

Academic Assessment

FAQ

What is a rubric?

“A rubric is a scoring tool that explicitly represents the performance expectations for an assignment or piece of work. A rubric divides the assigned work into component parts and provides clear descriptions of the characteristics of the work associated with each component, at varying levels of mastery.” Carnegie Mellon University

More: <https://www.cmu.edu/teaching/design/teach/rubrics.html>

[If you have developed a chart like this, you already have a rubric!](#)

SCIENCE RUBRIC			
<small>Exceeds - must receive no more than one 3 and the rest 4s in the other areas of the rubric. Meets - may receive no more than one 2 and a combination of 3s and 4s in the other areas of the rubric. Approaches - may receive no more than one 1 and a combination of 2s, 3s, or 4s, in the other areas of the rubric. Begins - must receive at least a 1 all 3 areas of the rubric.</small>			
	KNOWLEDGE	APPLICATION	COMMUNICATION
4	Knows and understands scientific terms, facts, concepts, principles, theories and methods	Applies scientific knowledge, skills and methods to manipulate, analyze, synthesize, create and evaluate	Communicates scientific knowledge and applications through writing, speech, and visual displays
3	• Descriptions of scientific terms, facts, concepts, principles, theories and methods are complete and correct.	• Applications are thorough, appropriate, and accurate.	• Written, oral and/or visual communication is well-organized and effective.
2	• Descriptions of scientific terms, facts, concepts, principles, theories and methods are mostly complete and correct.	• Applications are mostly thorough, appropriate, and accurate.	• Most of the written, oral and/or visual communication is well-organized and effective.
1	• Descriptions of scientific terms, facts, concepts, principles, theories and methods are somewhat complete and correct.	• Applications are somewhat appropriate, and accurate.	• Some of the written, oral and/or visual communication is organized and effective.
0	• Descriptions of scientific terms, facts, concepts, principles, theories and methods are minimally present or correct.	• Applications are minimally appropriate and accurate.	• Little of the written, oral and/or visual communication is organized and effective.
0	• All descriptions of scientific terms, facts, concepts, principles, theories and methods are missing and/or incorrect.	• All applications are missing and/or incorrect.	• All of the written, oral or visual communication is missing and/or lacks organization.
Score			

What are student learning outcomes?

“Student learning outcomes statements clearly state the expected knowledge, skills, attitudes, competencies, and habits of mind that students are expected to acquire at an institution of higher education.” National Institute for Learning Outcomes Assessment, Universities of Illinois and Indiana

More: <http://www.learningoutcomesassessment.org/>

Remember: You will have different student learning outcomes for different programs in one academic department. Your outcomes for your BA program will differ from the outcomes for your MA program. [Here is just one example showing the differences from the American University in Washington, DC.](#)

The screenshot shows the website of the College of Arts & Sciences at American University in Washington, DC. The page is titled "History | Learning Outcomes". On the left, there is a sidebar with a "HISTORY HOME" button and a list of links: "DEGREES AND PROGRAMS", "PUBLIC HISTORY PROGRAM", "COURSES", "CARNEGIE INST FOR RUSSIAN CULTURE", "INSTITUTES", "FACULTY STAFF", "STUDENT RESOURCES" (with sub-links for Undergraduate, Graduate, Careers, PhD Profiles, Dissertations, Research Links, Learning Outcomes, and Study Abroad), and "NETWORK RESOURCES". The main content area is divided into two sections: "BA History" and "MA History".

BA History

- **Historiographical Literacy:** Students will be able to identify and describe the contours and stakes of conversations among historians within defined historiographical fields.
- **Critical Thinking:** Students will learn to apply historical methods to evaluate critically the record of the past and how historians and others have interpreted it.
- **Research Skills:** Students will acquire basic historical research skills, including (as appropriate) the effective use of libraries, archives, and databases.
- **Communication Skills:** Students will learn to organize and express their thoughts clearly and coherently both in writing and orally.
- **Writing and Intellectual Integration:** Students should demonstrate their mastery of the knowledge and skills involved in historical practice by constructing and executing a significant piece of original research.

MA History

- Students will be able to demonstrate broad knowledge of historical events and periods and their significance.
- Students will be able to explain and criticize the historical schools of thought that have shaped scholarly understanding of their fields of study.
- Students will be able to deploy skills of critical analysis:
 1. Formulating persuasive arguments
 2. Evaluating evidence and critiquing claims in the literature
 3. Interpreting a variety of primary sources
- Students will be able to conduct research that makes an original contribution to knowledge, deploying these essential skills:
 1. Reorienting the state of the field to identify a new topic and locate their work within larger scholarly conversations

Are student learning outcomes the same thing as goals? And where do objectives come in?

“*Goals* are broad, general statements of what the program, course, or activity intends to accomplish. Goals describe broad learning outcomes and concepts (what you want students to learn) expressed in general terms (e.g., clear communication, problem-solving skills, etc.). Goals should provide a framework for determining the more specific educational objectives of a program, and should be consistent with the mission of the program and the mission of the institution. A single goal may have many specific subordinate learning objectives.

“Instructional *Objectives* describe in detail the behaviors that students will be able to perform at the conclusion of a unit of instruction such as a class, and the conditions and criteria which determine the acceptable level of performance.

“*Learning Outcomes* are statements that describe significant and essential learning that learners have achieved, and can reliably demonstrate at the end of a course or program. Learning Outcomes identify what the *learner will know and be able to do* by the end of a course or program – the essential and enduring knowledge, abilities (skills) and attitudes (values, dispositions) that constitute the integrated learning needed by a graduate of a course or program.” University of Connecticut

More: <http://assessment.uconn.edu/primer/goals1.html>

[This video](#) does a good job of showing the relationship among goals, objectives and learning outcomes in course design, but its definitions work well for program assessment, too.

https://www.youtube.com/watch?v=g_Xm5IljYKQ

[Center for Excellence in Teaching and Learning at OU](#)

Embed video:

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<iframe width="420" height="315" src="https://www.youtube.com/embed/g_Xm5IljYKQ"
frameborder="0" allowfullscreen></iframe>
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Do I have to assess all of my program goals every year?

“The first thing you need to do to keep assessment sustainable is to keep things as simple as possible. Don’t try to assess everything all the time; focus on the really important goals. Also, I’ve never seen any rule that says you have to assess every single goal in every single course, program or gen. ed. course requirement, every single semester or term. It’s fine to develop a staggered schedule.” Linda Suskie, Middle States Commission on Higher Education

More: <http://www.facultyfocus.com/articles/educational-assessment/to-make-assessment-manageable-keep-it-simple-and-be-flexible/>

Your department can create a chart to map out the semesters when you will assess each goal or outcome for a program just as the Rochester Institute of Technology has done [here](#) for their general education student learning outcomes. Notice that the chart schedules when each outcome will be assessed and not which courses are being assessed. You can decide which courses you will use to do the assessment and the courses you choose can change.

https://www.rit.edu/academicaffairs/outcomes/sites/www.rit.edu.academicaffairs/outcomes/files/images/Ges

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Automatic Zoom

Framework		General Education Student Learning Outcomes Assessment Schedule 2016-2022											
		2016-17 Assessment		2017-18 Assessment		2018-19 Assessment		2019-2020 Assessment		2020-21 Assessment		2021-22 Assessment	
		Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
Communication	Express oneself effectively in common college-level written forms using standard American English					X							X
	Revise and improve written products		X						X				
	Express oneself effectively in presentation, either in spoken standard American English or sign language			X						X			
	Demonstrate comprehension of information and ideas accessed through reading				X						X		
Critical Thinking	Use relevant evidence gathered through accepted scholarly methods and properly acknowledge sources of information				X						X		
	Analyze or construct arguments considering their premises, assumptions, contexts, and conclusions, and anticipating counterarguments	X							X				
	Reach sound conclusions based on logical analysis of evidence					X						X	
	Demonstrate creative or innovative approaches to assignments or projects						X						X
Social	Analyze similarities and differences in human experiences and consequent perspectives					X						X	
Global	Examine connections among the world's populations						X						X
Ethical	Identify contemporary ethical questions and relevant positions	X							X				
Scientific Principles	Demonstrate knowledge of basic principles and concepts of one of the natural sciences		X							X			
Natural Inquiry of Science	Apply methods of scientific inquiry and problem solving to contemporary issues and scientific questions		X							X			
Mathematical	Comprehend and evaluate mathematical or statistical information			X							X		
Mathematical	Perform college-level mathematical operations or apply statistical techniques			X							X		
Artistic	Interpret and evaluate artistic expression considering the cultural context in which it was created	X							X				

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Tell me what you mean by “closing the loop” in assessment.

“Regional accreditors require that in an assessment plan the institution must close the feedback loop, -- *that is, it must use assessment information to make changes that are intended to enhance student learning*. Not closing the loop is one of the most frequent criticisms of institutional assessment plans...” Barbara E. Walvoord, Barbara Bardes. Janice Denton in *Assessing Student Learning in General Education*, Trudy W. Banta, ed.

More:

https://books.google.com/books?id=yYIU77IGJgkC&pg=PA64&lpg=PA64&dq=walvoord+assessment+loop&source=bl&ots=ZWLQhlp-U&sig=te3DKF__mFoV1whDSPIVzCqrKwg&hl=en&sa=X&ved=0ahUKEwja6ebv_ujKAhUBdD4KHbGcCbsQ6AEILzAC#v=onepage&q=walvoord%20assessment%20loop&f=false

Visual learners will enjoy [this short video](#) from Brigham Young University that envisions closing the loop in the assessment process as similar to rounding off the tire on a car that will enable you to move your educational program ahead smoothly.

Closing the Loop with Learning Outcomes (BYU Mission)

<https://www.youtube.com/watch?v=11CLq6EH2F0>

Embed:

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<iframe width="420" height="315" src="https://www.youtube.com/embed/11CLq6EH2F0"
frameborder="0" allowfullscreen></iframe>
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Why is it important to include student learning outcomes in every syllabus in my program?

“Course-level expected student learning outcomes should be included in course syllabi.” Middle States Commission on Higher Education, *Characteristics of Excellence in Higher Education*

More: <http://www.msche.org/publications/CHX-2011-WEB.PDF>

In addition to satisfying the desires of the accrediting body by including student learning outcomes into each syllabus, your doing so allows students to understand from the beginning of the course what they should hope to get out of the course. It allows the faculty, too, to remember why students are taking this particular course in the context of the larger program and to remain aware of where students have come from and where they are heading in their course of study.

Furthermore, ask yourself as your department develops a course and writes up the syllabus, if the course will not serve to help students reach any or all of the learning outcomes for your program, is it appropriate for your program to offer that course? If your department has spent a good deal of time developing the new course and thinks it is an important course to offer, then take the time to re-think your program outcomes and make changes as needed.

[This Chemistry syllabus](#) from Eastern Oregon University incorporates three learning outcomes.

https://www.eou.edu/eou-eastern-promise/files/2014/10/Chemistry-Syllabus.pdf

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measurements using specific methods, collection and manipulation of data, and overall illustration of chemical principles.

Required Materials

- General, Organic, and Biochemistry, 7th edition, by Denniston, Topping, and Caret (earlier versions are also acceptable). For used and cheaper versions check chegg.com.
- Lab Packet – obtained from the bookstore
- Safety Goggles: Purchase from Chem Club if you do not own a pair.
- Calculator: This is essential for homework problems and exams. All students must own and be able to operate a basic calculator.
- Graphing/programmable calculators will be permitted (Cell phone calculators, ipods, tablets, laptops, etc. will not be permitted).

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Chemistry 101 Syllabus | **Fall 2014**

Learning Outcomes

- Three general learning outcomes will be addressed in this course: critical thinking, inquiry, and content knowledge.
- 1) Students will develop both problem solving and critical thinking skills, and they will use these skills to solve problems utilizing chemical principles.
- 2) Students will learn and apply the method of inquiry used by chemists to solve chemical problems.
- 3) Students will gain an appreciation of the scientific discipline of chemistry and the principles used by chemists to solve complex problems.

My course seems to address only two of our five program student learning outcomes. Is this a problem?

You are asking the right question, and you may be surprised by how simple the answer is. Susan Hatfield, formerly Assessment Director, Winona State University and currently Senior Scholar with the Higher Learning Commission gives the answer in her presentation “Assessing Student Learning: Questions to ask about your Plan.”

The truth is, when you are doing assessment right, and this means doing it in such a way so that it is sustainable, you will *not* be assessing “every outcome in every course by every faculty every semester.” It is quite acceptable for different courses in your program to teach towards different outcomes. There will, of course be overlap, with certain outcomes being integral to a number of courses, but it is not likely that any one course will teach towards all of your outcomes.

Assessing Student Learning: Questions to ask about your Plan

Hamline University
February, 2008

Susan Hatfield
Winona State University
SHatfield@winona.edu

Revisit your Assessment Methods

Assessment Points


- **NOT** every outcome in every course by every faculty every semester

Why can't I do an assessment just by using the grades students got in a course?

“Grades represent the extent to which a student has successfully met an individual faculty member’s requirements and expectations for a unit or course.... The focus of program assessment is on providing evidence that students can demonstrate knowledge or a skill that is directly linked to specific performance criteria that define the program outcomes. Grades per se are relative measures and generally do not represent specific aspects of learning. More often, they reflect performance on multiple concepts.” Dr. Gloria Rogers for the Accreditation Board for Engineering and Technology

More: <http://www.abet.org/wp-content/uploads/2015/04/using-grades-for-program-assessment-.pdf>

This [chart](#) from a Georgia Department of Education training day compares assessment and grading.

<div>Download Code</div> 	
Assessment vs. Grading	
<ul style="list-style-type: none">• continuous process• provides feedback to improve student achievement• may be <i>formative</i> or <i>summative</i>• provides a means of collecting evidence of student mastery of the content standards• provides a photo album of student progress through which we can observe a student's growth	<ul style="list-style-type: none">• a means of assigning numerical or alphabetical grade to a student's work• may be <i>formative</i> or <i>summative</i>• often represented as an average• may not represent an adequate picture of a student's growth or progress toward the learning goals

My program is mapping our courses to our student learning outcomes. One of our outcomes does not seem to show up in any of our courses. What should we do about this?

When you design courses in your program, have you considered using backward design?

“Deliberate and focused instructional design requires us as teachers and curriculum writers to make an important shift in our thinking about the nature of our job. The shift involves thinking a great deal, first, about the specific learnings sought, and the evidence of such learnings, before thinking about what we, as the teacher, will do or provide in teaching and learning activities. Though considerations about what to teach and how to teach it may dominate our thinking as a matter of habit, the challenge is to focus first on the desired learnings from which appropriate teaching will logically follow.

“Our lessons, units, and courses should be logically inferred from the results sought, not derived from the methods, books, and activities with which we are most comfortable. Curriculum should lay out the most effective ways of achieving specific results. It is analogous to travel planning. Our frameworks should provide a set of itineraries deliberately designed to meet cultural goals rather than a purposeless tour of all the major sites in a foreign country. In short, the best designs derive backward from the learnings sought.” Grant P. Wiggins and Jay McTighe, *Understanding by Design*

More:

https://books.google.com/books?id=N2EfKlyUN4QC&printsec=frontcover&dq=understanding+by+design&hl=en&sa=X&ved=0ahUKEwjS_OTn7-vKAhUFWD4KHVEqCWcQ6AEIKzAA#v=onepage&q=understanding%20by%20design&f=false

Your department may have recently spent a good deal of time thinking through its student learning outcomes. If they are valuable enough to include in your final list, then there is good reason to spend additional time thinking through the courses your department offers to see how each course helps students reach these outcomes.

I like to survey students at the end of my courses to find out what they have learned. Is this a fair way to assess a learning outcome?

Surveying is an indirect measure of student learning. But, as we read below, surveys have their limitations (emphasis added):

“Educational research is tricky business. Methodologies that are used to measure student learning each have their own limitations and biases, and no method can be counted on to be completely error free. That is why best practice in educational research dictates triangulating the data. If several different sources of data are used, it increases the probability that the findings present an accurate picture. In other words, **the strongest assessment programs will rely on a mix of direct and indirect measures.**”

“**Indirect measures include data from surveys** of seniors and alumni, retention rates, graduation rates, number of students progressing to advanced degrees, etc. They allow administrators, faculty, researchers, and consumers to infer the benefits to students from their years in college, but **they cannot report with precision exactly what students have learned** or what they are capable of doing as a result of their university education. Historically, these kinds of data have been collected by offices of institutional research, alumni offices, etc.”

“**Direct measures provide more evidence of the increase in students’ knowledge and abilities over a period of time. Standardized tests** as, for example, the Collegiate Learning Assessment (CLA) **are one kind of direct measure.... Other examples of direct measures include assignments that ask students to perform some kind of conceptual task** (e.g., create a concept map) **or portfolios compiled over a course of study.** It is important to emphasize that these student work products need to be systematically reviewed for evidence of learning in order for them to be of most use.” Teaching and Learning Laboratory, Massachusetts Institute of Technology

More: <https://tll.mit.edu/sites/default/files/guidelines/a-e-tools-methods-of-measuring-learning-outcomes-grid-2.pdf>

Institutions may administer the [Noel Levitz Student Satisfaction Inventory](#) and other similar surveys to find out about student perception of their experience at a College, but to find out if students believe they achieved a specific program learning outcome, you would need to develop a more targeted survey.

