriculum?

It is important that all of the faculty within a program work together to develop the student learning outcomes for the program. Also, there should be a logical connection about the program's purpose/mission and its student learning outcomes

### Form and Structure

Best practices in writing student learning outcomes (SLOs) are summarized below.

1. The SLOs are specific to the program they are associated with.
2. The SLOs focus on what is critical to the program.
3. The SLOs describe the knowledge, skills and dispositions that students are expected to gain as a result of their completion of the program. Example: "English graduates are able to..." vs. "The English program provides students with...". The focus is on what students should achieve and not on what faculty is going to do or what the program offers.
4. The SLOs are clear and understandable to both faculty and students.
5. The SLOs are written to an appropriate level of specificity while still allowing a certain amount interpretation leeway so that faculty members can reach consensus. Example: "English graduates are able to critique a brief draft essay pointing out the grammatical, spelling and punctuation errors and offer appropriate suggestions for correction of deficiencies" vs. "English graduates know how to provide students with feedback on written essays". Generally, highly prescriptive curriculums have more specific outcomes while curriculums that allow students a lot of choice in how they meet the requirements usually use broader outcomes.
6. The SLOs use action verbs. It is better to use concrete verbs such as define, classify or formulate rather than vague verbs like understand or know. Otherwise, it may take more time for faculty to reach consensus about the criteria that need to be used to determine whether a student "knows" something. A table showing various verbs for knowledge, skills, and dispositions is available below.
7. The SLOs are realistic given the typical student who enters the program, the expected level of rigor in program courses, and the resources available to support student learning.
8. The SLOs are assessable. It should be feasible to measure the outcome.

One acronym useful to remember when writing goals, objectives or outcomes is S.M.A.R.T. - Specific, Measurable, Acceptable, Realistic and Targeted.

### How Many Are Too Many?

Depending on the level of specificity decided upon, a program may have only a few student learning outcomes or a long list of them. A total of five to seven student learning outcomes is typical. The number of student learning outcomes a program has is not as important as the number of student learning outcomes the program is trying to assess in any one year. I will discuss this further in my next message about writing an assessment plan.

## Examples of Verbs for Student Learning Outcome

### Knowledge Acquisition and Application

Add	Apply	Arrange	Calculate	Categorize
Change	Chart	Choose	Classify	Complete
Compute	Construct	Count	Define	Demonstrate
Describe	Discover	Discuss	Distinguish	Divide
Dramatize	Draw	Duplicate	Employ	Examine
Explain	Express	Graph	Identify	Illustrate
Indicate	Inform	Interpolate	Interpret	Label
List	Locate	Manipulate	Match	Memorize
Modify	Name	Operate	Order	Outline
Point	Predict	Prepare	Produce	Quote
Rank	Read	Recall	Recite	Recognize
Record	Relate	Repeat	Report	Reproduce
Restate	Review	Select	Show	Solve
Specify	State	Stimulate	Subtract	Summarize
Translate	Use			

### Higher Order Thinking Skills

Adapt	Analyze	Assess	Calculate	Categorize
Classify	Combine	Compare	Compile	Compose
Contrast	Create	Criticize	Defend	Design
Devise	Diagram	Differentiate	Dissect	Estimate
Evaluate	Explain	Formulate	Generate	Group
Infer	Integrate	Invent	Investigate	Judge
Justify	Modify	Order	Organize	Plan
Prescribe	Produce	Propose	Rate	Rearrange
Reconstruct	Reflect	Related	Reorganize	Research
Review	Revise	Rewrite	Select	Separate
Specify	Summarize	Survey	Synthesize	Test
Transform				

### Psychomotor Skills

Activate	Adapt	Adjust	Align	Alter
Apply	Arrange	Assemble	Calibrate	Change
Check	Choose	Clean	Combine	Compose
Conduct	Connect	Construct	Correct	Create
Demonstrate	Describe	Design	Detect	Differentiate
Dismantle	Display	Dissect	Distinguish	Employ
Follow	Identify	Install	Isolate	Locate
Make	Manipulate	Measure	Operate	Originate
Perform	Prepare	Produce	React	Rearrange
Relate	Remove	Reorganize	Repair	Replace
Respond	Revise	Select	Separate	Set
Show	Sketch	Sort	Test	Transfer
Troubleshoot	Tune	Use	Vary	

## Attitude, Values, & Dispositions

Accept	Acclaim	Accommodate	Act	Adhere
Adopt	Advocate	Alter	Answer	Applaud
Approve	Arrange	Ask	Assist	Associate
Assume	Attend	Balance	Believe	Challenge
Change	Choose	Classify	Combine	Complete
Comply	Conform	Cooperate	Debate	Defend
Deny	Describe	Develop	Differentiate	Display
Endorse	Enjoy	Establish	Express	Follow
Form	Formulate	Give	Greet	Have
Help	Hold	Identify	Influence	Initiate
Integrate	Interpret	Invite	Join	Judge
Justify	Listen	Obey	Organize	Participate
Perform	Persuade	Practice	Present	Propose
Protest	Qualify	Question	Reflect	Report
Resolve	Respect	Revise	Select	Serve
Share	Show	Solve	Subscribe	Support
Tell	Use	Verify	Volunteer	Weigh
Work				