

Course Assessment Workshop
Gavilan College January 28-29, 2008
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Course assessment is a process designed to monitor and improve student learning. Faculty:

- develop explicit statements of what students should learn (SLOs).
 - verify that the course is designed to foster this learning (alignment).
 - collect empirical evidence to assess student learning.
 - use these data to improve student learning (close the loop).
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Course Example: Developmental Psychology

Course Description

This course covers changes in cognition, personality, and motor skills from birth to early adulthood.

Course Learning Outcomes

Students who complete this course should be able to:

1. Describe changes in cognition, personality, and motor skills from birth to early adulthood.
 2. Use developmental theories to explain these changes.
 3. Apply what they learn to parenting, education, and public policy issues related to children and families
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**Course Plan for Engaging Students and Assessing Learning
Psychology 65 Developmental Psychology**

Instructor(s): _____

Learning Outcome	What Students Do to Master the Learning Outcome	Evidence to Assess Student Learning
1. Describe changes in cognition, personality, and motor skills from birth to early adulthood.	<ul style="list-style-type: none"> • Read about these changes in the text. • Attend to lectures on this topic. • Respond to Quick Check questions during lectures. • Develop a growth chart with milestones for each dimension during class discussion. • Observe 3 children of different ages and analyze their cognition, personality, and motor skills. 	<ul style="list-style-type: none"> • 3 M/C questions and one essay question on cognitive growth—Quiz 1 • 3 M/C questions and one essay question on personality growth—Quiz 2 • 3 M/C questions and one essay question on motor skills growth—Quiz 3 • Observation Report • Final exam—3 M/C questions for each dimension.
2. Use developmental theories to explain these changes.		
3. Apply what they learn to parenting, education, and public policy issues related to children and families		

Assessment Plan: Spring 2008 Collect assessment data for all three outcomes.
 Fall 2008 Analyze data, plan how to close the loop, file assessment report by December 1, 2008.
 Spring 2009 Teach revised version of this course by implementing planned changes.

Learning Outcomes

Well-articulated learning outcomes clarify what faculty want students to learn and how the assessment should be conducted. For example, how would you assess each of the following outcomes?

1. Students can list major events in American history.
 2. Students can describe major events and trends in American history.
 3. Students can apply their knowledge of American history to examine contemporary American issues.
 4. Students can interpret information from data represented in charts, graphs, tables and spreadsheets.
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Articulating Learning Outcomes:

Knowledge

Skills

Attitudes/Values/Predispositions

Learning Outcomes at Different Levels

- **Course Level:** Students who complete this course can calculate and interpret a variety of descriptive and inferential statistics.
 - **Program Level:** Students who complete the Psychology program can use statistical tools to analyze and interpret data from psychological studies.
 - **Institutional Level:** Graduates from our campus can apply quantitative reasoning to real-world problems.
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Course-level outcomes should align with relevant program and institutional outcomes.

Examples of Course Learning Outcomes at Gavilan

Students can

- Describe and analyze the critical issues in the evolution of the U.S. Constitution (POLS 1)
- Explain how criminal justice is both a system and a process (AJ 10)
- Analyze essay writing in terms of message, form, effectiveness (ENGL 250)
- Use the Internet to browse web pages, print pages, search for information, and compose, send, and retrieve e-mail (CSIS 572)
- Create a Master Application, Resume, Cover Letter and Letter of Reference/Resignation (GUID 530)
- Demonstrate appropriate active listening skills using techniques of therapeutic communication to verify that communication has been accurately interpreted (AH 170)
- Read and recognize the following verb tenses in sentences and paragraphs: simple present, present progressive, simple past, future and past progressive (ESL 523)
- Calculate their target heart rate and apply their THR to determine how hard they are working out and their cardiovascular fitness level improvement (PE 44)
- Construct search strategies using appropriate commands for the information retrieval system selected (LIB 140)
- Describe the development of theatrical acting spaces from Early Greek to contemporary American theater (THEA 1)
- Construct organized, logical and well supported outlines for oral presentations (CMUN 1A)
- Apply the laws of exponents to algebraic expressions (MATH 205)
- Use the gas laws to quantitatively describe gaseous behavior (CHEM 1A)
- Define basic psychological terms, concepts and theories (PSYC 1A)
- Describe and critically evaluate the reasons for the prevailing social, economic, and political positions of the different ethnic and gender groups (SOC 3)

Bloom's Taxonomy

Bloom's taxonomy is a well-known description of levels of educational objectives. It may be useful to consider this taxonomy when defining your outcomes.

Knowledge	To know specific facts, terms, concepts, principles, or theories
Comprehension	To understand, interpret, compare and contrast, explain
Application	To apply knowledge to new situations, to solve problems
Analysis	To identify the organizational structure of something; to identify parts, relationships, and organizing principles
Synthesis	To create something, to integrate ideas into a solution, to propose an action plan, to formulate a new classification scheme
Evaluation	To judge the quality of something based on its adequacy, value, logic, or use

Relevant Verbs [Gronlund, N. E. (1991). *How to write and use instructional objectives* (4th ed.). New York: Macmillan Publishing Co.]

Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
cite	arrange	apply	analyze	arrange	appraise
define	classify	change	appraise	assemble	assess
describe	convert	compute	break down	categorize	choose
identify	describe	construct	calculate	collect	compare
indicate	defend	demonstrate	categorize	combine	conclude
know	diagram	discover	compare	compile	contrast
label	discuss	dramatize	contrast	compose	criticize
list	distinguish	employ	criticize	construct	decide
match	estimate	illustrate	debate	create	discriminate
memorize	explain	interpret	determine	design	estimate
name	extend	investigate	diagram	devise	evaluate
outline	generalize	manipulate	differentiate	explain	explain
recall	give examples	modify	discriminate	formulate	grade
recognize	infer	operate	distinguish	generate	judge
record	locate	organize	examine	manage	justify
relate	outline	practice	experiment	modify	interpret
repeat	paraphrase	predict	identify	organize	measure
reproduce	predict	prepare	illustrate	perform	rate
select	report	produce	infer	plan	relate
state	restate	schedule	inspect	prepare	revise
underline	review	shop	inventory	produce	score
	suggest	sketch	outline	propose	select
	summarize	solve	question	rearrange	summarize
	translate	translate	relate	reconstruct	support
		use	select	relate	value
			solve	reorganize	
			test	revise	

Effective learning outcomes should:

- Use active verbs that specify definite, observable behaviors
 - Identify the depth of processing that you expect
 - Discriminate between value-added and absolute outcomes.
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Some Issues to Consider When Reviewing Your Course Learning Outcomes

1. See if the outcomes align with the course description.

ENGINEERING 1 COURSE DESCRIPTION:

Survey of engineering careers and concepts, and development of foundational skills.

I would expect to see outcomes dealing with careers, concepts, and foundational skills.

2. Use active verbs; avoid words such as “understand,” “demonstrate understanding” or “demonstrate comfortable familiarity” because they don’t clarify what students can do to demonstrate their learning.

Learning Outcome:

Demonstrate a historical and contemporary understanding of engineering processes and materials.

vs. Describe how engineering processes and materials have changed from historical to contemporary times.

3. Describe specific learning outcomes that can be assessed, rather than broad statements.

Learning Outcome:

Upon satisfactory completion of this course, the student will be able to pass the Licensing Board Lab Assistant test with a minimum score of 70%.

4. Don’t confuse a learning process or an assignment with a learning outcome. (The assignment may be the evidence that you use to assess the relevant outcome.)

Learning Outcome:

The student will complete a term project to develop plans for a bridge that integrates engineering techniques with aesthetic principles.

5. Be sure your outcomes are not redundant. (If I noticed some that appeared to be redundant, I noted this on your course outline.)
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Assessing Student Learning

- **To determine students' prior knowledge**
 - To improve learning by providing individual feedback
 - To grade individual students and to certify them as ready for subsequent coursework or other activities
 - **To assess the course: to monitor and improve student learning**
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Verifying Assumptions

(Taken From Tom Angelo's Opening Plenary Session of The Central California Conference On Assessing Student Learning, April 27, 2001, California State University, Fresno)

Political Science 100, Section 20 -- T.A. Angelo -- 1/28/91

Background Knowledge Probe #1

In response to each name, term, or concept in bold print below, circle the number that best represents your current knowledge:

	No. of Responses
1. Federalism	
(1) Have never heard of this	0
(2) Have heard of it, but don't really know what it means	14
(3) Have some idea what this means, but not too clear	15
(4) Have a clear idea what this means and can explain it	1
2. Separation of Powers	
(1) Have never heard of this	1
(2) Have heard of it, but don't really know what it means	6
(3) Have some idea what this means, but not too clear	18
(4) Have a clear idea what this means and can explain it	5
3. Republic	
(1) Have never heard of this	0
(2) Have heard of it, but don't really know what it means	5
(3) Have some idea what this means, but not too clear	23
(4) Have a clear idea what this means and can explain it	2
4. The <i>Constitution</i> of the U. S.	
(1) Have never heard of this	0
(2) Have heard of it, but don't really know what it means	2
(3) Have some idea what this means, but not too clear	8
(4) Have a clear idea what this means and can explain it	18
5. The <i>Articles of Confederation</i>	

(1) Have never heard of this	7
(2) Have heard of it, but don't really know what it means	13
(3) Have some idea what this means, but not too clear	6
(4) Have a clear idea what this means and can explain it	4

6. James Madison

(1) Have never heard of this person	3
(2) Have heard of him, but don't really know who he was	8
(3) Have some idea who this was, but not too clear	15
(4) Have a clear idea who this was and can explain	4

Assessment of Student Learning

Examples of Evidence You Might Collect to Assess an Outcome

- Course portfolios
- Exams or parts of exams
- Group projects
- Homework assignments
- In-class activities and presentations
- Internship and fieldwork reports
- Lab reports
- Learning journals

Rubrics for Assessing, Teaching, and Grading

Scoring rubrics are explicit schemes for classifying products or behaviors into categories that vary along a continuum. They can be used to classify virtually any product or behavior, such as essays, research reports, portfolios, works of art, recitals, oral presentations, performances, and group activities. Judgments can be self-assessments by students; or judgments can be made by others, such as faculty, other students, fieldwork supervisors, and external reviewers. Rubrics can be used to provide formative feedback to students, to grade students, to help students learn, and/ to assess learning outcomes.

There are two major types of scoring rubrics:

- Holistic scoring — one global, holistic score for a product or behavior
- Analytic rubrics — separate, holistic scoring of specified characteristics of a product or behavior

Rubrics can be useful for grading, as well as assessment.

Rubrics can be useful for grading, as well as assessment. For example, points can be assigned and used for grading, as shown below, and the categories can be used for assessment. Faculty who share an assessment rubric might assign points in different ways, depending on the nature of their courses, and they might decide to add more rows for course-specific criteria or comments.

Notice how this rubric allows faculty, who may not be experts on oral presentation skills, to give detailed formative feedback to students. This feedback describes present skills and indicates what they have to do to improve. Effective rubrics can help faculty reduce the time they spend grading and eliminate the need to repeatedly write the same comments to multiple students.

Analytic Rubric for Grading Oral Presentations				
	Below Expectation	Satisfactory	Exemplary	Score
Organization	No apparent organization. Evidence is not used to support assertions. (0-4)	The presentation has a focus and provides some evidence which supports conclusions. (5-6)	The presentation is carefully organized and provides convincing evidence to support conclusions. (7-8)	
Content	The content is inaccurate or overly general. Listeners are unlikely to learn anything or may be misled. (0-8)	The content is generally accurate, but incomplete. Listeners may learn some isolated facts, but they are unlikely to gain new insights about the topic. (9-11)	The content is accurate and complete. Listeners are likely to gain new insights about the topic. (12-13)	
Delivery	The speaker appears anxious and uncomfortable, and reads notes, rather than speaks. Listeners are largely ignored. (0-5)	The speaker is generally relaxed and comfortable, but too often relies on notes. Listeners are sometimes ignored or misunderstood. (6-7)	The speaker is relaxed and comfortable, speaks without undue reliance on notes, and interacts effectively with listeners. (8-9)	
Total Score				

Suggestions for Using Rubrics in Courses

1. Hand out the grading rubric with the assignment so students will know your expectations and how they'll be graded. This should help students master your learning outcomes by guiding their work in appropriate directions.
 2. Use a rubric for grading student work and return the rubric with the grading on it. Faculty save time writing extensive comments; they just circle or highlight relevant segments of the rubric. Some faculty include room for additional comments on the rubric page, either within each section or at the end.
 3. Develop a rubric with your students for an assignment or group project. Students can then monitor themselves and their peers using agreed-upon criteria that they helped develop. Many faculty find that students will create higher standards for themselves than faculty would impose on them.
 4. Have students apply your rubric to some sample products before they create their own. Faculty report that students are quite accurate when doing this, and this process should help them evaluate their own products as they are being developed. The ability to evaluate, edit, and improve draft documents is an important skill.
 5. Have students exchange paper drafts and give peer feedback using the rubric, then give students a few days before the final drafts are turned in to you. You might also require that they turn in the draft and scored rubric with their final paper.
 6. Have students self-assess their products using the grading rubric and hand in the self-assessment with the product; then faculty and students can compare self- and faculty-generated evaluations.
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Draft Rubric for Psychology 65 Developmental Psychology

**Outcome 1: Describe changes in cognition, personality,
and motor skills from birth to early adulthood.**

	Below Expectations	Almost Meets Expectations	Meets Expectations	Exceeds Expectations
Cognitive changes, M/C questions (6)*	1-2 correct	3 correct	4 correct	5 or 6 correct
Personality changes, M/C questions (6)*	1-2 correct	3 correct	4 correct	5 or 6 correct
Motor Skills changes, M/C questions (6)*	1-2 correct	3 correct	4 correct	5 or 6 correct
Cognitive Essay on Quiz 1	Very inaccurate or incomplete	Quite incomplete or contains at least one <u>major</u> error	Reasonably complete with no <u>major</u> errors	Fully complete and virtually error-free
Personality Essay on Quiz 2	Very inaccurate or incomplete	Quite incomplete or contains at least one <u>major</u> error	Reasonably complete with no <u>major</u> errors	Fully complete and virtually error-free
Motor Skills Essay on Quiz 3	Very inaccurate or incomplete	Quite incomplete or contains at least one <u>major</u> error	Reasonably complete with no <u>major</u> errors	Fully complete and virtually error-free
Observation Report	Report does not use or incorrectly uses <u>many</u> of the <u>major</u> concepts developed in this course.	Report fails to use or incorrectly uses <u>some major</u> concepts developed in this course.	Report is reasonably complete, but has some <u>minor</u> errors or omissions.	Report is complete and virtually error-free.

*will examine which questions students got wrong to identify specific topics that appear to challenge many students.

Time for Group Work

- Focus on one course at a time. If time permits, consider more than one course.
 - If possible, work with a colleague or two who teach the same course.
 - Select courses that have high enrollments or that you regularly teach.
 - Periodically summarize your assessment plans to a colleague or two and consider their feedback.
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Step 1. Consider the Outcomes for Your Course Set Up the First Column in Your Course Plan

1. Is the list concise, but comprehensive?
 2. Do the outcomes have active verbs that describe how students can demonstrate their learning to you?
 3. Do the outcomes identify the depth of processing that you expect? Are these expectations reasonable?
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Step 2. What Do Your Students Do to Master Each Course Learning Outcome? Fill in the Middle Column of Your Course Plan

1. What do students do if/when you lecture? How is this tied to learning outcomes?
 2. What kinds of in-class exercises or labs do students do? How are they tied to learning outcomes?
 3. What kinds of small-group or whole-class discussions do students participate in? How are these discussions tied to learning outcomes?
 4. What kind of individual or group projects do students do? How are the projects tied to learning outcomes?
 5. What do students do outside of class? How are these activities tied to learning outcomes?
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Step 3. Share Ideas for Your Course Plan with a Colleague or Two

1. Are students actively engaged in your course?
 2. Are students given sufficient opportunity to master each outcome?
 3. Do students have opportunities to correct errors or misperceptions before exams?
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**Step 4. What Evidence Will You Collect to Assess Each Outcome?
Fill in the Third Column of Your Course Plan**

1. What evidence will you collect for each course outcome?
 2. What assumptions do you have about what students know before they start this course? How do you know these assumptions are accurate? Should you consider a pre-test?
 3. Will you be using rubrics? If so, draft a rubric for at least one course outcome.
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Step 5. Course Assessment Plan

1. When will you collect the evidence for each outcome?
 2. If you will be working with colleagues, when will you meet to plan evidence collection, review student work, combine results, discuss findings, discuss changes to improve student learning, discuss how well the changes worked?
 3. When will you close the loop?
 4. How and when will you document the course assessment?
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Step 6. Share Your Assessment Plan with a Colleague or Two

1. Does your plan make sense to your colleagues?
 2. Is your plan manageable?
 3. Can you borrow or adapt others' ideas?
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Step 7. Document Your Plan

Please email your completed assessment plan(s) to Angie Oropeza by February 4.

If Time Permits

Repeat the steps for other courses.
