Outcomes Assessment Essentials: Articulate Goals, Objectives, and Outcomes

Outcomes assessment should be focused on student learning, not on the pursuit of assessment as an end itself. Barbara Walvoord wrote, "[Faculty] don't want to 'do assessment'; they want to realize a dream, improve what they're doing, or be excited by a new initiative."[1] So the first step in outcomes assessment: faculty need to articulate the goals for their programs and student learning objectives for their courses.

Step One
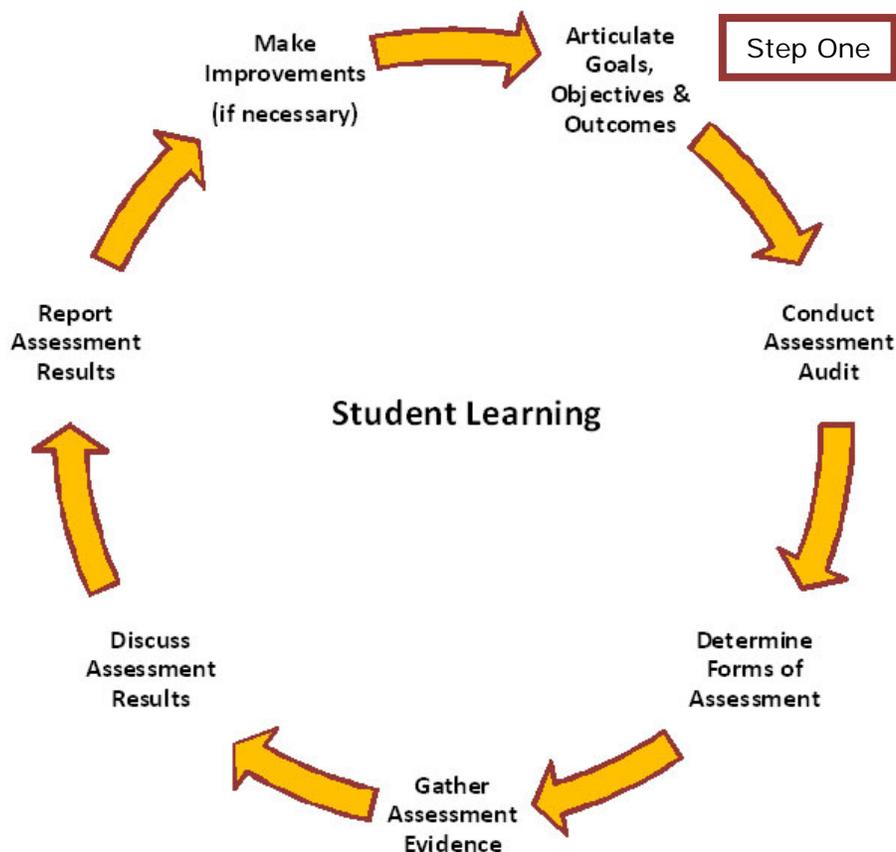
Getting Started

As a department, brainstorm and respond to the following question:

What should our students (majors and non-majors) be able to do, know, ponder, analyze, value, and/or feel upon successful completion of the course or program?

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[1] Barbara Walvoord, *Assessment: Clear and Simple: A Practical Guide for Institutions, Departments, and General Education* (San Francisco: Jossey-Bass, 2004), 12.

In generating a list of goals, do <u>not</u> restrict yourself to a specific number, nor concern yourself with wording, nor limit yourself to easily measurable goals.

Additional Questions to trigger dialogue from Linda Suskie, *Assessing Student Learning* (2009):

1. What is this course or discipline all about? What do we value about our discipline? What are the most important things students learn in this course or program? Why are those things important?
2. Why do we offer or require this course, program, or general education requirement? Why is it important that students study this? How do we want this experience to prepare them for or enrich whatever they do after graduation?
3. How does this course relate to other courses in this program or general education curriculum? How does this program or general education requirement relate to other disciplines that students may be studying?
4. What do our students do after they graduate? What are the most important things they need for success in those pursuits?
5. What make our graduates successful? What makes them attractive to potential employers, graduate programs, and the like?
6. If our program prepares students for careers, what knowledge, skills, and attitudes do employers look for? (p. 128)

Need inspiration?

1. Ask faculty what learning goals or objectives they have already identified for their courses.
2. Find examples of learning goals from your discipline. Many professional associations already define learning goals or outcomes. If not, you can usually find useful language in disciplinary standards.

Time saving tip: Ask faculty to generate their own lists of program learning goals and share in advance for everyone to contemplate. Either create a single word document to which colleagues contribute, or have each faculty member create a separate word document. Place the list on the department's U:Drive.

Learning Goals to Create Significant Learning Experiences. Let's face it, many faculty perceive outcomes assessment as an administrative chore, especially if the data seems to disappear into a black hole. Yet if we use the opportunity to ponder how we can create "significant learning experiences" for our students, the process of pondering and writing learning goals may generate dialogue about what we value as university professors. L. Dee Fink, who consults with faculty about course syllabus design/redesign, suggests writing learning goals with the following questions as a guide:

Foundational Knowledge

- What key information (e.g., facts, terms, formulae, concepts, principles, relationships, etc.) is/are important for students to understand and remember in the future?
- What key ideas (or perspectives) are important for students to understand in this course?

Application Goals

- What kinds of thinking are important for students to learn?
  - Critical thinking, in which students analyze and evaluate
  - Creative thinking, in which students imagine and create
  - Practical thinking, in which students solve problems and make decisions
- What important skills do students need to gain?
- Do students need to learn how to manage complex projects?

Integration Goals

- What connections (similarities and interactions) should students recognize and make…:
    - Among ideas within this course?
    - Among the information, ideas, and perspectives in this course and those in other courses or areas?
    - Among material in this course and the students' own personal, social, and/or work life?

Human Dimensions Goals

- What could or should students learn about themselves?
- What could or should students learn about understanding others and/or interacting with them?

Caring Goals

- What changes/values do you hope students will adopt?
    - Feelings?
    - Interests?
    - Values?

"Learning-How-to-Learn" Goals

- What would you like for students to learn about:
    - How to be good students in a course like this?
    - How to learn about this particular subject?
    - How to become a self-directed learner of this subject, i.e., having a learning agenda of what they need/want to learn, and a plan for learning it?

Read more about Fink's concept of learning goals in chapter 2 of *Creating Significant Learning Experiences* (this book is available in the TALE Center).[2] Whether you are inspired by your disciplinary standards, Linda Suskie's questions, or L. Dee Fink's model of creating significant learning experiences, they share a common goal: make student learning the focus of our endeavors.

Number of Learning Goals

Your department does not need to limit the number of learning goals. However, for the purpose of outcomes assessment, try to arrive at a consensus on fewer than ten. Some may apply only to majors, while others will apply to students earning general education credits. The limit will allow your department to prioritize and concentrate on a manageable number of learning goals at least for the purpose of reporting outcomes. In addition, your department can always drop and add learning goals as priorities change. Once your program or department arrives at consensus, you begin crafting the language of the goals, student learning objectives, and outcomes.

Is there a difference between goals, objectives, and outcomes? Educators have difficulty reaching agreement on this question. As a rule, goals broadly state what a program or course wants to achieve e.g. problem-solving and writing skills. Objectives define or describe specific skills at the course level. On the other hand, "learning outcomes" "… describe how students will be different because of a learning experience. … The knowledge, skills, attitudes, and habits of mind that students take with them from a learning experience."[3] In short, outcomes refer to what has been achieved. Some educators will use learning outcomes and goals inter-changeably.

[2] L. Dee Fink, *Creating Significant Learning Experiences: An Integrated Approach to Designing College Courses* (San Francisco: John Wiley, 2003), 27-59.
[3] Linda Suskie, *Assessing Student Learning: A Common Sense Guide*, 2nd ed (San Francisco: Jossey-Bass, 2009), 117.

Bloomsburg University's Glossary of Terms (PRP 3233)

Program Goals – the general ends towards which effort is directed, what you want to have happen; they are not necessarily measurable or assessable directly. *Programs have goals.*

Student Learning Objectives (SLO) – because the goals are not necessarily themselves assessable and measurable, we set objectives which are proxies for the goals. Objectives are stated in a way such that they are directly measureable or assessable. *Courses have student learning objectives.*

Expected Outcomes – The actual results of the course. They cannot be specified in advance. The outcomes are used to determine how well the objectives have been met.

(See Required Format for Master Course Syllabi, PRP 3233)

Crafting the Language

Whether we use the label goals, objectives, or outcomes, our language will ultimately have to pass muster with several audiences: our students and colleagues, faculty committees and administrators, and accrediting bodies. So use these two guiding principles:

1. craft language that describes what students will be able to do, value, think, etc.; **and**
2. use **action verbs** that accurately reflect the levels of aspiration.

Countless terms can be used to signify and describe learning behaviors and activities that educational psychologists, who have greatly influenced the dialogue about learning goals, consider meaningful and important to achieving outcomes (see Tables 1,2, and 3 below). These terms allow the university community to share a common vocabulary which is advantageous to communicating to students our specific expectations of them, getting courses approved, and conducting outcomes assessment. Just remember, the action words should reflect accurately the learning behavior, learning activities (what students will do in and out of class to achieve the goal), and expected outcome. Compare Example 1 and 2 below.

Example 1: Learning activities will not achieve learning goals	
Learning goal: Students will critique historical interpretations in order to judge which are most plausible.	**Learning activities in a course are limited to the following:** • students read a conventional history textbook • listen to lecture • take a multiple choice exam that tests the ability to recognize factual details

Learning behaviors

This learning goal is effectively worded, but the outcome will not be achieved by the learning activities. Students are not being asked to read more than one historical interpretation, a textbook; listening to a lecture, even one that introduces students to multiple interpretations, will not allow students to demonstrate an ability to critique multiple historical interpretations; and the test is limited to asking students to recognize correct information, not to evaluate it. Compare to example 2 where these problems are addressed.

ALE   http://www.bloomu.edu/tale

Example 2: Learning activities promise to achieve learning goals	
Learning goal: Students will critique historical interpretations in order to judge which are most plausible.	**Learning activities in a course will include:** • students read multiple historical interpretations • students listen to a lecture that identifies the standards of the historical profession; • students discuss the qualities of the multiple historical interpretations with classmates and faculty • students write an essay analyzing the plausibility of multiple historical interpretations

Action Verbs

The action verbs routinely used to write goals, objectives, and outcomes originate from research on how people learn. The most widely cited research on cognition was published by Benjamin Bloom and associates (1956). Usually referred to as **Bloom's taxonomy**, they categorized learning behaviors into affective, psychomotor, and cognitive domains; then each of these domains were sub-divided into lower and higher skill levels. The cognitive domain is the most well-known. The original levels of Bloom's taxonomy of the cognitive domain are knowledge (simplest), comprehension, application, analysis, synthesis, and evaluation (most complex). For a more thorough discussion with action verbs and a description of student learning behavior, see Ed Psych Interactive. In 2001, L. W. Anderson and D. R. Krathwohl revised Bloom's taxonomy. The levels of learning behaviors from simple to complex are remember, understand, apply, analyze, evaluate, and create. Table 1 below compares Bloom's taxonomy to the revision by Krathwohl and Anderson, and suggests terminology appropriate for the development of skills in the digital age. Tables 2 and 3 define learning behaviors for the affective and psychomotor domains with comparable action verbs. Consult the TALE's website page Teaching Resources for more information about Bloom's taxonomy and the variety of visual representations of it.

Linda Suskie, who is vice-president of the Middles States Commission on Higher Education, Bloomsburg University's accrediting body, suggests that these taxonomies can be divided into three broad categories:
• "Knowledge and Conceptual Understanding
• Thinking and Other Skills
• Attitudes, values, dispositions, and habits of mind"[4]
Her definition of each category in *Assessing Student Learning* coupled with a few examples of learning goals is useful to read.[5] (The TALE Center has a copy to loan.)

The key to crafting learning goals, objectives, and outcomes is to find the sweet spot: be neither too vague nor too specific. Some phrases that are often considered too vague: "students will learn, know, understand, etc." These terms are "fuzzy" because they may carry several meanings. For example, to understand might mean that students will memorize, recall, or be able to use information; these are not synonymous cognitive skills. Linda Suskie illustrates with an example from information literacy: [6]

Too vague: Students will demonstrate information literacy skills.
Too specific: Students will be able to use the college's online services to retrieve information.

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[4] Suskie, *Assessing Student Learning*, 118.
[5] See *Assessing Student Learning: A Common Sense Guide*, 2nd edition, 118-125.
[6] Suskie, *Assessing Student Learning*, 2nd ed., 130.

Better: Students will locate information and evaluate it critically for its validity and appropriateness.

Student learning goals should explain **"why"** the outcome is important, and this is the advantage of Suskie's third example.

Action Verbs to Write Learning Goals

Table 1: Cognitive Domain

Level of Cognition	Action Verbs	Student Learning Activities	Learning Goal Statement[7]
Knowledge[8]	Define, describe, draw, identify, label, locate, memorize, name, recite, recognize, select, state, write	**Information gathering Activities:** A definition, a dictionary, events, films, magazine articles, newspapers, radio, recordings, relevision shows, text readings, video, podcasts, vodcasts, slidecasts	Student will define the 6 levels of Bloom's taxonomy of the cognitive domain.
Krathwohl and Anderson Revision:[9] **Remember:** retrieve relevant knowledge from long-term memory	Recognize, recall		
Terms for the Digital Age:[10]	Bullet point, highlight, bookmark, social network, social bookmark, search, google		

Many of the terms suggested for the digital age are not verbs; yet we may want to consider how these skills can be expressed in learning goals.

Level of Cognition	Action Verbs	Student Learning Activities	Learning Goal Statement
Comprehension	Change, match, confirm, express, illustrate, match, paraphrase, restate, transform	**Confirming Information Gathering Activities:** Analogy, causal relationship, conclusion or implication based on data, outline, summary	Student will explain the purpose of Bloom's taxonomy of the cognitive domain.
	Extend, distinguish, compare, infer, generalize, defend, explain, predict, relate	**Confirming Use of Knowledge Activities:** Cartoon, collage, diagrama, drama, graph, photograph, poster, skit, speech, story, own statement, podcast, vodcast, slidecast	
Krathwohl and Anderson Revision: **Understand:** Construct meaning from instructional message, including orial, written,	Interpret (clarify, paraphrase, represent, translate) Exemplify (illustrate, instatiate) Classify (categorize, subsume) Summarzing (abstract, generalize) Infer (conclude, extrapolate,		

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[7] http://www.edpsycinteractive.org/topics/cogsys/bloom.html
[8] http://orgs.bloomu.edu/tale/documents/Teaching_and_Taxonomy.pdf
[9] http://orgs.bloomu.edu/tale/documents/Blooms_Revised_Taxonomy.pdf
[10] Andrew Churches, "Bloom's Digital Taxonomy,"
http://orgs.bloomu.edu/tale/documents/blooms_taxonomy_revised_digitally.pdf

and graphic communication	interpolate, predict) Compare (contrast, map, match) Explain (construct models)
Terms for the Digital Age: [11]	Advanced search, boolean search, blog journaling, tweet, categorise, comment, annotate, subscribe

Level of Cognition	Action Verbs	Student Learning Activities	Learning Goal Statement
Application	Apply, change, choose, classify, collect, discover, dramatize, draw, interpret, make, model, modify, paint, prepare, produce, report, show	**Making Use of Knowledge Activities:** Creating a cartoon, drama, video, forecast, list, map, meeting, mobile, painting, paper, a project, puzzle, question, diagram, illustration, photograph, sculpture, solution, and shifting smothly from one gear to another	Student will write an instructional objective for each level of Bloom's taxonomy.
Krathwohl and Anderson Revision: **Apply:** Carry out or use a procedure in a given situation	Execute Implement (use)		
Terms for the Digital Age: [12]	Run, load, play, operate, hack, upload, share, edit		

Level of Cognition	Action Verbs	Student Learning Activities	Learning Goal Statement
Analysis	Analyze, categorize, classify, compare, construct, contrast, differentiate, distinguish, examine, infer, investigate, point out, research, select separate, sudivide, survey, take apart	**Taking Apart Activities:** Break down an argument, draw a conclusion, graph, identify parts of a propaganda statemetn, model, queionnaire, report, survey, syllogism	Student will compare and contrast the cognitive and affective domains.
Krathwohl and Anderson Revision: **Analyze:** Break material into its constituent parts and determine how the parts relate to one another and to an overall structure or purpose	Differentiate (discriminate, distinguish, focus, select) Organize (finding coherence, integrate, outline, parse, structure) Attribute (deconstruct)		
Terms for the Digital Age: [13]	Mash, link, tag		

Level of Cognition	Action Verbs	Student Learning Activities	Learning Goal Statement

[11] Andrew Churches, "Bloom's Digital Taxonomy," http://orgs.bloomu.edu/tale/documents/blooms_taxonomy_revised_digitally.pdf
[12] Andrew Churches, "Bloom's Digital Taxonomy," http://orgs.bloomu.edu/tale/documents/blooms_taxonomy_revised_digitally.pdf
[13] Andrew Churches, "Bloom's Digital Taxonomy," http://orgs.bloomu.edu/tale/documents/blooms_taxonomy_revised_digitally.pdf

Synthesis	Add to, combine, construct, create, design, develop, formulate, hypothesize, invent, organize, originate, plan, produce, role-play, what if	**Putting Together Activities:** A play, article, book , cartoon, game, invention, poem, report, song, story, formulate a hypothesis or question, set of rules, principles, or standards, speculate on or plan an alternate course of action	Student will design a classification scheme for writing educational objectives that combines the cognitive, affective, and psychomotor domains.
Krathwohl and Anderson Revision: **Create:** Put elements together to form a coherent or functional whole; reorganize elements into a new pattern or structure	Generate (hypothesize) Plan (design) Produce (construct)		
Terms for the Digital Age: [14]	Program, film, animate, blog, video blog, mix/remix, create wikis, publish, videocast, podcast, direct, produce		
Level of Cognition	**Action Verbs**	**Student Learning Activities**	**Learning Goal Statement**
Evaluation	Apprise, assess, compare, consider criticize, critique, judge, reocmmend, relate, solve, summarize, weigh	**Juding the Outcome Activities:** Comparison of standards, conclusion, court trial, editorial, establishment of standards, evaluation, group discussion, recommendation, self-evaluation, survey, valuing	Student will judge the effectiveness of writing objectives using Bloom's taxonomy.
Krathwohl and Anderson Revision: **Evaluate:** Make judgments based on criteria and standards	Check (coordinate, detect, monitor, test) Critique (judge)		
Terms for the Digital Age: [15]	Comment, review, post, moderate, collaborate a blog		

Table 2: Affective Domain[16]	
Level	**Action Verbs**
Receiving Phenomena: Awareness, willingness to hear, selected attention	Ask, choose, describe, follow, give, hold, identify, locate, name, point to, select, sit, erect, reply, use
Responding to Phenomena: Active participation on the part of the learners. Attends and reacts to a	Answer, assist, aid, comply, conform, discuss, greet, help, label, perform, practic, present, read, recite,

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[14] Andrew Churches, "Bloom's Digital Taxonomy," http://orgs.bloomu.edu/tale/documents/blooms_taxonomy_revised_digitally.pdf
[15] Andrew Churches, "Bloom's Digital Taxonomy," http://orgs.bloomu.edu/tale/documents/blooms_taxonomy_revised_digitally.pdf
[16] http://www.nwlink.com/~donclark/hrd/bloom.html

particular phenomenon. Learning outcomes may emphasize compliance in responding, willingness to respond, or satisfaction in responding (motivation)	report, select, tell, write
Valuing: The worth or value a person attaches to a particulare object, phenomenon, or behavior. This ranges from simple acceptance to the more complex state of commitment. Valuing is based on the internalization of a set of specified values, while clues to these values are expressed in the learner's overt behavior and are often identifiable.	Complete, demonstrate, differentiate, explain, follow, form, intiate, invite, join, justify, propose, read, report, select, share, study, work.
Organization: Organizes values into priorities by contrasting different values, resolving conflicts between them, and creating a unique value system. The emphasis is on comparing, relating, and synthesizing values.	Adhere, alter,a rrange, combine, compare, complete, defend, explain, formulate, generalize, identify, integrate, modify, order, organize, prepare, relate, synthesize
Internalizing Values (characterization): Has a value system that controls their behavior. The behavior is pervasive, consistent, predictable, and most importantly, characteristics of the learner. Instructional objectives are concerned with the student's general patterns of adjustment (personal, social, emotional).	Act, discriminate, display, influence, listen, modify, perform, practice, propose, qualify, question, revise, serve, solve, verify

Table 3: Psychomotor Domain[17]	
Level	**Action Verbs**
Perception: The ability to use sensory cues to guide motor activity. This ranges from sensory stimulation, through cue selection, to translation.	Choose, describe, detect, differentiate, distinguish, identify, isolate, relate, select
Set: Readiness to act. It includes mental, physical, and emotional sets. These three sets are dispositions that predetermine a person's responses to different situations (sometimes called mindsets).	Begin, display, explain, move, proceed, react, show, state, volunteer
Guided Response: This is the intermediate stage in learning a complex skill. Learned responses have become habitual and the movements can be performed with some confidence and proficiency.	Assemble, calibrate, construct, dismantle, display, fasten, fix, grind, heat, manipulate, measure, mend, mix, organize, sketch
Complex Overt Response: The skillful performance of motor acts that involve complex movement patterns. Proficiency is indicated by a quick, accurate, and highly coordinate performance, requiring a minimum of energy. This category includes performing without hesitation, and automatic performance.	Assemble, calibrate, construct, dismantle, display, fasten, fix, grind, heat, manipulate, measure, mend, mix, organize, sketch (the verbs are identical to Guided Response, but would include adverbs or adjectives that indicate performance is quicker, better, more accurate, etc.)
Adaptation: Skills are well developed and the individual can modify movement patterns to fit special requirements.	Adapt, alter, change, rearrange, reorganize, revise, vary
Origination: Creating new movement patterns to fit a particular situation or specific problem. Learning outcomes emphasize creativity based upon highly developed skills.	Arrange, build, combine, compose, construct, create, design, initiate, make, originate

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[17] http://www.nwlink.com/~donclark/hrd/bloom.html

Useful Sources:

- AACU: Value Rubrics
- BU Curriculum Committee documents including Omnibus Form: University S:Drive
- BU Curriculum Committee Website
- BU Course and Academic Development Policy and Proposal Requirements (PRP 3230)
- BU General Education Council (GEC) Website
- BU General Education Guidelines (9-2-2011) (Please note: The GEC expects these guidelines to "evolve" as they work with departments on course proposals. The TALE Center will maintain a link to the most current version.)
- BU General Education Requirements (PRP 3612)
- BU Required Format for Master Course Syllabi (PRP 3233)
- Middle States Commission on Higher Education provides guidelines on writing Learning Goals, in *Student Learning Assessment: Options and Resources*, 2nd ed., chapter 2.
- Teaching and Learning Enhancement (TALE) Center (see especially Teaching Resources, Instructional Technology, and Outcomes Assessment web pages)

http://www.bloomu.edu/tale