Learning Objectives and Liberal Education at Bates
September, 2016

How do learning objectives relate to evaluation of teaching at Bates?

Beginning in the winter semester, 2017, faculty will be asked to include a few specific learning objectives on their course evaluations, and students will be asked to respond to the item, "From my perspective, the learning objectives for this course were achieved" on a scale from "strongly disagree" to "strongly agree." Allowing students to assess the degree to which they have made gains in a course will provide valuable information to the faculty member about teaching effectiveness. There will also be an opportunity for students to supply a narrative response to the question. Instructors will have the option of providing a handful of specific learning objectives to be added to the electronic evaluation form to which the students can respond. In anticipation of these changes, we offer the following guidelines for developing and using learning objectives in courses.

Developing a set of learning objectives

The development of goals and objectives is foundational when planning a course. Whether or not these markers are clearly articulated, virtually all faculty members have some desired outcomes in mind as they begin to plan a course and consider activities and assignments.

What are goals and objectives?

- Goals or aims tend to be broad constructs such as, "uses informed analysis," "reasons from evidence" or "demonstrates improvement in writing."

- Objectives tend to be more specific benchmarks for student learning and are therefore more easily measured, for example, "uses appropriate grammar and syntax in prose."

For the purpose of this document and for syllabus development, learning objectives refer to outcomes related to skills, knowledge, competencies, or understanding that are acquired or developed in a course.

How do I develop learning objectives?

1. Start by asking yourself, "What should a student learn or be able to do as a result of being in this course?"

2. Ask yourself (adapted from www.swarthmore.edu/assessment.xml):

- *What does this mean?*
- *How would I know if a student achieved this goal or objective in my course?*
- *Can I break this down into specific outcomes that could be included on course evaluations?*

Below is an excerpt from the Bates College Department of Philosophy related to writing that demonstrates the transition to specific objectives.

A. **Writing**. Students should write clear, organized prose with well-reasoned and structured arguments.

- Students should be creative and/or original in their ideas
- Students should be persuasive and even compelling in their arguments
- Students should have their own "voice"; the student's position in relation to the arguments should be clear
- Students should be consistent in citing practices within the work

One can easily imagine learning objectives like those above being adopted for a course and used as grading criteria on assignments. For the purposes of course evaluations, the professor could include items like, "Presents compelling arguments" or "understands citation conventions within the discipline" objectives.

Learning objectives can also be used to assist a faculty member in improving student learning. By crafting assignments that assess selected objectives, the faculty member can ascertain the degree to which the student has mastered the material, skill or concepts, and can revise the syllabus accordingly.

Other examples of department/program or course-level objectives:

"Student can design and conduct a study using basic, appropriate research methods" (adapted from APA, http://www.apa.org/ed/pcue/taskforcereport2.pdf).

"Student demonstrates knowledge of key events associated with the French Revolution."

"Student can evaluate the constraints and tradeoffs in microprocessor design" (adapted from Swarthmore College, www.swarthmore.edu/assessment.xml)

"Student can read and understand symbolic language." (Bates College Department of Mathematics)

"The student can:

- Define basic biological concepts and processes.

- Describe levels of organization and related functions in plants and animals.
- Identify the characteristics and basic needs of living organisms.

- Explain the processes of growth and development in individuals and populations"(CSUCI, Principles of organismal and population biology course).

How do I develop course-level learning objectives?

As you begin to draft objectives, keep the following guidelines in mind:

- Objectives should be clearly stated, and should articulate the skills or knowledge the student is expected to acquire

- When possible, course objectives should be measurable

- Objectives are most easily assessed when they represent a specific outcome rather than multiple endpoints

- Each objective should include an action verb associated with the ability or knowledge the student will have gained (for a list of possible verbs, see Appendix B)

- The number of objectives associated with a course and their level of detail may vary, depending on the course, the discipline, or the faculty member. Even a couple of objectives can be helpful in course design and can provide the student information about what they will learn.

As an example of how objectives might be developed, a faculty member in Classics might have the following broad goal in mind as they begin to plan a course on Cicero (adapted from Raia, A., Cicero, College of New Rochelle):

Broad goal (What should the student gain in the course?):

 Facility in Latin translation

Objectives (What outcomes would inform me about specific areas of student learning in my course?):

Demonstrates mastery of the foundational vocabulary and syntax of Cicero's philosophical and rhetorical Latin

Demonstrates understanding of Cicero's humanism and his influence on Western thought

Specific objectives then inform assignment planning. For example, if the desired outcome is mastery of an area in Latin, as described above, the faculty member can plan assignments, presentations, or classroom activities that provide information about the student's progress toward this objective.

How many learning objectives do I need?

A course does not need to have an extensive list of outcomes, nor does the syllabus have to be exhaustive. The sample below is from a Stanford Chemistry syllabus:

Chemical Principles I
Stanford University
Department of Chemistry

Course Description: CHEM 31A is the first of a two quarter sequence with the following objectives.

Stoichiometry: Predict the amounts of species consumed in a reaction and the amounts of products formed.
Structure: Identify the interactions among nuclei, electrons, atoms and molecules, and how they determine the structures and properties of pure substances and mixtures.
Energetics: Determine the types and amounts of energy change accompanying reactions and phase changes.

For the purposes of teaching evaluations, we recommend at least two, and ideally three to five learning objectives for a course. Using only one stated objective to evaluate the effectiveness of a course is probably not sufficient.

Learning objectives in narrative form

Instructors may also write goals/objectives for their course syllabus in narrative form. For example (adapted from Schuberth, J., Portland State University, Introduction to Religious Studies II):

> During this course, students will gain experience in questioning assumptions and evidence as they begin to develop an understanding of different theories of religion and methods for studying various religious traditions. By the end of the course, students will be able to describe several theories and methods and be able to critically assess the uses and limitations of these theories and methods as they pertain to the study of religions. Students will also develop critical skills by understanding these theories in historical, social and political contexts and by identifying why some theories may be more or less attractive to different groups.

The narrative approach does not preclude identifying some measurable outcomes. In this case, specific learning objectives for the teaching evaluation might include:

1. Can describe several religious theories and methods;

2. Can critically assess the uses and limitations of selected theories and methods;

3. Demonstrates understanding of the above theories in at least two specific historical, social or political contexts;

4. Will be able to articulate the reasons certain theories have appeal in specific contexts.

The faculty member would design assignments or activities for the course that map on to these specific outcomes.

What if the objective is ineffable?

Not all goals have to be easily measurable. They should reflect what you think is important—even if you think assessment or student evaluation may be a challenge. If one of the goals in the Latin course above is for students to learn to love Cicero's prose, then include it. You can always use your own judgment or ask students about the degree to which this particular outcome has been achieved.

Other important considerations as you develop learning objectives…

There are several additional issues you may want to consider as you create learning objectives (adapted from Woolcock, 2006).

1. Students have different approaches to learning, and may benefit from a course that includes objectives that speak to multiple modalities.

- Including auditory, visual and/or kinesthetic outcomes may benefit students with different learning styles. For example, having students provide oral presentations as well as written assignments may speak to different strengths. Objectives might include the ability to work in groups, create a successful poster design (more visual/kinesthetic), or do a role play to demonstrate their mastery of material or skills (Woolcock, 2006).

2. Consider the level of analysis, critical thinking or cognitive sophistication associated with an objective as you create it.

- Learning objectives which involve awareness, knowledge or familiarity are typically linked to mastery of content, and might be appropriate at the introductory level.
- Learning objectives that involve analysis, comparison and synthesis may be appropriate in a more advanced course.
- Bloom's taxonomy, at the link below, may be helpful in thinking about cognitive skills and their relation to the specific articulation of objectives.

    https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/

How do my learning objectives relate to department/program or institutional learning outcomes?

The inclusion of specific course objectives on a syllabus can also assist faculty members in making connections between learning outcomes for a course and department/program level or institution-level goals (see Appendix A). A good syllabus will also affirm the relationships between course objectives, assessment strategies, and teaching effectiveness.

Each department and program at Bates has developed their own list of goals and objectives. As you begin to think about learning objectives:

   1. Review your department or program's list of goals and objectives to better understand how your particular course relates to the department or program's stated outcomes;

   2. Consider whether department or program learning objectives can be adopted for your course;

   3. Review the learning objectives you develop to ensure consistency with department and program goals;

   4. Consider assignments that might assist the department or program in assessing student learning.

Ideally, local learning objectives inform department and program learning outcomes, and these in turn are related to institutional goals. Given the importance of the Bates mission statement, we also suggest that faculty members consider the college's mission as they integrate their own course-level purposes with broader institutional outcomes.

Upon completion of this handout, the reader should be able to:

   -develop learning objectives for a course and/or for the course evaluation form
   -state the relationship between course-level objectives and evaluation of student learning
   -appreciate considerations like modality or complexity of learning objectives

*(*Portions of this handout are adapted from websites at Swarthmore College, St. Olaf's College, Brown University (Woolcock, 2006) and learningoutcomesassessment.org.*)

Examples of Institutional Goals for Student Learning

- Gettysburg College's *"Gettysburg Curriculum"*
- http://wp.stolaf.edu/outcomes/stogoals, "St. Olaf's STOGOALS"
- Skidmore College's "Goals for Student Learning and Development"
- Trinity College's "Learning Goals"back to top
- https://wp0.its.vanderbilt.edu/cft/

Discipline-specific Resources for Articulating Learning Goals

Goals for Student Learning from Discipline-Based Associations

- Classics: http://apaclassics.org
- Chemistry: American Chemical Society's goals: https://search.acs.org/search?q=learning+goals&client=acs_r2&output=xml_no_dtd&proxystylesheet=acs_r2&sort=date%3AD%3AL%3Ad1&entqr=3&oe=UTF-8&ie=UTF-8&ud=1&site=acs&filter=p&x=0&y=0
- Engineering: http://www.abet.org/
- Foreign Languages: http://www.actfl.org
- History (existing): http://www.historians.org
- History (AHA, in development): https://www.historians.org/teaching-and-learning/tuning/history-discipline-core
- Mathematics: http://www.maa.org
- Philosophy: http://www.apaonline.org
- Physics: http://www.aps.org
- Political Science: http://www.apsanet.org/
- Sociology: American Sociological Association's "Liberal Learning and the Sociology Major" [pdf] at www.asanet.org
- Theater: ATHE Outcomes Assessment Guidelines for Theatre Programs in Higher Education

Examples of Goals for Student Learning in the Discipline

- Art History at Middlebury College http://www.middlebury.edu/academics/haa/goals
- Dance at Middlebury College http://www.middlebury.edu/academics/dance/goals
- https://www.pomona.edu/administration/academic-dean/teaching-learning/learning-objectives (all departments and programs)
- Neuroscience at Pomona College http://www.pomona.edu/administration/academic-dean/learning-objectives/neuroscience.aspx
- Physics at Georgtown http://physics.georgetown.edu/undergrad/physics-department-learning-goals
- Political Science at Bucknell University http://www.bucknell.edu/x50074.xml
- Psychology at Middlebury College http://www.middlebury.edu/academics/psych/goals

Appendix A: Institutional Goals and Mission

Specific course objectives should have a clear relationship to local outcomes at the department and program level and to the broader goals of a Bates education. In 2015-16, the Academic Affairs Committee drafted a set of institutional learning goals (below) that are still under review.

Preamble

Bates College is dedicated to intellectual exploration, ardent about building community, and committed to social responsibility. Liberal education involves thinking deeply across fields, disciplines or contexts, and preparation for "discovery and informed civic action." The capacity to engage in informed analysis and reason from evidence is fundamental to liberal learning.

Learning Goals

Refine abilities in reading, speaking, writing, and listening. Accurate reading and perceptive listening make it possible to learn from others, collaborate with them, and build intellectual community. Writing and speaking skills are essential for effective reasoning and argumentation.

Deepen knowledge, and develop research skills. Knowing how to find and assess sources of relevant information provides the foundation for addressing original questions in rigorous and creative scholarship.

Foster practices of reflection. A liberal education can be emancipating—it helps liberate us from narrow interests and confining habits of thought. A Bates education cultivates the love of learning, and encourages living an examined life.

Cultivate intellectual discovery through the arts and humanities. Close study of the varieties of human self-expression in their cultural and historical contexts lies at the heart of liberal arts education. Developing interpretive and expressive abilities in the arts and humanities can expand the reach of imagination, engender openness to multiple points of view, and provide the skills and knowledge to navigate an uncertain and complex world.

Strengthen quantitative and scientific skills. Understand science, the roles of induction and deduction in scientific reasoning, the desirability of testable theories that unify a broad range of observations, and the interplay between social and society. Develop the ability to formulate and evaluate quantitative, data-based arguments and apply quantitative skills to solve problems in multiple contexts.

Engage diverse perspectives. A Bates education includes a commitment to understanding cultural differences and experiencing the power of diversity in its broadest sense. The varied backgrounds of Bates community members, the opportunities to do community-engaged work or off campus study, and the multiple perspectives encountered both in and out of the classroom can

be transformative. Studying power, privilege and inequity across disciplines, cultures, and historical periods provides the foundation for informed civic action.

Understand the complexity of a globalizing world. The accelerating flow of ideas, people and material across national boundaries makes a familiarity with the history, traditions and interconnections within and between diverse societies essential to an examined and intentional life. Learning a language enables you to appreciate how different societies interpret, structure, and articulate their experiences.

Support dedication to community. A Bates education is a unique, collaborative experience, defined by its residential setting and commitment to community. Acknowledging and respecting the connections that derive from such communities, and using new knowledge and educational experiences to contribute to the common good are cornerstones of liberal learning.

Mission

"Since 1855, Bates College has been dedicated to the emancipating potential of the liberal arts. Bates educates the whole person through creative and rigorous scholarship in a collaborative residential community. With ardor and devotion—Amore ac Studio—we engage the transformative power of our differences, cultivating intellectual discovery and informed civic action. Preparing leaders sustained by a love of learning and a commitment to responsible stewardship of the wider world, Bates is a college for coming times."

Appendix B   Language for Objectives

Below are sample verbs that might be useful in crafting objectives (Woolcock, M., Brown University Sheridan Center, 2006).

Analyze
Compare
Demonstrate
Identify
Infer
Synthesize
Classify
Explain
Organize
Collaborate
Evaluate
Describe